MAPLE ENVIRONMENTAL INC.
ENVIRONMENT, HEALTH & SAFETY CONSULTANTS

LIMITED DESIGNATED SUBSTANCE SURVEY REPORT (RENOVATION AREAS)

Joseph Gould Public School
144 Plank Lane,
Uxbridge, Ontario

Presented to:
Durham District School Board
400 Taunton Road East
Whitby, Ontario
L1R 2K6

Attention: Chris Thaler

February 9, 2021

Maple Project No. 19261

EXECUTIVE SUMMARY

Maple Environmental Inc. ('Maple') was retained by the Durham District School Board ('DDSB') to perform a survey for Designated Substances as well as polychlorinated biphenyls (PCBs) and mould within the selected areas of Joseph Gould Public School located at 144 Plank Lane, Uxbridge, Ontario (the 'Site'). It is our understanding that the building requires a survey to identify possible hazardous building materials that may be disturbed during the renovations of the selected areas.

The survey was limited to the Library (Room 227) and Computer Room (227B).

Asbestos

Asbestos-containing materials (ACM) identified within the surveyed area at the time of the assessment are as follows:

- Black Caulking on window frame.

It should be noted that due to the presence of solid walls and ceilings (i.e. masonry walls and above solid ceilings) throughout the survey area, access for viewing within the wall and ceiling cavities was not always possible. Suspect asbestos-containing materials may be present within wall and ceiling cavities that were not identified in this report but are suspected to be present. Caution should be taken when demolishing solid walls and ceilings within the areas being surveyed.

Lead

Two (2) bulk samples were collected of the predominant paint colours and the results indicated that the sampled painted surfaces are considered to be "Low-Level Lead" (virtually safe).

It should be noted that lead may also be present in wiring connectors, electric cable sheathing, solder joints on copper piping, ceramic glazes, lead sheeting, masonry mortar, and as sub-surface layers to the most recent paint layers currently applied, where present at the Site.

Mercury

Mercury vapour is present in all fluorescent light tubes. Liquid mercury is also present in thermostatic switches located within the surveyed area.

Silica

Free crystalline silica, present as common construction sand, is present in all concrete and masonry products where present within the surveyed areas.

Mould

Water staining was observed on acoustic ceiling tiles and drywall ceilings within various areas of the surveyed area.

It is possible that mould growth is present in concealed areas such as wall or ceiling cavities, pipe chases, etc. or in areas not currently assessed by Maple. The client should notify Maple should any water damage or suspect mould growth be discovered.

PCBs

The fluorescent lamp fixtures observed in the surveyed area contained T8 fluorescent light tubes. T8 fixtures have electronic ballast and are considered as not containing PCB.

Recommendations

Based on the Laboratory Analytical Results and observations made on Site, Maple provides the following recommendations.

- Remove all asbestos-containing materials that may be disturbed during the planned renovation using the appropriate asbestos abatement procedures as outlined in Section 5.0 of the Report.
- Low-Level Lead paints (0.1% or less) are considered virtually safe provided that:
  - airborne lead concentrations are kept below 0.05 mg/m^3;
  - general dust suppression and worker hygiene procedures are utilized: and
  - torching or other activities that create fumes are not completed
- Further, prior to disposal it is recommended that materials containing lead should be sampled and analyzed for Metals/Inorganics using the Toxicity Characteristic Leaching Procedure (TCLP) as described under O. Reg. 347. The testing is required to determine waste classification in accordance with Ontario Regulation 347 of R.R.O. 1990 made under the Environmental Protection Act amended by Reg. 558/00.
- Remove all mercury containing components (including fluorescent light tubes) prior to renovations if the materials are being removed. These components should be removed intact and disposed of appropriately.
- Proper dust suppression techniques and other safety precautions to control possible generation of silica dust from the demolition of concrete and masonry products present in the surveyed area should follow those outlined in the Ministry of Labour Guideline- Silica on Construction Projects, 2004.

Appropriate procedures for asbestos, lead, mercury, and silica must be observed if these materials are likely to be disturbed by scheduled renovations. Please refer to Section 5.0 of the report to review the required procedures.

Consideration should be given to assessing other areas of the building that could be associated with the current project, including travel path, mechanical or electrical ties in the areas outside of the immediate project area, and penetrations through the slab impacting floors below or above.

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1.0 INTRODUCTION

Maple Environmental Inc. ('Maple') was retained by the Durham District School Board ('DDSB') to perform a survey for Designated Substances as well as polychlorinated biphenyls (PCBs) and mould within select areas of Joseph Gould Public School located at 144 Plank Lane, Uxbridge, Ontario (the 'Site'). It is Maple's understanding that the building requires a survey to identify possible hazardous building materials that may be disturbed during the renovations of the areas surveyed.

The survey was limited to the Library (Room 227) and Computer Room (227B).

Section 30 of the Ontario Occupa2tional Health and Safety Act requires that the following Designated Substances be included in a Designated Substance Survey:

Asbestos	***Benzene***
Lead	***Acrylonitrile***
Mercury	***Coke Oven Emissions***
Silica	***Arsenic***
Isocyanates	***Ethylene Oxide***
Vinyl Chloride Monomer	

Additional detailed information with respect to asbestos was collected at the time of the survey to ensure compliance with Ontario Regulation 278/05.

The assessment was performed by Richards Reboks of Maple on January 25, 2021.

2.0 APPLICABLE ONTARIO REGULATIONS

Applicable Ontario Regulations for each of the materials included in the investigation are briefly described below.

2.1 Designated Substances and Other Hazardous Materials

Section 30 of the Occupational Health and Safety Act requires building owners or their agents (architects, general contractors, etc.) to prepare or have prepared a Designated Substance report for specified potentially hazardous materials possibly present in a facility. The owner must ensure that a prospective constructor has received a Designated Substance report before entering into a binding contract with the contractor. The owner is liable to the contractor for damages and costs arising from unreported materials (of which the owner should reasonably have been aware) and could also be subject to orders and fines from the Ministry of Labour.

The disturbance of asbestos materials on construction projects is controlled by Ministry of Labour Regulation R.R.O. 2005/278. The disposal of asbestos waste is controlled by Ministry of Environment Regulation, R.R.O. 1990/347.

There are no specific Ministry of Labour regulations for control of the other Designated Substances on construction projects. However, the Ministry of Labour actively enforces the general duty clause of the Health and Safety Act which protects workers and provides guidance on exposure monitoring, permissible exposure levels, medical monitoring, etc. for all Designated Substances.

Although Regulations exist for many of the Designated Substances, they apply to industry settings using Designated Substances in manufacturing processes, and do not apply to general property management, renovation or maintenance of buildings.

Polychlorinated Biphenyls ("PCBs") and mould were also included in the investigation, which are not specifically named as Designated Substances. No specific regulations are attached to these materials but are generally governed by the due diligence section of the Health and Safety Act for employers to protect their workers.

2.2 Ontario Regulation 278/05 (Asbestos)

Ontario Regulation 278/05 applies to buildings with regards to maintenance, renovations or demolition work where asbestos-containing materials (ACM) is present and may be disturbed. The Regulation requires that a detailed asbestos inventory be performed in all buildings where friable and non-friable asbestos materials are present. The inventory must be available at the work place and must identify the type of asbestos, and location of asbestos on a room-by-room basis. The following report meets or exceeds the requirements for an asbestos survey under Ontario Regulation 278/05.

In addition, the regulation requires all buildings where asbestos has been used as part of the building to implement an Asbestos Management Program (AMP).

The major requirements of the AMP include:

- Preparation and maintenance of an on-site record of where asbestos material is located;
- Written notification provided to tenants or lessees occupying space where asbestos is present;
- Advise workers of the owner, other staff and outside contractors of the presence and location of ACM;
- Institute and maintain a program for the training and instruction of every worker employed in the building that is likely to work in close proximity to and may disturb asbestos;
- Update the asbestos report (minimum annually);
- Preparation of written asbestos work practices;
- Repair or removal of all damaged asbestos where it may be disturbed; and
- Other record keeping.

2.3 Ontario Regulation 347

Ontario Regulation 347 applies to the transport of waste from the location of generation to a landfill site authorized to receive specific wastes. The regulation also prescribes procedures on how the specific wastes are to be handled at the landfill site.

The major requirements of the building owner and the person(s) removing the waste are to ensure that:

- The waste is appropriately packaged and labelled;
- The transport vehicle is appropriately placard; and
- The waste is to be transported as directly as possible to the landfill site once it leaves the site.

Some wastes require the owner to register a Generator (of waste) number and many wastes require classification that can restrict or even prohibit their disposal in landfill.

It is important to note that the building owner can be held responsible for the waste until the waste disposal site accepts it.

2.4 Ontario Regulation 362

Ontario Regulation 362, made under the Ontario Environmental Protection Act applies to the waste management and transport of PCB waste from the location of generation to a landfill site authorized to receive specific wastes. The regulation also prescribes procedures on how the specific wastes are to be handled at the landfill site.

3.0 SURVEY SCOPE AND METHODOLOGY

The survey was limited to the Library (Room 227) and Computer Room (227B). The methodology included the assessment for hazardous materials and how the assessment was performed is outlined below.

In order to determine the location of materials included in the assessment, the project technologist entered the room where practical (i.e. where access was possible without the demolition of walls, roof or ceilings or destruction of flooring). Representative views were made above accessible suspended ceiling systems. Cavities within solid ceiling and wall systems were accessed via existing access panels only. The inventory did not include demolition of building systems or finishes to check on possible hidden conditions.

3.1 Asbestos-Containing Building Materials (ACM)

The scope of the survey included all friable asbestos products and all major non-friable asbestos materials. The term friable is applied to a material that can be readily reduced to dust or powder by hand or moderate pressure. Asbestos materials that are friable have a much greater potential to release airborne asbestos fibres when disturbed.

Typical friable asbestos materials include: sprayed fireproofing or thermal insulation, textured (stippled) plaster, and thermal mechanical insulation. Typical non-friable materials include: asbestos cement (transite) products, vinyl floor tiles, asbestos textiles and gaskets. Additional materials such as ceiling tiles, drywall joint compounds and vinyl sheet flooring are classified as non-friable, but because of their ability to release dust when disturbed are considered as “potentially friable” for the purpose of this report.

Bulk samples of materials suspected to contain asbestos were collected for analysis during the survey. Specifically, a small volume of material was removed either from a damaged section of suspect material or taken from intact material. In these latter cases, the material from which the sample was collected was sealed with tape to temporarily prevent fibre release. Samples were placed in plastic bags and sealed until receipt by an independent laboratory. To ensure quality results, the independent laboratory chosen successfully participates in an "Asbestos Proficiency Analytical Testing Program". As such, these independent laboratories are responsible for their findings.

Bulk samples were collected in accordance with regulatory sampling requirements and with sufficient frequency to obtain a general pattern of asbestos use within the building. Due to building renovations or modifications that may have occurred in the past, the consistency of the application of asbestos materials may not be uniform throughout the entire Site. It is important to note that without sampling each individual wall, pipe section, ceiling tile etc. it is not possible to identify the asbestos content of every material present in the selected areas. For this reason, visually similar materials are considered to be homogenous with those already sampled elsewhere in the building without additional analysis.

O. Reg. 278/05 prescribes that a minimum number of samples be collected of materials suspected to contain asbestos. These minimum sampling requirements are summarized in Table 1, below.

Table 1 - Suspect ACM Bulk Sampling Requirements

Type of Material	Quantity of Material Present	Minimum # of Bulk Samples Required
Surfacing Materials (i.e. sprayed fireproofing, drywall joint compound, texture coat, and plaster)	Up to 90 sq. m. (1000 sq. ft.)	3
	From 90 sq. m. (1000 sq. ft.) to 450 sq. m. (5000 sq. ft.)	5
	Greater than 450 sq. m. (5000 sq. ft.)	7
All other potential ACM	Any	3

Excluding surfacing materials, the laboratory was instructed to cease analysis within Sample Groups of homogenous materials when one of the samples in the group is found to contain asbestos. For example, if three samples of a type of vinyl floor tile are collected (as required by O. Reg. 278/05) and submitted for analysis and the first sample is positively identified as containing asbestos, the balance of the sample group is not analysed.

EMC Scientific Inc. (‘EMC’), an independent laboratory, was selected to analyse the collected bulk suspect asbestos samples. EMC successfully participates in an "Asbestos Proficiency Analytical Testing Program" and as such, is responsible for its findings. EMC followed the Code of Practice for the identification of asbestos in bulk material, as detailed in O. Reg. 278/05. Bulk samples were analysed using the Polarized Light Microscopy (“PLM”) Technique with Dispersion Staining. The identification of asbestos fibre in bulk material is based on a collective set of parameters dependent on the unique shape and crystallographic properties of each fibre as viewed through the microscope.

This method is useful for the qualitative identification of asbestos and the semi-quantitative determination of asbestos content in bulk materials expressed as a percent of projected area. The method identifies types of asbestos and also measures percent of asbestos as perceived by the analyst in comparison to standard area projections or trained experience.

The recommendations made as part of this report with respect to asbestos have taken into consideration: the condition and accessibility of the material, vibration, air movement, and general activities likely to occur within the vicinity of the ACM.

In each area or room inventoried, the technician recorded the quantity, condition (GOOD, FAIR, or POOR) of each suspect asbestos-containing material.

The definitions for condition and accessibility of the asbestos-containing items are as follows:

GOOD Material is intact with no visible signs of damage.

FAIR Material is visibly damaged but can be repaired.

POOR Material is damaged beyond repair and likely needs to be removed.

Where ACM is found to be in GOOD condition and not likely to deteriorate or fall, the general recommendation would be to re-evaluate the condition of the material on an annual basis (required by O. Reg. 278/05). This recommendation can be subject to change if the material is located in a manner that persons untrained in asbestos awareness could physically damage it.

Where ACM is found to be damaged (i.e. FAIR or POOR condition), a recommendation to have the material cleaned-up, repaired, removed, enclosed, or encapsulated is offered. The recommendation will also indicate which asbestos procedure should be used to perform the remedial work (i.e. Type 1, Type 2, Type 3, or Glove Bag Removal Methods).

3.2 Lead

The investigation included the collection and analysis of all major paint colour applications for the presence of lead in the paint. Other materials that possibly contain lead were identified by known historic use, where relevant. The lead in paint samples were analysed by EMSL Canada ('EMSL'), using atomic absorption spectrophotometry. EMSL is AIHA (American Industrial Hygiene Association) and NIOSH (National Institute of Occupational Safety and Health) accredited for this type of analysis. The Laboratory Analysis Report for lead in paint samples is included with this Report as Appendix II.

3.3 Mercury

The assessment included a visual identification of fluorescent light tubes, switches, electrical controls, heating system thermostats, thermometers, and other components historically known to contain mercury.

3.4 Other Designated Substances

Other materials listed in Section 1.0 of this Report were identified on a visual basis where present, as part of the current assessment. It should be noted that no manufacturing or heavy industrial activities are known by Maple to occur at the Site.

Therefore, Designated Substances associated with these activities (i.e. those other than Asbestos, Lead, Mercury, and Silica) would not be expected to be present in the selected areas.

3.5 Mould

The assessment for mould was conducted in accordance with standard industry practice as set out in the Canadian Construction Association (CCA) "Mould Guidelines for the Canadian Construction Industry" for a visual assessment. Although there are no regulatory requirements in Ontario for such an assessment, the CCA Guidelines, and similar guidelines from other agencies have been accepted as the industry standard by most experts, consultants, the Ontario Ministry of Labour, and the Canadian Construction Association.

All guidelines and protocols for mould investigations indicate that investigations should be performed largely on a visual basis with limited collection of bulk and/or air samples. The Ontario Ministry of Labour has consistently enforced the removal of all mould from buildings regardless of mould genus or species, and therefore bulk samples or air samples for confirmation of mould are not typically collected for investigative purposes where mould is visible.

3.6 Polychlorinated Biphenyls

Manufacturers labels/codes collected from fluorescent lamp ballasts suspected of containing Polychlorinated Biphenyls ("PCBs") are compared with Environment Canada's document titled "Identification of Lamp Ballasts Containing PCBs", which identifies PCB-containing ballasts.

3.7 Limitations and Omissions from Scope

Due to the nature of building construction some limitations exist as to the possible thoroughness of any building materials inventory. The field observations, measurements, and analysis are considered sufficient in detail and scope to form a reasonable basis for the findings presented in this report. Maple warrants that the findings and conclusions contained herein have been made in accordance with generally accepted evaluation methods in the industry and applicable regulations at the time of the performance of the inventory.

It is possible that conditions may exist which could not be reasonably identified within the scope of the inventory or which were not apparent during the Site investigation. Maple believes that the information collected during the investigation concerning the property is reliable. No other warranties are implied or expressed.

During a standard ACM inventory performed for the purposes of regulatory compliance, it is industry practice to exclude certain suspect asbestos-containing materials from sampling. These materials are often excluded from sampling due to the risk of compromising the health and safety of the technician, other building occupants, or the integrity of the systems with which these materials are associated. Examples of such materials include; elevator brakes, roofing felts and mastics, high voltage wiring, mechanical packing and gaskets, underground services or piping, fire-doors, window caulking and levelling compound. Where observed, these materials were presumed to be ACM.

3.8 Drawings

Drawings included in Appendix III will indicate the locations of any major applications of an asbestos-containing material with the exception of mechanical insulations, drywall, plaster finishes and transite (which cannot be accurately depicted on drawings). The information depicted on the drawings is not to scale and is only meant to provide a general representation of the locations of asbestos-containing materials.

4.0 INVENTORY FINDINGS

The findings of the survey are presented separately below for each of the eleven Designated Substances as well as microbial growth (mould), and polychlorinated biphenyls. Asbestos is further detailed by typical applications of asbestos.

4.1 Asbestos

The following is a brief discussion of the extent to which ACM was identified in the surveyed area. The discussion is organized under the headings of materials that are generally suspected of containing asbestos. The sample numbers refer to the laboratory analysis report presented as Appendix I and summarised in Table 2 below. Fifteen (15) bulk samples were collected for the determination of asbestos content and submitted to the lab to be analysed. Due to the presence of more than one phase of material in some of the original samples the laboratory may have performed multiple analyses for some samples. In addition, some of the samples may not have been analysed due to the positive confirmation of asbestos in a previous sample of the same material during analysis. As a result, a total of fourteen (14) samples were analyzed.

Table 2 - Summary of Analysis of Asbestos Bulk Samples

Sample No.	Room Number	Sample Description	Result
S01A	227B	Drywall Joint Compound on Far Wall	None Detected
S01B	227B	Drywall Joint Compound on Wall by door	None Detected
S01C	227	Drywall Joint Compound on Wall by bookshelves	None Detected
S02A	227B	VFT01 – Tan 12”x12”, Blue Flecks	None Detected
S02B	227B	VFT01 – Tan 12”x12”, Blue Flecks	None Detected
S02C	227B	VFT01 – Tan 12”x12”, Blue Flecks	None Detected
S03A	**227**	**Black caulking on Top of Windows**	**Chrysotile 3%**
S03B	**227**	**Black caulking on Top of Windows**	**Not Analyzed**
S03C	**227**	**Black caulking on Top of Windows**	**Not Analyzed**
S04A	227	Grey Caulking - Bottom of Windows	None Detected
S04B	227	Grey Caulking - Bottom of Windows	None Detected
S04C	227	Grey Caulking - Bottom of Windows	None Detected
		White Caulking bottom layer	None Detected

Sample No.	Room Number	Sample Description	Result
S05A	227	Light Grey Caulking around window frame	None Detected
S05B	227	Light Grey Caulking around window frame	None Detected
S05C	227	Light Grey Caulking around window frame	None Detected

Asbestos-containing materials (ACM) are present in the form of:

- Black caulking on Top of Windows.

Details for all confirmed and suspect asbestos-containing materials are presented below under the headings of the most typical asbestos applications in buildings.

It should be noted that due to the presence of solid walls and ceilings (i.e. masonry block walls and above solid ceilings) throughout the survey area, access for viewing within the wall and ceiling cavities was not always possible. Suspect asbestos-containing materials may be present within wall and ceiling cavities that were not identified in this report but are suspected to be present. Caution should be taken when demolishing solid walls and ceilings within the areas being surveyed.

4.1.1 Sprayed Fireproofing

No sprayed fireproofing was identified within the surveyed area at the time of the assessment.

4.1.2 Thermal Mechanical Insulation (Friable)

Non-asbestos mechanical insulations are present throughout the surveyed area.

Piping Systems:

No asbestos-containing pipe systems were identified within the surveyed area at the time of the assessment.

Pipe systems observed within the surveyed area were either not insulated or were insulated with fibreglass, which is not suspected to contain asbestos.

Duct Systems

The duct systems observed in the surveyed area were either insulated with fiberglass or were uninsulated.

4.1.3 Texture Finish (Friable)

No textured finishes were identified within the surveyed area at the time of the assessment.

4.1.4 Acoustic Ceiling Tiles (Potentially Friable)

No asbestos-containing acoustic ceiling tile systems were identified within the surveyed area at the time of the assessment.

One (1) visually distinct type of ceiling tile systems was observed in the surveyed areas. A brief description of the ceiling tile is outlined below:

- AT-01 (2'x4' Random Pinhole and Fissure Pattern):

  No bulk samples of AT-01 were collected as a date stamp manufacture code (08/06/07) was present on the backside of the tile indicating that the tiles were recently manufactured and therefore not suspected to contain asbestos.

4.1.5 Vinyl Sheet Flooring (Potentially Friable)

No vinyl sheet flooring finishes were identified within the surveyed area at the time of the assessment.

4.1.6 Vinyl Floor Tile (Non-Friable)

No asbestos-containing vinyl floor tile systems were identified within the surveyed area at the time of the assessment.

Two (2) visually distinct types of vinyl floor tiles system were observed in the surveyed areas. A brief description for each of the vinyl floor tiles observed are outlined below.

- VFT01 (Tan 12" x 12" tile with Blue Flecks)

  VFT01 was observed to be present in the Computer Room (Room 227B).

  Three (3) representative bulk samples of sample set S02 were collected and analyzed for the determination of asbestos content. Analysis of sample set S02 found that VFT01 did not contain asbestos.

- VFT02 (Grey 12" x 12" tile with Grey and White Flecks)

  VFT01 was observed to be present in the Library (Room 227).

  No bulk samples were collected of VFT02 as building personnel notified Maple that the material was recently installed and is therefore not suspected to contain asbestos.

4.1.7 Asbestos Cement Products "Transite" (Non-Friable)

No Transite cement products were identified in the surveyed area at the time of the assessment.

4.1.8 Drywall Joint Compound (DJC) (Potentially Friable)

No asbestos containing drywall joint compound was identified within the surveyed area at the time of the assessment.

Interior drywall finishes were present in the form of wall finishes throughout the majority of the surveyed areas.

Three (3) representative samples (Sample Set S01A-C) of drywall joint compound were collected and analyzed for determination of asbestos content. Analysis of Sample Sets S01 found that the samples do not contain asbestos.

While sample results indicated that all drywall joint compound sampled at the Site do not contain asbestos, it should be noted that the concentration of asbestos within drywall joint compound is historically known to be potentially inconsistently distributed. Further, it is possible that various phases of construction and renovations have occurred at the Site. Therefore, the number of samples collected may not be representative of all drywall joint compound finishes on Site. Prior to the disturbance of any drywall finishes, it is recommended that additional area specific bulk samples be collected.

4.1.9 Plaster (Potentially Friable)

No plaster finishes were identified within the surveyed area.

Should plaster finishes be identified in rooms not accessed by Maple, collection and analysis of the plaster is required.

4.1.10 Vermiculite (Friable)

No vermiculite insulation was observed to be present within the surveyed area at the time of the assessment. It should be noted that loose fill vermiculite insulation can often be present within voids of masonry and possibly some pre-manufactured surveyed area components that would not be identified during the course of this assessment.

4.1.11 Other

- **Black Caulking on Window Tops**

  Black caulking was observed to be applied at the top of the window between the metal frame and the masonry block walls.

  Three (3) representative bulk samples of black caulking were collected (Sample Set S03A-C) and analyzed for asbestos. Analysis of Set S03A of the mortar was found to contain **3% Chrysotile Asbestos.** As a positive asbestos sample was determined in the set, the remaining samples of the set were not analyzed due to the “Stop Positive Analytical Protocol”. The material was observed to generally in GOOD condition.

- Grey Window Caulking

  Grey Window Caulking was observed to be applied to the interior surfaces of the windows along the sill.

  Three (3) representative bulk samples of caulking were collected (Sample Set S04) and analyzed for asbestos. Analysis of Sample Set S04 found that the samples do not contain asbestos.

- Light Grey Window Caulking

  Light Grey Window Caulking was observed to be applied to the exterior surfaces of the window trim and the masonry block wall.

  Three (3) representative bulk samples of caulking material were collected (Sample Set S05) and analyzed for asbestos. Analysis of Sample Set S05 found that the samples do not contain asbestos.

4.2 Lead

Two (2) bulk paint samples were collected during the assessment for determination of lead content and submitted to EMSL for analysis. The sample number refers to the Certificate of Analysis Report presented as Appendix II and summarised in Table 3 below.

Table 3 - Summary of Analysis of Lead-in-Paint Samples

Sample No.	Locations	Sample Description	Result (%)
LBP1	227	Yellow Paint on Masonry Wall	<0.0081
LBP2	227	White Paint on Wood Trim	<0.010

No regulations currently exist in Ontario defining the lower limit of lead-containing material. The Ontario Ministry of Labour (MOL) has issued a guideline for lead abatement, entitled Guideline – Lead on Construction Projects (2004) which is considered enforceable. The Guideline does not specify what constitutes a material as "lead-containing". Instead, it outlines procedures based on the concentration of airborne lead encountered during removal, as well as provides procedures and/or specific operations for lead-containing material removal.

However, the Environmental Abatement Council of Ontario (EACO) Lead Guideline for Construction, Renovation, Maintenance or Repair document classifies paint as either "Low-Level", "Lead-Containing", or "Lead-Based" as outlined in Table 4 below.

TABLE 4 - EACO Classification of Lead Paint

Concentration of Lead (%)	Definition
0.1 or less	"Low-Level Lead" (Virtually Safe)
Greater than 0.1 but less than 0.5	"Lead-Containing"
0.5 or greater	"Lead-Based"

Based on these criteria and the results of the sample analysis, all sampled painted surfaces are considered to be "Low-Level Lead" (virtually safe).

4.3 Mercury

Mercury vapour is present in all fluorescent light tubes. Liquid mercury is also present in thermostatic switches located within the surveyed area.

4.4 Silica

Free crystalline silica, present as common construction sand, is present in all concrete and masonry products where present in the Select areas surveyed.

4.5 Isocyanates

Free isocyanate compounds would not be expected to be found in a non-manufacturing facility.

4.6 Vinyl Chloride Monomer

Vinyl chloride monomer would not be expected to be found in a non-manufacturing facility.

4.7 Benzene

Benzene would not be expected to be found in a non-manufacturing facility.

4.8 Acrylonitrile

Acrylonitrile would not be expected to be found in a non-manufacturing facility.

4.9 Coke Oven Emissions

Coke oven emissions would not be expected to be found in a non-manufacturing facility.

4.10 Arsenic

Arsenic would not be expected to be found in a non-manufacturing facility.

4.11 Ethylene Oxide

Ethylene oxide would not be expected to be found in a non-manufacturing facility.

4.12 Mould

No visible mould was observed in the surveyed areas at the time of the assessment.

It is possible that mould growth is present in concealed areas such as wall or ceiling cavities, pipe chases, etc. or in areas not currently assessed by Maple. The client should notify Maple should any water damage or suspect mould growth be discovered.

4.13 Polychlorinated Biphenyls (PCBs)

The fluorescent lamp fixtures observed in the surveyed area contained T8 fluorescent light tubes. T8 fixtures have electronic ballast and are considered as not containing PCB.

5.0 RECOMMENDATIONS

5.1 Asbestos

Asbestos materials within the site include black caulking material around the windows.

General recommendations for the confirmed asbestos-containing materials are as follows:

- Removal or disturbance of ACM black caulking requires the use of Type 1 Asbestos Abatement Procedures (provided no power tools are used and the material is wetted). If power tools are required Type 3 Asbestos Abatement Procedures must be applied.

It is important to note that due to the presence of solid wall and ceiling systems, the assessment was not able to confirm or deny the presence of ACM within wall and ceiling cavities. The presence of concealed ACM should be assumed as well as within rooms that were not accessible during the assessment. It is possible that ACM is present that was not identified in this report.

5.2 Lead

Paint finishes sampled were found to contain "Low-Levels of Lead" and are considered to be "Virtually Safe" when intact.

Low-Level Lead paints (0.1% or less) are considered virtually safe provided that:

- airborne lead concentrations are kept below 0.05 mg/m^3;
- general dust suppression and worker hygiene procedures are utilized; and
- torching or other activities that create fumes are not completed.

Further, prior to disposal it is recommended that materials containing lead should be sampled and analyzed for Metals/Inorganics using the Toxicity Characteristic Leaching Procedure (TCLP) as described under O. Reg. 347. The testing is required to determine waste classification in accordance with Ontario Regulation 347 of R.R.O. 1990 made under the Environmental Protection Act as amended by Reg. 558/00.

5.3 Mercury

Mercury vapour is present in all fluorescent light tubes. All fluorescent light tubes should be handled and disposed of appropriately.

5.4 Silica

Proper dust suppression techniques and other safety precautions to control possible generation of silica dust from the demolition of concrete and masonry products present in the building should follow those outlined in the Ministry of Labour Guideline- Silica on Construction Projects, 2004.

6.0 LIMITATIONS

Due to the nature of building construction some limitations exist as to the possible thoroughness of the subject investigation. The field observations are considered sufficient in detail and scope to form a reasonable basis for the findings presented in this report. Maple warrants that the findings and conclusions contained herein have been made in accordance with generally accepted evaluation methods in the industry and applicable regulations at the time of the performance of the assessment.

It is possible that conditions may exist which could not be reasonably identified within the scope of the investigation or which were not apparent during the site investigation. Maple believes that the information collected during the investigation period concerning the property is reliable. No other warranties are implied or expressed.

Information provided by Maple is intended for Client use ONLY. Any use by a third party, of reports or documents authored by Maple, 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. Maple accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted.

The liability of Maple or its staff will be limited to the lesser of the fees paid or actual damages incurred by the Client. Maple will not be responsible for any consequential or indirect damages. Maple will only be liable for damages resulting from negligence of Maple; all claims by the Client shall be deemed relinquished if not made within two years after last date of services provided.

Please contact Maple Environmental Inc. at (905) 257-4408 for inquiries regarding this project.

MAPLE ENVIRONMENTAL INC.
Environment, Health and Safety Consultants

Prepared By:

Richards Reboks
Senior Project Technologist

Reviewed By:

Brad Panzer
Senior Project Manager

APPENDIX I

LABORATORY ANALYSIS REPORT – ASBESTOS

emcscientific
INCORPORATED

Laboratory Analysis Report

To:

Richards Reboks
Maple Environmental Inc.
482 South Service Road East, Suite 116
Oakville, Ontario
L6J 2X6

EMC LAB REPORT NUMBER: A65643
Job/Project Name: DDSB Joseph Gould PS
Analysis Method: Polarized Light Microscopy – EPA 600
Date Received: Jan 28/21 **Date Analyzed:** Feb 4/21
Analyst: Kathy Jin, *Analyst*
Reviewed By: Malgorzata Sybydlo, *Laboratory Manager*

Job No: 19261
Number of Samples: 15
Date Reported: Feb 4/21

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
S01A	A65643-1	DJC - computer room (227B) - far wall	White, joint compound	**ND**			100
S01B	A65643-2	DJC - computer room (227B) -	White, joint compound	**ND**			100
S01C	A65643-3	DJC - library wall	White, joint compound	**ND**			100
S02A	A65643-4	VFT01 - tar 12x12 with blue fleck	Off white, vinyl floor tile	**ND**			100
S02B	A65643-5	VFT01 - tar 12x12 with blue fleck	Off white, vinyl floor tile	**ND**			100
S02C	A65643-6	VFT01 - tar 12x12 with blue fleck	Off white, vinyl floor tile	**ND**			100
S03A	A65643-7	Black caulking - top of windows	Black, caulking	**Chrysotile**	**3**		97
S03B	A65643-8	Black caulking - top of windows	NA	**NA**			
S03C	A65643-9	Black caulking - top of windows	NA	**NA**			
S04A	A65643-10	Grey caulking - bottom of windows	Grey, caulking	**ND**			100
S04B	A65643-11	Grey caulking - bottom of windows	Grey, caulking	**ND**			100
S04C	A65643-12	Grey caulking - bottom of windows	2 Phases: a) Grey, caulking b) White, caulking	 **ND** **ND**			 100 100
S05A	A65643-13	Light grey - around window	Light grey, caulking	**ND**			100

emcscientific INCORPORATED

Laboratory Analysis Report

EMC LAB REPORT NUMBER: A65643
Client's Job/Project Name/No.: 19261
Analyst: Kathy Jin, *Analyst*

Client's Sample ID	Lab Sample No.	Description/Location	Sample Appearance	SAMPLE COMPONENTS (%)			
				Asbestos Fibres		Non-asbestos Fibres	Non-fibrous Material
S05B	A65643-14	Light grey - around window	Light grey, caulking	**ND**			100
S05C	A65643-15	Light grey - around window	Light grey, caulking	**ND**			100

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

APPENDIX II

LABORATORY ANALYSIS REPORT – LEAD

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

EMSL Canada Or	552101178
CustomerID:	55MAPL78
CustomerPO:	19261
ProjectID:	

Attn: **Richard Reboks**
Maple Environmental, Inc.
482 South Service Road East
Suite 116
Oakville, ON L6J 2X6

Phone:	(905) 257-4408
Fax:	(905) 257-8865
Received:	1/28/2021 09:44 AM
Collected:	1/25/2021

Project: **19261 DDSB Joseph Gould B**

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

Client SampleDescription	*Collected*	*Analyzed*	*Weight*	*RDL*	*Lead Concentration*
LBP1	1/25/2021	1/29/2021	0.2464 g	0.0081 % wt	<0.0081 % wt
552101178-0001	Site: Yellow Paint on Masonry				
LBP2	1/25/2021	1/29/2021	0.1959 g	0.010 % wt	<0.010 % wt
552101178-0002	Site: White Paint on Wood Trim Insufficient sample to reach reporting limit.				

Rowena Fanto, Lead Supervisor
or other approved signatory

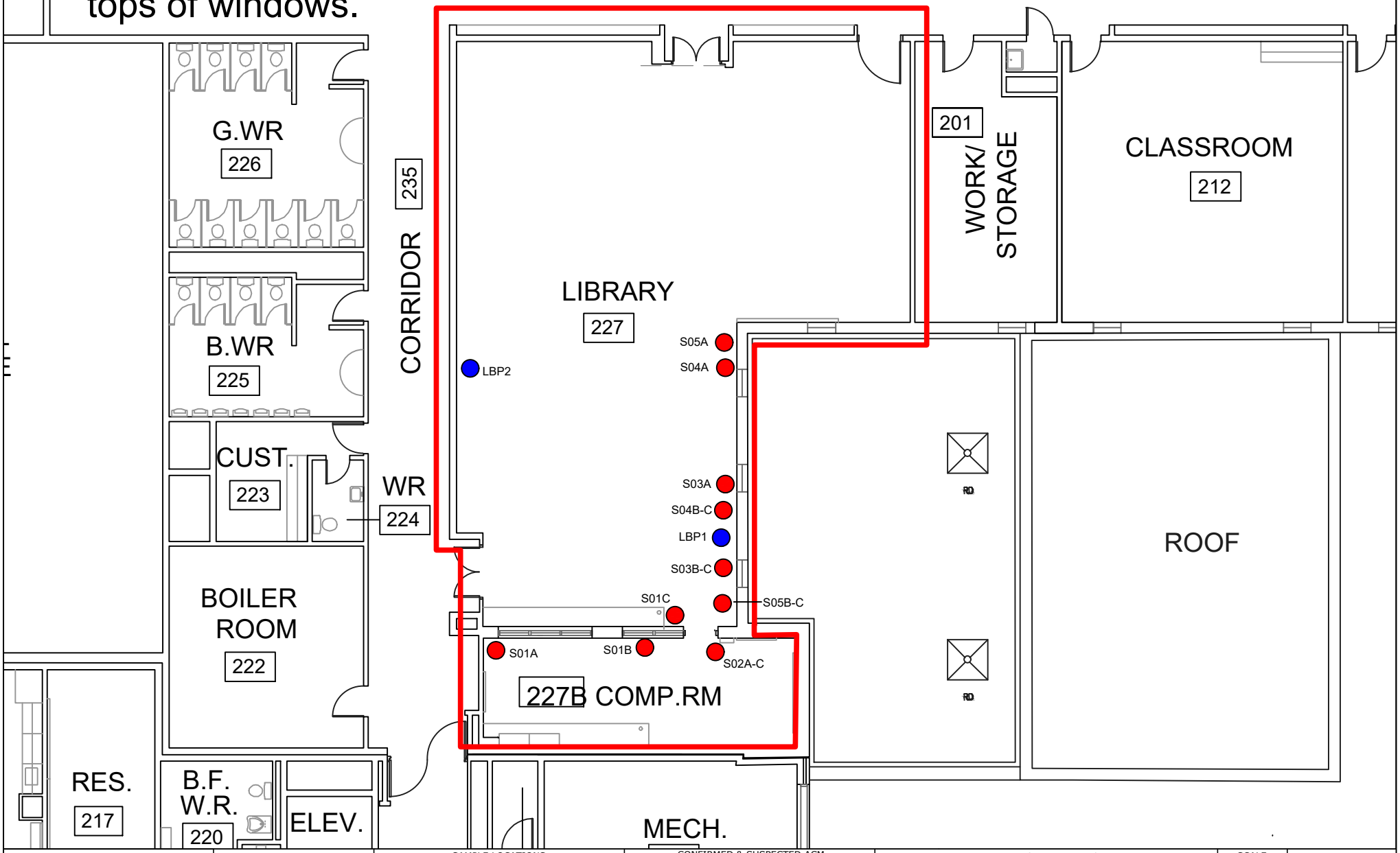
EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.
Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.
Samples analyzed by EMSL Canada Inc. Mississauga, ON AIHA-LAP, LLC - ELLAP #196142

Initial report from 02/02/2021 07:22:58

APPENDIX III

DRAWINGS

Note: Asbestos-containing black window caulking is present on tops of windows.



MAPLE ENVIRONMENTAL INC.
ENVIRONMENT, HEALTH & SAFETY CONSULTANTS

482 South Service Rd. E. - Suite 116
Oakville - Ontario - L6J-2X6
Tel: (905) 257 4408 - Fax: (905) 257 8865

www.MapleEnvironmental.com

PROJECT NO.: 19261

Drawn By: S. Knight

Checked By: R. Reboks

SAMPLE LOCATIONS		CONFIRMED & SUSPECTED ACM	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
●	ASBESTOS BULK SAMPLE: S-##		
●	LEAD BULK SAMPLE: Pb-##		
□	SURVEY AREA		
NOTE	WINDOW CAULKING		

Designated Substance Survey

Durham District School Board

Joseph Gould Public School

144 Planks Ln, Uxbridge, ON

Second Floor Plan

SCALE: NTS

SHEET: DS-01

DATE: February 9, 2021