HAZARDOUS MATERIALS SURVEY AND 2022 REASSESSMENT
100 LAURIER AVENUE, OTTAWA, ON

Project No.: Z1920014HZ / CCC-230252-00

Prepared for:

University of Ottawa

Prepared by:

McIntosh Perry Limited (MPL)

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Date:

November 22, 2022

McINTOSH PERRY

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REASSESSMENT SURVEY 2022

McIntosh Perry Limited (MPL) was retained by the University of Ottawa, to complete to a hazardous materials survey of Marchand Residence located at 100 Laurier Avenue. The survey was conducted on July 30th to August 6th, 2019, as well as May 12, 2021. The Reassessment Survey was completed on July 14th, 2022.

The purpose of the reassessment was to evaluate the condition and quantity of previously reported asbestos-containing materials (ACM) and develop corrective action plans as required for the purposes of long-term management.

The assessment and reassessment determined the following findings and recommendations.

Summary of the Reassessment Findings:

- ACM Texture Coat was observed to be in Good Condition in Rooms 020 and 120.
- ACM Firestop Sealant was observed to be in Good Condition in Rooms 223 and 105.
- ACM Mechanical Pipe Straight Insulation was observed to be in Good Condition in Rooms 05, 010, and 0010
- ACM Parging Cement Mechanical Pipe Insulation was observed to be in Good Condition in Rooms 008, 07, and 001.
- ACM Drywall Joint Compound (DJC) was observed to be in Good and Fair Condition throughout the subject building.
- ACM Vinyl Floor Tiles (VFTs) was observed to be in Good Condition throughout the subject building.
- ACM Window Caulking materials were observed to be in Good Condition on the Exterior windows.
- Water damaged materials were observed in select locations during the site survey.
- No mould affected materials were observed during the site survey.

Summary of Recommendations:

- Perform a reassessment of asbestos materials on an annual basis.
- Perform a pre-construction assessment and remove all asbestos-containing materials (ACM) prior to alterations or maintenance work if ACM may be disturbed by the work.
- Follow appropriate safe work procedures when handling or disturbing asbestos.
- Sample any presumed ACM prior to alteration or maintained work if presumed ACM may be disturbed by the work.

EXECUTIVE SUMMARY

McIntosh Perry Limited (MPL) was retained by the University of Ottawa, to complete to complete a hazardous materials survey for the building located at 100 Laurier Avenue in Ottawa, ON. The survey was conducted on July 30th to August 6th, 2019, as well as May 12, 2021. The Reassessment was completed on July 14th, 2022.

The purpose of the survey was to determine the presence of building materials containing Designated Substances and other hazardous materials, as defined under the Ontario Occupational Health and Safety Act. Designated Substances are eleven chemical agents prescribed under Ontario Regulation 490/09. In addition, a visual assessment was conducted for the presence of polychlorinated biphenyls (PCBs), radioactive materials, ozone depleting substances (ODSs), other halocarbons and mould.

Based on the assessment conducted by MPL, the following ACMs were identified or suspected to be present in the building:

Table A: Summary of Asbestos-Containing Materials Identified

Material Description	Friable?	Location	Type of Asbestos
Texture Coat	Yes	Specific Areas Only	Chrysotile
Firestop Sealant	No	Specific Areas Only	Chrysotile
Mechanical Pipe Insulation	Yes	Specific Areas Only	Chrysotile
Drywall Joint Compound	-	Throughout Building	Chrysotile
Vinyl Floor Tiles	No	Specific Areas Only	Chrysotile
Caulking	No	Specific Areas Only	Chrysotile
Roofing Materials	-	Roof	Suspected
Fire Doors	-	Throughout Building	Suspected

Note: Please refer to the complete report for specific details and recommendations.

All repairs or removal of asbestos-containing materials must be conducted according to Ontario Regulation 278/05, Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act. Asbestos containing waste must also be handled and disposed of according to Ontario Regulation 347/90 as amended – made under the Environmental Protection Act. Any suspect building materials encountered that were not assessed as part of this survey, should be assumed to contain asbestos until proven otherwise by analytical testing;

Sub-trades working with or in close proximity to asbestos-containing material should be informed of its presence;

Given that asbestos containing materials (ACMs) have been identified and will likely remain in place, an Asbestos Management Plan (AMP) is therefore required and an inventory of ACMs must be kept on site. All ACMs must be routinely inspected to ensure no damage has occurred, and the inventory must be updated once in each 12-month period and as may be required based on expected changing site conditions, abatement and/or renovation activities.

Based on the assessment conducted by MPL, the following Designated Substances and Hazardous Materials were identified or suspected to be present in the building:

Table B: Summary of Designated Substances & Hazardous Materials Identified

Material Description	Location
Lead Paint	Throughout Building
Lead Acid Batteries	Specific Areas Only
Mercury Liquid	Specific Areas Only
Radioactive Materials	Specific Areas Only
Ozone Depleted Substances	Specific Areas Only
Silica	Throughout Building
Mercury Vapour	Throughout Building
Mould/ Water Damage	Specific Areas Only

Note: Please refer to the complete report for specific details and recommendations.

Designated Substances area regulated under Ontario Regulation 490/09 — Designated Substances, made under the Ontario Health and Safety Act, which applies to controlling designated substances in the workplace.

In addition to Ontario Regulation 490/09, the following guidelines must also be adhered to when conducting work activities that that involve disturbance of the above-mentioned materials:

- Guideline: Lead on Construction Projects, issued April 2011 by the Occupational Health and Safety branch of the Ministry of Labour
- Guideline: Silica on Construction Projects issued April 2011 by the Occupational Health and Safety branch of the Ministry of Labour.
- Environmental Abatement Council of Canada (EACC) Mould Abatement Guidelines.

Prior to any renovations or demolition activities within building, designated substances and hazardous materials must be decommissioned by a licensed contractor such that they are contained and not released to the environment during decommissioning as per O. Reg. 347/09- made under the Environmental Protection Act.

Any suspect building materials encountered that were not assessed as part of this survey, should be assumed to contain designated substances or hazardous materials until proven otherwise by analytical testing.

This report should be made available to contractors tendering on any renovation or demolition work. In turn, all contractors requesting tenders from subcontractors shall furnish this report to subcontractors.

<u>This executive summary is not to be used alone. This report should be reviewed in its entirety.</u>

McINTOSH PERRY

November 22, 2022

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via email: joel.lajeunesse@uottawa.ca

Attention: Joel Lajeunesse, Project Manager

Re: 100 Laurier Avenue, University of Ottawa
Hazardous Materials Survey and 2022 Reassessment
McIntosh Perry Limited Reference No. Z1920014HZ / CCC-230252-00

1.0 INTRODUCTION

In accordance with your instructions, McIntosh Perry Limited (MPL) carried out a Hazardous Materials Survey at the institutional building located at 100 Laurier Avenue. The site is situated on the southeast corner of the intersection of Cumberland Street and Laurier Avenue East. The survey of the building was conducted on July 30th to August 6th, 2019 as well as May 12, 2021. The Reassessment was completed on July 14th, 2022.

The purpose of the survey was to determine the presence of building materials containing Designated Substances and other hazardous materials, as defined under the Ontario Occupational Health and Safety Act. Designated Substances are eleven chemical agents prescribed under Ontario Regulation 490/09. In addition, a visual assessment was conducted for the presence of polychlorinated biphenyls (PCBs), radioactive materials, ozone depleting substances (ODSs), other halocarbons and mould.

MPL completed the following,

- Visual review of the building to identify materials which could contain Designated Substances and hazardous materials;
- Bulk sampling and analysis of building materials suspected of containing asbestos (if required);
- Bulk sampling and analysis of representative paints and finishes suspected of containing lead (if required);
- Review of previously completed Hazardous Materials Survey(s) and historical building record(s); and,
- Recommendations for appropriate action where required.

2.0 PROPERTY DESCRIPTION

The subject building is a four-storey institutional building, covering approximately 29,200 square feet and constructed circa 1893. The subject building was observed to be constructed with a masonry stone and brick exterior. The interior walls were gypsum wallboard and plaster over concrete. Within the subject building, ceilings were observed to be either suspended ceiling or plaster. The floors were generally vinyl floor tiles, ceramic floor tiles and carpet.

3.0 FINDINGS & RECOMMENDATIONS

Designated Substances

3.1 Asbestos

Findings

A total of eighty-three (83) bulk samples were collected during the survey conducted in August 2019 and sent to an independent accredited laboratory for analysis. A total of fifteen (15) bulk samples were collected during the survey conducted on May 12,2021 and sent to an independent accredited laboratory for analysis. A summary of potential asbestos-containing samples collected along with the sample location, type and friability are presented in Table 1.

Laboratory certificates of analysis for asbestos are included in Appendix C.

Table 1:

Asbestos Laboratory Results

Sample ID	Location	Material	Type and Content	Friability
Samples Collected August 2019 follow,				
BS 1.1	Room 320	Wall Plaster (Grey)	None Detected	N/A
BS 1.2	Room 310	Wall Plaster (Grey)	None Detected	N/A
BS 1.3	Room 304A	Wall Plaster (Grey)	None Detected	N/A
BS 1.4	Room 302	Ceiling Plaster (Grey)	None Detected	N/A
BS 1.5	Room 219	Wall Plaster (White)	None Detected	N/A
BS 1.6	Room 209A	Wall Plaster (Grey)	None Detected	N/A
BS 1.7	Room 205E	Wall Plaster (Grey)	None Detected	N/A
BS 1.8	Room 202B	Wall Plaster (Grey)	None Detected	N/A
BS 1.9	Room 126	Wall Plaster (White)	None Detected	N/A
BS 1.10	Room 115	Wall Plaster (Grey)	None Detected	N/A
BS 1.11	Room 102	Wall Plaster (Grey)	None Detected	N/A
BS 1.12	Room 033	Wall Plaster (Grey)	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BS 1.13	Room 020	Wall Plater (White)	None Detected	N/A
BS 1.14	Room 011	Wall Plaster (Grey)	None Detected	N/A
BS 1.15	Room 005	Wall Plaster (White)	None Detected	N/A
BS 2.1	Room 304	Drywall Joint Compound	None Detected	N/A
BS 2.2	Room 301A	Drywall Joint Compound	2% Chrysotile	-
BS 2.3	Room 302	Drywall Joint Compound	Stop Positive	-
BS 2.4	Room 219	Drywall Joint Compound	Stop Positive	-
BS 2.5	Room 210	Drywall Joint Compound	Stop Positive	-
BS 2.6	Room 206	Drywall Joint Compound	Stop Positive	-
BS 2.7	Room 121	Drywall Joint Compound	Stop Positive	-
BS 2.8	Room 114	Drywall Joint Compound	Stop Positive	-
BS 2.9	Room 025	Drywall Joint Compound	Stop Positive	-
BS 2.10	Room 015	Drywall Joint Compound	Stop Positive	-
BS 2.11	Room 011	Drywall Joint Compound	Stop Positive	-
BS 3.1	Room 223	Firestop Caulking (Red)	None Detected	N/A
BS 3.2	Room 105	Firestop Caulking (Red)	5% Chrysotile	Non-Friable
BS 3.3	Room 105	Firestop Caulking (Red)	Stop Positive	Non-Friable
BS 4.1	Room 004	Wall Skim Coat (White)	None Detected	N/A
BS 4.2	Room 004	Wall Skim Coat (White)	None Detected	N/A
BS 4.3	Room 004	Wall Skim Coat (White)	None Detected	N/A
BS 4.4	Room 004	Wall Skim Coat (White)	None Detected	N/A
BS 4.5	Room 004	Wall Skim Coat (White)	None Detected	N/A
BS 4.6	Room 004	Wall Skim Coat (White)	None Detected	N/A
BS 4.7	Room 004	Wall Skim Coat (White)	None Detected	N/A
BS 5.1	Room 001C	Cementitious Coating (Grey)	None Detected	N/A
BS 5.2	Room 001C	Cementitious Coating (Grey)	None Detected	N/A
BS 5.3	Room 001C	Cementitious Coating (Grey)	None Detected	N/A
BS 5.4	Room 001C	Cementitious Coating (Grey)	None Detected	N/A
BS 5.5	Room 001C	Cementitious Coating (Grey)	None Detected	N/A
BS 6.1	Room 320	VFT (12”x12”-Grey w/ White and Black Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 6.2	Room 320	VFT (12”x12”-Grey w/ White and Black Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 6.3	Room 320	VFT (12”x12”-Grey w/ White and Black Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 7.1	Room 318	VFT (12”x12”-Grey w/ White Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BS 7.2	Room 318	VFT (12”x12”-Grey w/ White Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 7.3	Room 318	VFT (12”x12”-Grey w/ White Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 8.1	Room 219	VFT (12”x12”-Black)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 8.2	Room 219	VFT (12”x12”-Black)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 8.3	Room 219	VFT (12”x12”-Black)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 9.1	Room 212	VFT (12”x12”-Blue w/ Dark Blue/Grey Spots)	None Detected	N/A
BS 9.2	Room 212	VFT (12”x12”-Blue w/ Dark Blue/Grey Spots)	None Detected	N/A
BS 9.3	Room 212	VFT (12”x12”-Blue w/ Dark Blue/Grey Spots)	None Detected	N/A
		Mastic (Brown)	None Detected	N/A
BS 10.1	Room 206	VFT (12”X12”-White w/ Black Spots)	None Detected	N/A
BS 10.2	Room 218	VFT (12”X12”-White w/ Black Spots)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 10.3	Room 218	VFT (12”X12”-White w/ Black Spots)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 11.1	Room 218	VFT (12”X12”-Pink)	None Detected	N/A
		Paper Backing/Mastic (Brown)	None Detected	N/A
BS 11.2	Room 218	VFT (12”X12”-Pink)	None Detected	N/A
		Paper Backing/Mastic (Brown)	None Detected	N/A
BS 11.3	Room 218	VFT (12”X12”-Pink)	None Detected	N/A
		Paper Backing/Mastic (Brown)	None Detected	N/A
BS 12.1	Room 101	VFT (12”x12”- Green w/ White Streaks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 12.2	Room 101	VFT (12”x12”- Green w/ White Streaks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 12.3	Room 101	VFT (12”x12”- Green w/ White Streaks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 13.1	Room 310	CT (2’x4’-Pinholes w/ Dense Fissures)	None Detected	N/A
BS 13.2	Room 310	CT (2’x4’-Pinholes w/ Dense Fissures)	None Detected	N/A
BS 13.3	Room 310	CT (2’x4’-Pinholes w/ Dense Fissures)	None Detected	N/A
BS 14.1	Room 206	CT (2’x4’-Uniform Pinholes)	None Detected	N/A
BS 14.2	Room 106A	CT (2’x4’-Uniform Pinholes)	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BS 14.3	Room 025	CT (2'x4'-Uniform Pinholes)	None Detected	N/A
BS 15.1	Room 107	CT (1'x1'- Uniform Pinholes)	None Detected	N/A
BS 15.2	Room 020	CT (1'x1'- Uniform Pinholes)	None Detected	N/A
Bs 15.3	Room 107	CT (1'x1'- Uniform Pinholes)	None Detected	N/A
BS 16.1	Room 103	CT (2'x4'-Pinholes Varying size)	None Detected	N/A
BS 16.2	Room 103	CT (2'x4'-Pinholes Varying size)	None Detected	N/A
BS 16.3	Room 106A	CT (2'x4'-Pinholes Varying size)	None Detected	N/A
BS 17.1	Room 0012	Wall Mastic (Black)	None Detected	N/A
BS 17.2	Room 0012	Wall Mastic (Black)	None Detected	N/A
BS 17.3	Room 0012	Wall Mastic (Black)	None Detected	N/A
BS 18.1	Room 003	Ceiling Tar (Black)	None Detected	N/A
BS 18.2	Room 003	Ceiling Tar (Black)	None Detected	N/A
BS 18.3	Room 003	Ceiling Tar (Black)	None Detected	N/A
BS 19.1	Room 204	Carpet Mastic (Yellow)	None Detected	N/A
BS 19.2	Room 204	Carpet Mastic (Yellow)	None Detected	N/A
BS 19.3	Room 204	Carpet Mastic (Yellow)	None Detected	N/A
Samples Collected May 12, 2021 follow,				
BSE 1.1	Exterior Window	Window Caulking, Brown	15% Chrysotile	Non-Friable
BSE 1.2	Exterior Window	Window Caulking, Brown	Stop Positive	Non-Friable
BSE 1.3	Exterior Window	Window Caulking, Brown	Stop Positive	Non-Friable
BSE 2.1	Exterior Window	Air conditioner Caulking, Black	None Detected	N/A
BSE 2.2	Exterior Window	Air conditioner Caulking, Black	None Detected	N/A
BSE 2.3	Exterior Window	Air conditioner Caulking, Black	None Detected	N/A
BSE 3.1	Main Door, Laurier	Door Caulking, Grey	None Detected	N/A
BSE 3.2	Main Door, Laurier	Door Caulking, Grey	None Detected	N/A
BSE 3.3	Main Door, Laurier	Door Caulking, Grey	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BSE 4.1	Exterior Stairs, Cumberland	Stair Caulking, Grey	None Detected	N/A
BSE 4.2	Exterior Stairs, Cumberland	Stair Caulking, Grey	None Detected	N/A
BSE 4.3	Exterior Stairs, Cumberland	Stair Caulking, Grey	None Detected	N/A
BSE 5.1	Main Door, Cumberland	Door Caulking, Brown	6% Chrysotile	Non-Friable
BSE 5.2	Main Door, Cumberland	Door Caulking, Brown	Stop Positive	Non-Friable
BSE 5.3	Main Door, Cumberland	Door Caulking, Brown	Stop Positive	Non-Friable

N/A – Not Applicable
VFT – Vinyl Floor Tiles
Stop Positive – Material considered being asbestos-containing as per O. Reg. 278/05.

Please refer to Appendix E – Asbestos-Containing Materials Checklist for material conditions, approximate (where applicable), and recommended actions.

The following building materials (if present) were investigated for asbestos content,

3.1.1 Fireproofing

No fireproofing was observed in the subject building.

3.1.2 Mechanical Pipe Insulation

Mechanical Pipe Straight Insulation

Previously identified mechanical pipe straight insulation was observed in in Room 05, 010, and 0010. This material is known to contain 60% chrysotile asbestos. This material is considered to be friable and was observed to be in good condition, with the exception of select areas which were observed in poor condition.

This material was repaired under Type 2 conditions in Sept. 2020 by Asbex Environmental.

Mechanical Piping Elbows/Fittings Insulation

Previously sampled mechanical pipe elbows/fittings insulation was observed in Rooms 008, 07, and 001 at the stairwell and basement entrance and in the stairwell of 008. The laboratory analytical results of samples

collected indicate that this material contains 30% Chrysotile asbestos. This material is considered to be friable and was observed to be in good condition, with the exception of select areas which were observed in poor condition.

This material was repaired under Type 2 conditions in Sept. 2020 by Asbex Environmental.

Mechanical Piping Hangers Insulation

Mechanical piping hanger insulation was observed within ceiling spaces of the subject building. MPL made several incisions throughout to investigate its composition, and it was visually identified as fiberglass, and therefore not suspected of containing asbestos.

HVAC Duct Insulation

No HVAC duct insulation was observed in the subject building.

Other Mechanical Insulation

No other mechanical insulation was observed in the subject building.

3.1.3 Flexible Duct Connector

Flexible duct connectors were observed in Room 320. This material was visually identified as a non-asbestos containing material (i.e. rubber).

3.1.4 Heat Shield or Heat Shield Insulation

No heat shield insulation was observed in the subject building.

3.1.5 Texture Finishes

Previously identified asbestos-containing ceiling texture coating was observed in Rooms 020 and 120. This material is known to contain 2% Chrysotile asbestos. This material is considered to be friable and was observed to be in good condition, with the exception of select areas which were observed in poor condition.

This material was repaired under Type 2 and Type 3 conditions in Sept. 2020 by Asbex Environmental.

3.1.6 Plaster

Plaster was observed and sampled from Room 310, 304, 302, 219, 209A, 205E, 202B, 126, 115, 102, 033, 020, 011, 004, and 005. The laboratory analytical results of wall plaster samples collected indicate that this material does not contain asbestos.

3.1.7 Drywall Joint Compound

Drywall joint compound was observed and sampled from levels 3, 2, 1 and 0 in the following locations: 304, 301A, 302, 219, 210, 206, 121, 114, 025, 015 and 011. The laboratory analytical results of drywall joint

compound samples collected indicate that this material contains 2% Chrysotile asbestos. Since drywall joint compound is a homogeneous material, all areas must be treated as asbestos-containing unless additional bulk sampling and analysis proves otherwise. This material was observed to be in good condition, with the exception of select areas which were observed in fair condition.

This material was repaired under Type 2 and Type 3 conditions in Sept. 2020 by Asbex Environmental.

Since the building has been subject to renovations, select areas with original drywall may have been enclosed (i.e. furred out) behind new drywall. As indicated to MPL, this has occurred in Room 114, 115, 219, 205 and 205(A-F). Prior to renovations, any such site conditions should be confirmed.

3.1.8 Ceiling Tiles

Several different types of ceiling tiles were observed and sampled within the building as follows:

- Previously identified asbestos-containing suspended ceiling tiles (2'x4'- Pinholes with large fissures) were observed in Rooms 06, 06B, 08, 09, 012G, 015, 015A, 015B, 101, 110, 110A, 110B, 110C, 110D, 110E, 202, 203, 204, 207, 208, 210, 212, 213, 214, 216, 218, 223, 227B, 301, 310, 312A, 320A, 321, and 328. This material contains 3% Amosite asbestos. This material was observed to be in good condition, with the exception of select areas which were observed in poor condition. This material was removed in rooms 06B, 08, 09, 012G, 312A, and 328 under Type 2 conditions in Sept. 2020 by Asbex Environmental. All ACM ceiling tiles were removed as of Summer 2022.

- Ceiling tiles (2'x4'-Pinholes w/ Dense Fissures) were observed and sampled in Room 310. The laboratory analytical results for the ceiling tile samples collected indicate that this material does not contain asbestos.

- Ceiling tiles (2'x4'-Uniform fissures) were observed and sampled in Rooms 025, 106A and 206. The laboratory analytical results for the ceiling tile samples collected indicate that this material does not contain asbestos.

- Ceiling tiles (1'x1'-Uniform Pinholes) were observed and sampled in Rooms 020 and 107. The laboratory analytical results for the ceiling tile samples collected indicate that this material does not contain asbestos.

- Ceiling tiles (2'x4'-Pinholes of varying sizes) were observed and sampled in Rooms 103 and 106A. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.

3.1.9 Vinyl Floor Tiles

Several different types of vinyl floor tiles were observed and sampled within the building as follows:

- Previously identified asbestos-containing vinyl floor tiles (12”x12”-Beige w/ Brown Flakes) was observed in Rooms 02, 021, 105, 107, 110E, 124, 126, 211, 213, 214, 215A, 223, 314, and 323. This material contains 4% chrysotile asbestos. This material is considered to be non-friable and was observed to be in good condition, with the exception of select areas which were observed in fair or poor condition. As indicated to MPL, the vinyl floor tiles in Room 107 were abated following our site assessment in 2019. This material was removed in rooms 110E, 126, 213, 215A, and 314 under Type 1 conditions in Sept. 2020 by Asbex Environmental. This material was not observed in Room 026, 121 and 124 during the 2022 Reassessment Survey.

- Previously identified asbestos-containing vinyl floor tiles (12”x12”-Beige W/ Brown Marks/Pattern) was observed in Room 215A. This material contains 2.5% Chrysotile asbestos. This material is considered to be non-friable and was observed to be in in poor condition. This material was removed under Type 1 conditions in Sept. 2020 by Asbex Environmental.

- Previously identified asbestos-containing vinyl floor tiles (12”X12”-Beige w/ Dark & Light Flakes) were observed in Room 323. This material contains 12% Chrysotile asbestos and is considered to be non-friable. This material was observed to be in good condition.

- Previously identified asbestos-containing vinyl floor tiles (9”x9”-Grey w/ Streaks) were observed in Room 126. This material contains 12% Chrysotile asbestos. This material is considered to be non-friable and was observed to be in poor condition. This material was removed under Type 1 conditions in Sept. 2020 by Asbex Environmental.

- Vinyl floor tiles (12”x12”- Grey w/ White and Black Spots) were observed and sampled in Room 320. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material along with its associated mastic (black) do not contain asbestos.

- Vinyl floor tiles (12”x12”- Grey w/ White Spots) were observed and sampled in Room 318. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material along with its associated mastic (black) do not contain asbestos.

- Vinyl floor tiles (12”x12”- Black) were observed and sampled in Room 219. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material along with its associated mastic (black) do not contain asbestos.

- Vinyl floor tiles (12”x12”- Blue w/ Dark Blue/Grey Spots) were observed and sampled in Room 212. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material along with its associated mastic (brown) do not contain asbestos.

- Vinyl floor tiles (12”x12”- White w/ Black Spots) were observed and sampled in Rooms 206 and 218. The laboratory analytical results for the samples collected indicate that this material along with its associated mastic (yellow) do not contain asbestos.

- Vinyl floor tiles (12”x12”- Pink) was observed and sampled in Room 218. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material along with its associated paper backing/mastic (brown) do not contain asbestos.

- Vinyl floor tiles (12”x12”- Green w/ White Streaks) were observed and sampled in Room 101. The laboratory analytical results of the vinyl floor tile samples collected indicate that this material along with its associated mastic (black) do not contain asbestos.

3.1.10 Transite (Asbestos Cement)

No transite materials were observed in the subject building.

3.1.11 Cementitious Coating

Cementitious coating (Grey) applied overtop concrete was observed and sampled in Room 001C. The laboratory analytical results of the cementitious coating samples collected indicate that this material does not contain asbestos.

3.1.12 Caulking

Several different types of caulking were observed and sampled throughout the building as follows:

- Firestop caulking (Red) was observed and sampled in Rooms 223 and 105. The laboratory analytical results for the samples collected indicate that this material contains 5% Chrysotile asbestos. This material is considered non-friable and was observed to be in good condition.

- Window caulking (Brown) was observed and sampled from the exterior windows. The laboratory analytical results for the samples collected indicate that this material contains 15% Chrysotile asbestos. That material is considered non-friable and was observed to be in good condition.

- Window caulking (Black) was observed and sampled from the exterior windows air conditioning units. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.

- Door caulking (Grey) was observed and sampled from the exterior main doors facing Laurier Street. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.

- Stair caulking (Grey) was observed and sampled from the exterior stairs facing Cumberland Street. The laboratory analytical results for the samples collected indicate that this material does not contain asbestos.

- Door caulking (Brown) was observed and sampled from the exterior main doors facing Cumberland Street. The laboratory analytical results for the samples collected indicate that this material contains 6% Chrysotile asbestos. That material is considered non-friable and was observed to be in good condition.

3.1.13 Mastic

Wall mastic (Black) was observed and sampled in Room 0012. The laboratory analytical results indicate that this material does not contain asbestos.

3.1.14 Tar

Tar (Black) was observed and sampled from the ceiling of Room 003. The laboratory analytical results indicate that this material does not contain asbestos.

3.1.15 Fire Doors

Fire doors were observed at various locations throughout the subject building. To avoid possible damage, no bulk samples of the internal door insulation materials were collected. Prior to removal and/or replacement, fire doors should be examined and tested for asbestos content. Fire doors should be considered to contain asbestos until bulk samples and analysis proves otherwise. All fire doors were observed to be in good condition.

3.1.16 Roofing Material

To avoid damage and compromising the integrity of roofing material, no bulk samples of the roofing materials were collected. Prior to removal and/or replacement, roofing materials should be examined and tested for asbestos content. Roofing materials should be considered to contain asbestos until bulk samples and analysis proves otherwise.

Recommendations

- Asbestos-containing materials identified to be in poor condition must be repaired/removed immediately, following Type 1/2/3 asbestos abatement work procedures as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;

- Asbestos-containing materials that have been identified to be in fair condition should be either repaired (where possible) and/or closely monitored for signs of further deterioration. Depending on type of material and location, these materials should be scheduled for removal if there is potential risk of exposure to worker and/or occupants;

- Materials identified to contain asbestos that are in good condition and do not pose a risk to workers or occupants can be managed in place. Prior to renovation/demolition activities that may disturb the ACMs, these materials must be removed following appropriate Type 1/2/3 asbestos abatement work procedures as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;

- Please refer to Appendix E – Asbestos-Containing Materials Checklist for material conditions, approximate (where applicable), and recommended actions;
- Entry into ceiling spaces where asbestos-containing ceiling tiles are present will require Type 1/2 asbestos abatement procedures.
- Prior to renovation/demolition of materials which are assumed to be asbestos-containing (suspect materials which were not sampled, i.e., roofing materials and fire doors), these materials must either be tested for asbestos content or removed following appropriate asbestos abatement work procedures (Type 1/2/3) as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;
- All repairs or removal of asbestos-containing materials must be conducted according to Ontario Regulation 278/05, Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations - made under the Occupational Health and Safety Act. Asbestos containing waste must also be handled and disposed of according to Ontario Regulation 347/90 as amended – made under the Environmental Protection Act. Any suspect building materials encountered that were not assessed as part of this survey, should be assumed to contain asbestos until proven otherwise by analytical testing;
- Sub-trades working with or in close proximity to asbestos-containing material should be informed of its presence; and
- Given that asbestos containing materials (ACMs) have been identified and will likely remain in place, an Asbestos Management Plan (AMP) is therefore required and an inventory of ACMs must be kept on site. All ACMs must be routinely inspected to ensure no damage has occurred, and the inventory must be updated once in each 12-month period and as may be required based on expected changing site conditions, abatement and/or renovation activities.

3.2 Lead

Findings

3.2.1 Paint Finishes

A total of fourteen (14) paint samples from the subject building were collected in August 2019 and analyzed for lead content. Results of bulk sampling testing are summarized in Table 2 and the laboratory certificate of analysis can be found in Appendix C.

Table 2:

Lead Sampling Locations and Laboratory Results

Sample I.D.	Location	Material	Colour	Lead Concentration Weight by Conc. (%)
Pb-01	Room 014C	Door Paint	Black	<0.0016
Pb-02	Room 125	Wall Paint	Green	0.0036
Pb-03	Room 026A	Door Paint	Light Blue	0.0073
Pb-04	Room 026A	Door Paint	Grey	0.0006
Pb-05	Room 001	Door Paint	Blue	0.0120
Pb-06	Room 001B	Wall Paint	Light Blue	0.0019
Pb-07	Room 001C	Floor Paint	Dark Grey	0.0029
Pb-08	Room 001C	Wall Paint	Orange	0.0003
Pb-09	Room 005	Wall Paint	Silver	0.159
Pb-10	Room 005	Floor Paint	White	0.0012
Pb-11	Room 0010	Pipe Paint	Red	0.500
Pb-12	Room 0010	Floor Paint	Light Pink	0.0075
Pb-13	Room 0012	Wall Paint	Beige	0.143
Pb-14	Room 0012	Floor Paint	Light Grey	0.0159
Previously Identified Lead Paint Finishes				
LRR-3-LBP-112806-03	Room 300	Ceiling Paint	Beige	21.00
LRR-3-LBP-112806-04	Room 300	Wall Paint	Blue	8.40
LRR-3-LBP-112806-08	Room 227A	Window Frame Paint	Orange	3.30
LRR-3-LBP-112806-09	Room 212	Door & Frame Paint	White	5.90
LRR-3-LBP-112806-10	Room 121	Walls & Frame Paint	Yellow	13.00

The paint finishes highlighted in blue in the above table were determined to contain low concentrations of lead which are less than or equal to 0.1%. These paint finishes were observed to be in good condition with the exception of select areas that were observed in poor condition.

The paint finishes highlighted in pink in the above table are considered lead-containing paints or surface coatings with concentrations greater than 0.1% lead by weight. These paint finishes were observed to be in good condition with the exception of select areas that were observed in poor condition.

All remaining paints tested were below the laboratory limit of detection for lead. However, all other paints throughout the subject building that are not mentioned in this report must be considered to be lead-containing unless sampling and analysis proves otherwise.

Laboratory certificate of analysis for the paint sample is also included in Appendix C.

3.2.2 Battery Packs

MPL identified lead-containing acid battery packs throughout the subject building. These battery packs were observed on walls and above exits throughout the surveyed building.

Lead may also be present in the following materials in the building:

- Solder used on copper domestic water lines;
- Solder used in bell fittings for cast iron pipes;
- Solder used in electrical equipment;
- Ceramic tile glaze; and
- Concrete and mortar products, etc.

Recommendations

Paints identified to contain lead that are in poor condition must be immediately repaired and/or stabilized following a minimum Type 1/2 lead abatement procedures as per OMOL "Lead on Construction Project" dated April 2011.

Paints identified to contain lead that are in fair condition should be either repaired (where possible) and/or closely monitored for signs of further deterioration.

Paints identified to contain lead that are in good condition and do not pose a risk to workers or occupants can be managed in place.

Detailed worker protection protocols are outlined in the OMOL Guideline "Lead on Construction Projects" dated April 2011. Generally, the removal of the lead-based paint with the use of a chemical gel or paste, or a power tool equipped with a HEPA filter is considered a Type 1 operation. The removal of lead-based paint by scraping or sanding using non-powered hand tools is considered a Type 2 operation. The removal of lead-based paint using abrasive blasting, or power tools without a HEPA filter, is considered a Type 3 operation, and requires the most stringent worker protection protocols (similar to asbestos); Furthermore, high temperature cutting or welding would also require Type 3 Operations under the Guideline for Lead on Construction Projects. If this type of work is required, it may be prudent to chemically remove the lead paint in selected locations prior to performing any high temperature cutting or welding.

All lead materials that are removed must follow the Ministry of Labour and Environmental Abatement Council of Ontario Lead Guidelines.

Please refer to Appendix F – Hazardous Materials Checklist for material conditions, approximate (where applicable), and recommended actions.

Precautions should be taken as required during major renovations and demolition projects to ensure that workers' exposure levels to airborne lead does not exceed 0.05 mg/m^3. This can be achieved by:

- providing workers with proper training;

- providing the workers with respiratory protection;
- wetting the surface of the materials to prevent dust emissions; and,
- providing workers with hygiene facilities to properly wash prior to exiting the work area.

Sub-trades working with or in close proximity to lead based paint should be informed of its presence.

All waste material must be handled and disposed of according to the Revised Regulation of Ontario 347/90 as amended – made under the Environmental Protection Act. Lead waste generated may also be subject to Leachate Criteria (Schedule 4) of this regulation.

3.3 Mercury

Findings

3.3.1 Thermostat Switches

MPL observed thermostats containing liquid mercury within select areas of the subject building.

3.3.2 Fluorescent Light Tubes

MPL identified fluorescent light fixtures throughout the surveyed area containing 2 to 4 fluorescent light tubes per fixture. Mercury is likely to be present in vapor form in the fluorescent light tubes.

3.3.3 Pressure Gauges and Float Switches

MPL identified pressure gauges containing liquid mercury throughout Room 0010. They were observed in good condition.

Recommendations

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, approximate (where applicable), and recommended actions.

Precautions must be taken to prevent mercury liquid/vapours from becoming airborne during building demolition. Exposure to mercury is regulated under Ontario Regulation 490/09, Designated Substances - made under the Occupational Health and Safety Act." Prior to renovations to the building, all mercury containing fluorescent light tubes, thermostats, and equipment must be removed and stored in a safe, secure location and/or properly disposed of in accordance with R.R.O. 1990, Regulation 347 General – Waste Management, made under the Environmental Protection Act.

3.4 Silica

Findings

Silica is expected to be present in building materials such as concrete, brick, mortar and ceramic tiles located throughout the structures. Free crystalline silica (α-Quartz) may be a component in ceiling tiles and gypsum

board. Silica (including free crystalline silica) may also be a component of concrete and brick surfaces noted in the building.

Recommendations

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, approximate (where applicable), and recommended actions.

Precautions should be taken as required during major renovations and demolition projects on concrete (i.e. coring through concrete slabs, demolition of masonry, etc.) to ensure that workers' exposure levels to airborne silica does not exceed 0.05 mg/m^3.

This can be achieved by:

- providing workers with proper training;
- providing the workers with respiratory protection;
- wetting the surface of the materials to prevent dust emissions; and,
- providing workers with facilities to properly wash prior to exiting the work area.

Demolition work that is likely to impact silica-containing materials should be carried out in accordance with the requirement detailed in the Ontario Ministry of Labour document entitled "Guideline: Silica on Construction Projects", dated April 2011.

Other Hazardous Materials

3.5 Polychlorinated Biphenyls (PCBs)

Findings

3.5.1 Light Ballasts

The subject building is illuminated by LED and fluorescent lights. MPL assessed representative ballasts in the building, and these ballasts were identified as non-PCBs content. These light ballasts were observed to be manufactured by Phillips.

3.5.2 Transformers

MPL did not observe any PCBs containing electrical transformers within the subject building. Transformers that could be assessed were observed to be dry-type and manufactured by Hammond Manufacturing.

Recommendations

Since no PCB-containing equipment was observed or suspected to be present during the site survey, no further action is required.

3.6 Ozone Depleting Substances (ODSs) and Other Halocarbon

Findings

A visual assessment for equipment potentially containing ODSs and other halocarbons was conducted. MPL observed equipment such as refrigerators, water fountains, water coolers, freezers, etc. which contain or are suspected of containing ODSs or other halocarbons.

No other equipment containing ODSs or other halocarbons was observed in the subject building.

Recommendations

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, approximate (where applicable), and recommended actions.

Under the management of a licensed contractor, equipment containing R-22 and R-134a does not represent a significant threat to human health or the environment however, a licensed contractor must decommission equipment such that CFCs are contained and not released to the environment during servicing or operation.

3.7 Radioactive Materials

Findings

A visual assessment of the subject building was conducted to determine if any electrical components containing radioactive materials were present. MPL observed smoke detectors in Rooms 302, 305, 306, and 329 which contain small approximate of radioactive material.

Recommendations

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, approximate (where applicable), and recommended actions.

The radioactive sources in smoke alarms are sealed and contained within a metal case inside the smoke detector and must not be damaged or tampered with. These materials do not pose a hazard as long as they remain contained and properly disposed at the time of removal or replacement.

Prior to any renovations or demolition of the building, all equipment containing radioactive materials must be decommissioned by a licensed contractor such that radioactive materials are contained and not released to the environment during decommissioning as per O.Reg. 347/09.

3.8 Underground and Above Ground Storage Tanks (USTs and ASTs)

Findings

A visual survey of the subject building was conducted to determine if any USTs and ASTs were present. No USTs and ASTs were present within the surveyed area.

Recommendations

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, approximate (where applicable), and recommended actions.

Since no underground and/or above ground storage tanks (USTs and ASTs) were observed or suspected to be present during the site survey, no further action is required.

3.9 Mould

Findings

3.9.1 Mould

A visual survey of the subject building was conducted to determine if any mould was present. MPL did not observed any areas with obvious signs of visible mould growth.

3.9.2 Water Damage

A visual survey of the subject building was conducted to determine if any water damaged was present. MPL identified select areas throughout the subject building, where materials were affected by water damage.

Recommendations

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, approximate (where applicable), and recommended actions.

Water stained/damaged ceiling tiles observed throughout the subject building should be replaced as part of regular maintenance and the underlying cause of the water leakage should be identified and repaired;

Water stained/damaged ceiling tiles that are also determined to contain asbestos must be replaced following appropriate asbestos abatement procedures as outlined in O.Reg. 278/05.

This report should be made available to contractors tendering on any renovation or demolition work. In turn, all contractors requesting tenders from subcontractors shall furnish this report to subcontractors.

4.0 GENERAL CONSIDERATIONS AND LIMITATIONS

The information presented in this report is based on information provided by others, direct visual observation made by personnel with McIntosh Perry Limited (MPL), and the results of laboratory testing as identified herein.

It should be noted that there might be hazardous materials in locations not visible during our investigation. In the event such material is encountered during demolition operations in the building, this material should be tested and dealt with accordingly.

The findings detailed in this report are based upon the information available at the time of preparation of the report. No investigative method eliminates the possibility of obtaining imprecise or incomplete information. Professional judgement was exercised in gathering and analyzing the information obtained and in the formulation of our conclusions and recommendations.

MPL does not certify or warrant the environmental status of the property nor the building on the property.

Please note that the passage of time affects the information provided in the report. Environmental conditions of a site can change. Opinions relating to the site conditions are based upon information that existed at the time that the conclusions were formulated.

The client expressly agrees that it has entered into this agreement with MPL, both on its own behalf and as agent on behalf of its employees and principals.

The client expressly agrees that MPL's employees and principals shall have no personal liability to the client in respect of a claim, whether in contract, tort and/or any other cause of action in law. Accordingly, the client expressly agrees that it will bring no proceedings and take no action in any court of law against any of MPL's employees or principals in their personal capacity.

We trust that we have detailed our findings clearly and that we have satisfactorily addressed the scope of work you require at this time. In the event you wish us to review our findings with you, or require our services further in this regard, please do not hesitate to contact our office.

Yours truly,

MCINTOSH PERRY LIMITED

Lauren Hamilton, B.Eng.
Technician
Hazardous Materials/ Environmental Health & Safety

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APPENDIX A

Regulatory Requirements

REGULATORY REQUIREMENTS

In Ontario, there is a total of eleven Designated Substances. These substances have been regulated under Ontario Regulation 490/09 — *Designated Substances*, made under the Ontario Health and Safety Act, which applies to controlling designated substances in the workplace.

In addition to the Ontario Regulation 490/09 noted above, the following were observed for this survey:

Guideline: Lead on Construction Projects, issued April 2011 by the Occupational Health and Safety branch of the Ministry of Labour

Guideline: Silica on Construction Projects issued April 2011 by the Occupational Health and Safety branch of the Ministry of Labour.

The Occupational Health and Safety Act (OHSA), R.S.O. 1990, c.0.1, s.30 (1) specifies that: "Before beginning a project, the owner shall determine whether any Designated Substances are present at the project site and shall prepare a list of all Designated Substances that are present at the site.

Section 30 of The Act requires that the list of Designated Substances be provided to prospective contractors and subcontractors who may do work on a site and come into contact at the site with Designated Substances.

The Ministry of Labour has designated the following substances:

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

Ontario Regulation 278/05 (O. Reg. 278/05), the Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations, made under the Occupational Health and Safety Act (OHSA), requires owners of a building to identify Asbestos-containing Materials (ACMs) prior to potential disturbance of the materials.

In addition, an owner of a building is required to have an Asbestos Management Plan (AMP) if ACMs (friable or non-friable) are present in the building and are to remain in place. An inventory of ACMs must be kept on site. All ACMs must be routinely inspected to ensure no damage has occurred, and the inventory must be updated once in each 12-month period and as may be required based on expected changing site conditions, abatement and/or renovation activities. Removal of all asbestos containing materials is required prior to building demolition.

In addition to the Designated Substances, the building was also surveyed for the presence of other hazardous materials such as polychlorinated biphenyls (PCBs), radioactive materials, ozone depleting substances (ODSs), other halocarbons, and mould.

We understand that this survey has been conducted to comply with the regulatory requirements of Ontario Regulation 278/05.

APPENDIX B

Survey Methodology & Background Information

SURVEY METHODOLOGY

For the purpose of this survey, not all Designated Substances or suspect hazardous material were sampled. Selective sampling was carried out only for substances that were suspected to be present or those deemed to have a likely source of origin in the survey areas.

Materials that were homogeneous in nature and/or similar in appearance to other materials tested were considered to be of similar composition. The likelihood of ACMs being present in inaccessible areas such as above gypsum board ceilings or behind gypsum wallboards was determined by assessing the presence of asbestos-containing systems in adjacent areas. Equipment such as boilers, motors, blowers, electrical panels, fire doors etc., were not de-energized or disassembled to examine internal components or materials. These items should be considered to contain hazardous materials until proven otherwise.

During the survey, representative samples of suspect building materials were collected and sent to CAELA accredited independent laboratory for analysis. Laboratory Certificate of Analysis are attached in Appendix C.

Other potential hazardous materials were identified by visual observation and/or by reviewing Material Safety Data Sheets (MSDS) and/or safety labels where available.

Investigated Areas

The survey included all accessible areas and ceiling space within 100 Laurier Avenue as required under our scope of work. No destructive investigations were performed as part of this survey. Photographs of the areas investigated can be found in Appendix D.

The assessment was directed on the interior structure and finishes of the building. It did not consider current or past owner or occupant articles within the building (i.e. contents, furniture, etc.) and does not report on possible contaminants in the soil under and surrounding the building, or contents of vessels, drums, etc. that may be concealed.

Sampling and Assessment Methodologies

Sampling was conducted as part of this assessment. Results for asbestos and lead samples can be found in the Findings & Recommendation Section 3.0.

A historical review of previous designated substance survey reports and abatement reports was examined as part of this survey. Due to concerns regarding certain historical analytical results, mainly in 2008 and prior years, confirmatory re-sampling was conducted for selected materials previously identified not to contain asbestos. However, building materials previously identified to be asbestos-containing were not re-sampled. The reports are listed as follows,

- Asbestos Sampling Memorandum by Conestoga-Rovers & Associates (dated June 23, 2006, reference # 7966-M-116);
- Designated Substance Inventory by Conestoga-Rovers & Associates (dated December 2007, reference # 45870(11));
- Potential Asbestos Containing Materials Investigation Report -1st Floor by EHS (dated September 21, 2012, EHS project number 04-0033-12-033);

- Potential Asbestos Containing Material Assessment Report by EHS (dated February 5, 2013, EHS Project No.: 04-0033-13-005);
- Potential Asbestos Material Analytical Report by ESH (dated October 31, 2013, EHS Project No. 04-0033-13-061);
- Asbestos Abatement Project Summary Report by EHS (dated November 19, 2013, EHS Project No. 04-0033-13-063);
- Asbestos Containing Material Review Report by EHS (dated March 10, 2015, EHS Project No. 04-0033-15-011);
- Project Specific Asbestos & Lead Based Paint Sampling report (dated May 21, 2015, EHS Project No. 04-0033-15-016);
- Lead Leachate Toxicity Sample Results – Woodshop by EHS (dated June 3, 2015, EHS Project No. 04-0033-15-016);
- Pre-Construction Asbestos Containing Materials Assessment by EHS (dated July 25, 2013, EHS Project No. 04-0033-13-037);
- Designated Substance Survey by EHS (report dated September 2014, EHS Project No. 04-0033-14-042);
- Asbestos and Lead Abatement Project Summary by ESH (dated June 19, 2015, EHS project number 04-0033-15-010);
- Asbestos Abatement Project Summary Report by EHS (report dated July 30, 2015, EHS Project No. 04-0033-15-011);
- Asbestos Abatement Project Summary Report by EHS (report dated August 6, 2015 EHS Project No. 04-0033-15-016);
- Project Specific Designated Substance Survey by CM# Environmental (dated January 2017, CM3 File: TLW 1240);
- Asbestos Sampling Report by EHS (report dated March 2, 2016, EHS Project No.: 04-0033-16-010);
- Project Specific Designated Substance Survey -Room 218 and 219 by CM3 Environmental (dated March 18, 2019, Project No.: TLW-2463);
- Asbestos Sampling Report-Room 107 by EHS (report dated April 10, 2019, EHS Project No. 04-0033-19-001);
- Asbestos Sampling Report-Ceiling Tiles by EHS (report dated May 31, 2019 EHS Project No.:04-0033-014);
- Bulk Asbestos Sampling – Flooring by EHS (dated July 19, 2019, EHS Project No. 04-0033-19-020); and
- As Built Specification- Visual Arts Miscellaneous Renovations by Goodkey Weedmark Consulting Engineers (drawings dated May 2013, Project No. 123-003-005).

Asbestos

Background Information on Asbestos

Asbestos is a generic name that has been given to a group of naturally occurring fibrous minerals. In the past, asbestos was commonly used as a component in building materials such as insulation, fireproofing and acoustic or decorative panels. Although there are many types of asbestos, the three main forms of commercial importance in Ontario are chrysotile, amosite and crocidolite.

An Asbestos-Containing Material (ACM) is defined by O. Reg. 278/05 as a material that contains 0.5% or more asbestos by dry weight. ACMs are placed into two general classes, "friable" and "non-friable" ACMs. Friable ACMs are those materials that when dry can be crumbled, pulverized and reduced to powder by hand pressure. Typical friable ACMs include acoustical or decorative texture coats, fireproofing and thermal insulation. Non-friable ACMs are much more durable as they are held together by a binder such as cement, vinyl or asphalt. Typical non-friable ACMs include floor tiles, fire blankets, roofing materials and cementitious products such as wallboards, pipes or siding.

It has been recognized that hazardous situations may exist in buildings where asbestos-containing materials are found. This is especially true where asbestos fibres may become airborne as a result of material ageing, physical damage, and water damage or air movement.

In contrast, there is little reason for concern if the asbestos is in good condition, has not been damaged and is not in a location where it is likely to be disturbed.

Asbestos Survey Methodology

The asbestos survey included the identification of potential friable and non-friable asbestos-containing materials within the surveyed areas of the subject building.

The likelihood of ACMs being present in inaccessible areas such as above gypsum wallboard ceilings and walls was determined by assessing the presence of asbestos-containing materials in adjacent areas.

Fiberglass insulation was not submitted for analysis as it can be identified visually as non-asbestos material.

Building materials suspected of containing asbestos were identified and representative sampling and laboratory testing of these materials was conducted. The number of bulk material samples collected from a homogeneous area was in accordance with Table 1. O. Reg. 278/05 s. 3 (3) below. Building materials suspected of containing asbestos were collected using wetting techniques and hand sampling tools.

Table 1 - O. Reg. 278/05 s. 3(3): Minimum Asbestos Bulk Material Sample Requirements

Item	Type of material	Size of area of homogeneous material	Minimum number of bulk material samples to be collected
1.	Surfacing material, including without limitation, material that is applied to surfaces by spraying, by troweling or	Less than 90 square metres	3
		90 or more square metres, but less than 450 square metres	5

	otherwise, such as acoustical plaster on ceilings and fireproofing materials on structural members	450 or more square metres	7
2.	Thermal insulation, except as described in item 3	any size	3
3.	Thermal insulation patch	Less than 2 linear metres or 0.5 square metres	1
4.	Other material	Any size	3

Preliminary identification of the samples was made using polarized light microscopy (PLM), with confirmation of presence and type of asbestos made by dispersion staining optical microscopy. This analytical procedure follows the U.S. Environmental Protection Agency Test Method EPA/600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials, June 1993.

All bulk samples were analysed for asbestos content by Paracel Laboratories Ltd., an independent laboratory. Paracel is a fully accredited facility for asbestos analysis and is accredited under National Voluntary Laboratory Accreditation (NVLAP Lab Codes 200812-0 and 200863-0). Paracel is accredited for asbestos bulk analysis in PLM in Ottawa and Mississauga, respectively. For the Scope of Accreditation under the (CALA) Membership Number 1262, Paracel is accredited for asbestos in air samples by PCM.

Vinyl floors tiles were analyzed using the phase light microscopy (PLM) method of analysis. However, given the composition of vinyl floor products, the PLM analysis method may be prone to yielding false negative analytical results. Therefore, prior to removal or replacement, vinyl floor products previously identified to be negative, should undergo additional analysis by Transmission Electron Microscopy (TEM) to confirm asbestos content, if any.

Materials identified to contain asbestos were assessed on the relative possibility of fibre release into the air due to a combination of their condition and accessibility.

Evaluation of ACMs Based on Condition

In evaluating an ACM's condition, the following criteria was applied:

- Good – Material shows no signs of damage and/or is encapsulated. Asbestos-containing material could remain in place until eventual building demolition or major renovation.
- Fair – Material shows signs of minor damage (<5% damage) or otherwise near the end of useful life. This includes minor shrinking, cracking, delamination and/ or other damage. Material should be monitored closely and scheduled to be repaired, encapsulated or removed.
- Poor – Damage is greater than 5% to any ACM material and is highly recommended to be removed, repaired or encapsulated.

Note: The above evaluation criteria was also applied to other hazardous materials where applicable. Please refer to the Asbestos and Hazardous Materials Checklist in Appendix E & F for further details.

Lead

Background Information on Lead

Lead was a common additive in exterior and hard-wearing paint applications. Lead was used to prolong shelf life of paint and to increase its flexibility and durability to wear and weather. Acute exposure to lead by inhalation or ingestion may cause headaches, fatigue, nausea, abdominal cramps and joint pain. Chronic exposures can cause reduced haemoglobin production and reduced lifespan. It has also been known to impact the body's central and peripheral nervous systems and brain function and has been linked to learning disabilities in children.

Currently in Ontario, there is no regulatory limit that determines what concentration of lead constitutes a "lead containing material". On October 21, 2010, Health Canada, under the *Hazardous Products Act*, stated that the lead content in surface-coating materials, furniture, toys and other articles for children, should not exceed 90 mg/kg (0.009%, 90 ppm). However, this is intended for the importation or sale of products within Canada. Therefore, this is not to be misconstrued as a limit established to define a lead-containing material or a limit with respect to lead on construction projects.

The Environmental Abatement Council of Canada (EACC) has also developed the "*Lead Guideline for Construction, Renovation, Maintenance or Repair*" dated October 2014, which discusses the classification, handling, disturbance and removal of lead-containing materials. For the purpose of this guideline, paints or surface coatings containing less than or equal to 0.1% lead by weight (1000 mg/kg or 1000 ppm) are considered low-level lead paints or surface coatings. If these materials (and their respective surfaces) are disturbed in a non-aggressive manner and performed using adequate dust control procedures, then worker protection from the inhalation of lead is not required.

Furthermore, paints or surface coatings containing greater than 0.1% lead by weight are considered lead-containing paints or surface coatings. If these materials (and their respective surfaces) are disturbed, appropriate lead abatement procedures must always be followed.

Exposure to lead-containing materials is regulated under Ontario Regulation 490/09, *Designated Substances* - made under the Occupational Health and Safety Act. Care must be taken to prevent lead-containing particles from becoming airborne during the disturbance of lead-containing surfaces (i.e., during renovation or demolition projects). All lead abatement work must follow procedures outlined in the Guideline Lead on Construction Projects, issued in September 2004 (amended in April 2011) by the Occupational Health and Safety branch of the Ministry of Labour (Type 1-3). Similarly, the lead abatement work procedures outlined in the EACC Lead Guideline for Construction, Renovation, Maintenance or Repair (October 2014) may also be implemented (Class 1-3).

Lead is known to have been used in solder on copper plumbing fixtures, in lead conduit pipes, in lead-calcium battery plates, ammunition, and in nuclear and X-ray shielding devices. However, these materials were not sampled during this investigation, but were noted where applicable.

To verify lead content in paints, representative bulk samples of paint and finishes suspected of containing lead were collected. Bulk samples were scraped down to the building base structure, with all possible layer's present, placed in sealed plastic bags and labeled; and then submitted to an independent laboratory for

analysis. Samples were treated with a dilute nitric acid sample digestion prior to filtration. Analysis utilized for lead detection in filtered samples was inductively coupled plasma optical emission spectrometry (ICP-OES).

Mercury

Background Information on Mercury

Mercury is known to cause poisoning in humans through the inhalation of vapours, ingestion of contaminated materials or skin absorption through direct contact with the liquid.

Precautions must be taken to prevent mercury vapours from becoming airborne during renovations or demolition of the building. Exposure to airborne mercury is regulated under the Revised O. Reg. 490/09 as amended – Regulation respecting Mercury – made under the Occupational Health and Safety Act; and under O. Reg. 558, which amended O. Reg. 347/90 (General - Waste Management), mercury is classified as a Schedule 2(b) Hazardous Waste Chemical. Its hazardous waste number is U151.

Mercury is found in products such as thermostats, temperature and pressure gauges, fluorescent lamps and batteries. Mercury in products can be released to the environment through breakage, or disposal at the end of a product's useful life. Improper disposal of these mercury products poses a health and environmental risk to everyone. In addition, the disposal of mercury-containing products can create wastes that are often classified as hazardous. Wastes that leach mercury in concentrations exceeding Ontario Regulation 347/90 (General - Waste Management) limits are also considered hazardous.

The mercury in thermostats switch contains approximately 3-4 grams of mercury in a glass ampoule, typically attached to a metal coil. Mercury-containing switches have been used in thermostats for over 40 years.

Mercury is an essential component in fluorescent lamps and HID lamps. The mercury is in a vapour form and in the phosphor coating on the lamp tube. Estimates of the mercury content contained in compact, 4 foot, and 8-foot lamps are 10 mg, 23 mg, and 46 mg respectively.

Most fluorescent lamps qualify as hazardous waste when removed from service and are therefore prohibited from disposal in the solid waste stream. Fluorescent lamps would be classified as 146T on your facility Generator Registration Report under O. Reg. 347/90 - General Waste Management, as amended by O. Reg. 558/00. Under this regulation, if the leachate results exceed 0.1 milligrams of mercury per litre for a given waste, then the facility must treat the waste as hazardous waste. Most fluorescent and HID lamps will exceed the leachate toxicity limit; therefore, these wastes must be registered and treated as hazardous waste or sent for recycling.

Silica

Background Information on Silica

Silica is expected to be present in building materials such as concrete, brick, mortar and ceramic tiles located throughout the structures. Free crystalline silica (α-Quartz) may be a component in ceiling tiles and gypsum board. Silica (including free crystalline silica) may also be a component of concrete and brick surfaces noted in the building.

Exposure to airborne silica is regulated under Ontario Regulation 490/09, *Designated Substances* - made under the Occupational Health and Safety Act.

Polychlorinated Biphenyls (PCBs)

Background Information on PCBs

Polychlorinated Biphenyls (PCBs) were commonly used as dielectric insulating fluid in electrical equipment such as transformers and capacitors, and in the fluorescent and HID lamp ballasts. The production of PCBs in the North America started in 1929 and was banned at the beginning of 1979. After 1981, no manufacturers produced fluorescent and HID lamps with PCB-containing ballasts.

PCBs are not a designated substance under the Occupational Health and Safety Act.

PCB Regulations (SOR/2008-273)

The *PCB Regulations* (the Regulations) set specific deadlines for ending the use of PCBs in concentrations at or above 50 mg/kg, eliminating all PCBs and equipment containing PCBs currently in storage and limiting the period of time PCBs can be stored before being destroyed. The Regulations also establish sound practices for the better management of the remaining PCBs in use (i.e. those with content of less than 50 mg/kg), until their eventual elimination, to prevent contamination of dielectric fluids and dispersion of PCBs in small quantities into other liquids.

Ozone Depleting Substances (ODSs) and Other Halocarbons

Background Information on ODSs

Within Ontario, the general use of ozone depleting substances (ODSs) and other halocarbons is controlled through Regulation 463/10 of the Environmental Protection Act. Production of ODSs in the form of hydro chlorofluorocarbons (HCFCs) and chlorofluorocarbons (CFCs) ceased in Canada in 1993 as a result of their ozone-depleting characteristics. Importation of CFCs into Canada ceased in 1997 and total ban was placed on their use since 2010. The use of these materials is still permitted in existing equipment, but equipment must be serviced by a licensed contractor such that CFCs are contained and not released to the environment during servicing or operation.

Radioactive Materials

There are two types of smoke detectors commonly found in building (residential, institutional, commercial, industrial, etc). Photoelectric-type smoke detectors detect smoke using an optical sensor, whereas ionization-type smoke detectors use an ionization chamber containing radioactive material. The ionization type is cheaper and is particularly common in older buildings. A typical modern detector contains about 1.0 microcurie of the radioactive element americium, a decrease from 3 microcurie in 1978. The use of sealed radioactive material sources in fire detection systems is still permitted and regulated by the Canadian Nuclear Safety Commission (CNSC) and the Canadian Nuclear Safety Act. The radioactive sources in smoke alarms are sealed and contained within a metal case inside the smoke detector and must not be damaged or tampered with.

Mould & Water Damage

Mould growth inside buildings is due to excess moisture caused by leakages, condensation or capillary movement of water into the building. Toxic moulds such as *Stachybotrys chartarum* and some species of *Aspergillus* spp. are greenish-black, wet and slimy moulds that grow on soaking wet cellulose-based materials.

They are often found near water leaks or where drying is very slow and can form after flooding if insufficient cleanup and drying occurred. They will generally not occur if materials are kept dry.

MPL conducted a general visual assessment for any obvious signs of visible mould and/or water damage. Based on our visual observations, the following guidelines were used in providing our recommendations for remedial action where required:

- Institute of Inspection Cleaning and Restoration Certification (IICRC) S520 Standard and Reference for Professional Mould Remediation,
- The Canadian Construction Association (CCA) Mould Guidelines for the Canadian construction industry (CCA document 82-2004)
- Environmental Abatement Council of Canada (EACC) Mould Abatement Guidelines.

Other Designated Substances

Select Designated Substances (acrylonitrile, arsenic, coke oven emissions, ethylene oxide, isocyanates, benzene, or vinyl chloride) are not expected to be present in the building in matrix or sufficient quantities to cause an exceedance of Ministry of Labour exposure guidelines. As such, no sampling was conducted for these materials.

Vinyl Chloride

Vinyl chloride (monomer) is likely to be present in stable form within poly vinyl-chloride (PVC) piping and conduits and as a component of interior finishes. Such building materials are not considered to be hazardous in their current matrix/composition.

Acrylonitrile

Acrylonitrile or ACN (also known as vinyl cyanide) is an explosive, flammable liquid used in the manufacture of acrylic fibres, rubber-like materials and pesticide fumigants. Acrylonitrile was not noted and would not be expected to be present in the project specific area/surveyed area/subject building.

Arsenic

Arsenic is used in metallurgy for hardening copper, lead and alloys, in pigment production, in the manufacture of certain types of glass, in insecticides, fungicides and rodenticides, as a by-product in the smelting of copper ores, and as a dopant material in semiconductor manufacturing. Arsenic or arsenic compounds were not noted and are not expected to be present in the project specific area/surveyed area/subject building.

Benzene

Benzene or benzol is a colourless liquid. It is used as an intermediate in the production of styrene, phenol, cyclohexane, and other organic chemicals, and in the manufacture of detergents, pesticides, solvents, and paint removers. It is also found in gasoline. Benzene may be present in stable form in roofing materials, paints and adhesives located throughout the subject building. Such building materials are not considered to be hazardous in their current matrix/composition.

Coke Oven Emissions

Coke oven emission is benzene soluble fraction of total particulate matter of the substances emitted into the atmosphere from metallurgical coke ovens.

Ethylene Oxides

Ethylene oxide is a colourless gas liquefying below 12°C. It is used generally as a fumigant and sterilizing agent for medical equipment. It is used generally as a fumigant and sterilizing agent for medical equipment.

Isocyanates

Isocyanates compounds may be present in stable form in paint finishes, varnishes, and polyurethane plastics, synthetic rubbers, foams and adhesives. Such building materials are not considered to be hazardous in their current matrix/composition.

In order to reduce the potential for exposure to workers or occupants, any suspect hazardous building material(s) that are not detailed within this survey due to inaccessibility and/or are discovered during renovation/demolition activities, must be properly assessed and/or tested prior to their disturbance.

APPENDIX C

Laboratory Analytical Reports

PARACEL LABORATORIES LTD.
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15 - 6800 Kitimat Rd
Mississauga, ON, L5N 5M1
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

McIntosh Perry Limited (Concord)

6240 Hwy 7, Suite 200
Woodbridge, ON L4H 0R2
Attn: Diana Banakh

Client PO:
Project: Z1920014HZ
Custody: 40808-40814

Report Date: 30-Aug-2019
Order Date: 26-Aug-2019

Order #: 1935072

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID	Client ID
1935072-01	BS 1.1 - 320 Wall Plaster
1935072-02	BS 1.2 - 310 Wall Plaster
1935072-03	BS 1.3 - 304A Wall Plaster
1935072-04	BS 1.4 - 302 Ceiling Plaster
1935072-05	BS 1.5 - 219 Wall Plaster
1935072-06	BS 1.6 - 209A Wall Plaster
1935072-07	BS 1.7 - 205E Wall Plaster
1935072-08	BS 1.8 - 202B Wall Plaster
1935072-09	BS 1.9 - 126 Wall Plaster
1935072-10	BS 1.10 - 115 Wall Plaster
1935072-11	BS 1.11 - 102 Wall Plaster
1935072-12	BS 1.12 - 033 Wall Plaster
1935072-13	BS 1.13 - 020 Wall Plaster
1935072-14.1	BS 1.14 - 011 Wall Plaster
1935072-14.2	BS 1.14 - 011 Wall Plaster
1935072-15	BS 1.15 - 005 Wall Plaster
1935072-16	BS 2.1 - 304 Drywall Joint Compound (Wall)
1935072-17	BS 2.2 - 301A Drywall Joint Compound (Wall)
1935072-18	BS 2.3 - 302 Drywall Joint Compound (Wall)
1935072-19	BS 2.4 - 219 Drywall Joint Compound (Wall)
1935072-20	BS 2.5 - 210 Drywall Joint Compound (Wall)
1935072-21	BS 2.6 - 206 Drywall Joint Compound (Wall)
1935072-22	BS 2.7 - 121 Drywall Joint Compound (Wall)
1935072-23	BS 2.8 - 114 Drywall Joint Compound (Wall)
1935072-24	BS 2.9 - 025 Drywall Joint Compound (Wall)
1935072-25	BS 2.10 - 015 Drywall Joint Compound (Wall)

Approved By:

Emma Diaz
Senior Analyst

1935072-26	BS 2.11 - 011 Drywall Joint Compound (Wall)
1935072-27	BS 3.1 - 223 Firestop/Caulking (Red)
1935072-28	BS 3.2 - 105 Firestop/Caulking (Red)
1935072-29	BS 3.3 - 105 Firestop/Caulking (Red)
1935072-30	BS 4.1 - 004 Wall Skim Coat (White)
1935072-31	BS 4.2 - 004 Wall Skim Coat (White)
1935072-32	BS 4.3 - 004 Wall Skim Coat (White)
1935072-33	BS 4.4 - 004 Wall Skim Coat (White)
1935072-34	BS 4.5 - 004 Wall Skim Coat (White)
1935072-35	BS 4.6 - 004 Wall Skim Coat (White)
1935072-36	BS 4.7 - 004 Wall Skim Coat (White)
1935072-37	BS 5.1 - 001C - Cementitious Coating
1935072-38	BS 5.2 - 001C - Cementitious Coating
1935072-39	BS 5.3 - 001C - Cementitious Coating
1935072-40	BS 5.4 - 001C - Cementitious Coating
1935072-41	BS 5.5 - 001C - Cementitious Coating
1935072-42.1	BS 6.1 - 320 - VFT 12x12 - Grey With W/B Spots
1935072-42.2	BS 6.1 - 320 - VFT 12x12 - Grey With W/B Spots
1935072-43.1	BS 6.2 - 320 - VFT 12x12 - Grey With W/B Spots
1935072-43.2	BS 6.2 - 320 - VFT 12x12 - Grey With W/B Spots
1935072-44	BS 6.3 - 320 - VFT 12x12 - Grey With W/B Spots
1935072-45.1	BS 7.1 - 318 - VFT 12x12 - Grey With White Spots
1935072-45.2	BS 7.1 - 318 - VFT 12x12 - Grey With White Spots
1935072-46.1	BS 7.2 - 318 - VFT 12x12 - Grey With White Spots
1935072-46.2	BS 7.2 - 318 - VFT 12x12 - Grey With White Spots
1935072-47.1	BS 7.3 - 318 - VFT 12x12 - Grey With White Spots
1935072-47.2	BS 7.3 - 318 - VFT 12x12 - Grey With White Spots
1935072-48.1	BS 8.1 - 219 - VFT 12x12 - Black
1935072-48.2	BS 8.1 - 219 - VFT 12x12 - Black
1935072-49.1	BS 8.2 - 219 - VFT 12x12 - Black
1935072-49.2	BS 8.2 - 219 - VFT 12x12 - Black
1935072-50.1	BS 8.3 - 219 - VFT 12x12 - Black
1935072-50.2	BS 8.3 - 219 - VFT 12x12 - Black
1935072-51	BS 9.1 - 212 - VFT 12x12 - Blue With Dark Blue/Grey Spots
1935072-52	BS 9.2 - 212 - VFT 12x12 - Blue With Dark Blue/Grey Spots
1935072-53.1	BS 9.3 - 212 - VFT 12x12 - Blue With Dark Blue/Grey Spots
1935072-53.2	BS 9.3 - 212 - VFT 12x12 - Blue With Dark Blue/Grey Spots
1935072-54	BS 10.1 - 206 - VFT 12x12 - White With Black Spots
1935072-55.1	BS 10.2 - 218 - VFT 12x12 - White With Black Spots
1935072-55.2	BS 10.2 - 218 - VFT 12x12 - White With Black Spots
1935072-56.1	BS 10.3 - 300 - VFT 12x12 - White With Black Spots
1935072-56.2	BS 10.3 - 300 - VFT 12x12 - White With Black Spots
1935072-57.1	BS 11.1 - 101 VFT 12x12 - Pink
1935072-57.2	BS 11.1 - 101 VFT 12x12 - Pink

1935072-58.1	BS 11.2 - 101 VFT 12x12 - Pink
1935072-58.2	BS 11.2 - 101 VFT 12x12 - Pink
1935072-59.1	BS 11.3 - 101 VFT 12x12 - Pink
1935072-59.2	BS 11.3 - 101 VFT 12x12 - Pink
1935072-60.1	BS 12.1 - 101 VFT 12x12 - Green With White Streaks
1935072-60.2	BS 12.1 - 101 VFT 12x12 - Green With White Streaks
1935072-61.1	BS 12.2 - 101 VFT 12x12 - Green With White Streaks
1935072-61.2	BS 12.2 - 101 VFT 12x12 - Green With White Streaks
1935072-62.1	BS 12.3 - 101 VFT 12x12 - Green With White Streaks
1935072-62.2	BS 12.3 - 101 VFT 12x12 - Green With White Streaks
1935072-63	BS 13.1 - 310 CT 2x4 Pinholes With Lots of Fissures
1935072-64	BS 13.2 - 310 CT 2x4 Pinholes With Lots of Fissures
1935072-65	BS 13.3 - 310 CT 2x4 Pinholes With Lots of Fissures
1935072-66	BS 14.1 - 206 CT 2x4 Uniform Pinholes
1935072-67	BS 14.2 - 106A CT 2x4 Uniform Pinholes
1935072-68	BS 14.3 - 025 CT 2x4 Uniform Pinholes
1935072-69	BS 15.1 - 107 CT 1x1 Uniform Pinholes
1935072-70	BS 15.2 - 020 CT 1x1 Uniform Pinholes
1935072-71	BS 15.3 - 107 CT 1x1 Uniform Pinholes
1935072-72	BS 16.1 - 103 CT 2x4 Pinholes (Varying Size)
1935072-73	BS 16.2 - 106A CT 2x4 Pinholes (Varying Size)
1935072-74	BS 16.3 - 311 CT 2x4 Pinholes (Varying Size)
1935072-75	BS 17.1 - 0012 Wall Mastic (Black)
1935072-76	BS 17.2 - 0012 Wall Mastic (Black)
1935072-77	BS 17.3 - 0012 Wall Mastic (Black)
1935072-78	BS 18.1 - 003 Tar (Black) On Foam Ceiling
1935072-79	BS 18.2 - 003 Tar (Black) On Foam Ceiling
1935072-80	BS 18.3 - 003 Tar (Black) On Foam Ceiling
1935072-81	BS 19.1 - 204 Carpet Mastic (Yellow)
1935072-82	BS 19.2 - 204 Carpet Mastic (Yellow)
1935072-83	BS 19.3 - 110D Carpet Mastic (Yellow)

Certificate of Analysis
Client: McIntosh Perry Limited (Concord)
Client PO:

Report Date: 30-Aug-2019
Order Date: 26-Aug-2019
Project Description: Z1920014HZ

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-01	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.1 - 320 Wall Plaster**	
					Non-Fibers	100
1935072-02	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.2 - 310 Wall Plaster**	
					Non-Fibers	100
1935072-03	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.3 - 304A Wall Plaster**	
					Non-Fibers	100
1935072-04	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.4 - 302 Ceiling Plaster**	
					Non-Fibers	100
1935072-05	01-Aug-19	White	Plaster	No	**Client ID: BS 1.5 - 219 Wall Plaster**	
					Non-Fibers	100
1935072-06	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.6 - 209A Wall Plaster**	
					Non-Fibers	100
1935072-07	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.7 - 205E Wall Plaster**	
					Non-Fibers	100
1935072-08	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.8 - 202B Wall Plaster**	
					Non-Fibers	100
1935072-09	01-Aug-19	White	Plaster	No	**Client ID: BS 1.9 - 126 Wall Plaster**	
					Non-Fibers	100
1935072-10	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.10 - 115 Wall Plaster**	
					Non-Fibers	100
1935072-11	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.11 - 102 Wall Plaster**	
					Non-Fibers	100
1935072-12	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.12 - 033 Wall Plaster**	
					Non-Fibers	100

Certificate of Analysis
Client: McIntosh Perry Limited (Concord)
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Project Description: Z1920014HZ

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-13	01-Aug-19	White	Plaster	No	**Client ID: BS 1.13 - 020 Wall Plaster**	
					Non-Fibers	100
1935072-14.1	01-Aug-19	White	Plaster	No	**Client ID: BS 1.14 - 011 Wall Plaster**	
					Non-Fibers	100
1935072-14.2	01-Aug-19	Grey	Plaster	No	**Client ID: BS 1.14 - 011 Wall Plaster**	
					Non-Fibers	100
1935072-15	01-Aug-19	White	Plaster	No	**Client ID: BS 1.15 - 005 Wall Plaster**	
					Non-Fibers	100
1935072-16	01-Aug-19	Beige	Drywall Joint Compound	No	**Client ID: BS 2.1 - 304 Drywall Joint Compound (Wall)**	
					Non-Fibers	100
1935072-17	01-Aug-19	Beige	Drywall Joint Compound	**Yes**	**Client ID: BS 2.2 - 301A Drywall Joint Compound (Wall)**	
					Chrysotile	2
					Non-Fibers	98
1935072-18	01-Aug-19				**Client ID: BS 2.3 - 302 Drywall Joint Compound (Wall)**	
					not analyzed	
1935072-19	01-Aug-19				**Client ID: BS 2.4 - 219 Drywall Joint Compound (Wall)**	
					not analyzed	
1935072-20	01-Aug-19				**Client ID: BS 2.5 - 210 Drywall Joint Compound (Wall)**	
					not analyzed	
1935072-21	01-Aug-19				**Client ID: BS 2.6 - 206 Drywall Joint Compound (Wall)**	
					not analyzed	
1935072-22	01-Aug-19				**Client ID: BS 2.7 - 121 Drywall Joint Compound (Wall)**	
					not analyzed	
1935072-23	01-Aug-19				**Client ID: BS 2.8 - 114 Drywall Joint Compound (Wall)**	
					not analyzed	

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-24	01-Aug-19				**Client ID: BS 2.9 - 025 Drywall Joint Compound (Wall)** [Z-01a]	
					not analyzed	
1935072-25	01-Aug-19				**Client ID: BS 2.10 - 015 Drywall Joint Compound (Wall)**	
					not analyzed	
1935072-26	01-Aug-19				**Client ID: BS 2.11 - 011 Drywall Joint Compound (Wall)**	
					not analyzed	
1935072-27	01-Aug-19	Red	Caulking	No	**Client ID: BS 3.1 - 223 Firestop/Caulking (Red)**	
					MMVF	5
					Non-Fibers	95
1935072-28	01-Aug-19	Red	Caulking	**Yes**	**Client ID: BS 3.2 - 105 Firestop/Caulking (Red)**	
					Chrysotile	5
					Non-Fibers	95
1935072-29	01-Aug-19				**Client ID: BS 3.3 - 105 Firestop/Caulking (Red)**	
					not analyzed	
1935072-30	01-Aug-19	White	Skim Coat	No	**Client ID: BS 4.1 - 004 Wall Skim Coat (White)**	
					Non-Fibers	100
1935072-31	01-Aug-19	White	Skim Coat	No	**Client ID: BS 4.2 - 004 Wall Skim Coat (White)**	
					Non-Fibers	100
1935072-32	01-Aug-19	White	Skim Coat	No	**Client ID: BS 4.3 - 004 Wall Skim Coat (White)**	
					Non-Fibers	100
1935072-33	01-Aug-19	White	Skim Coat	No	**Client ID: BS 4.4 - 004 Wall Skim Coat (White)**	
					Non-Fibers	100
1935072-34	01-Aug-19	White	Skim Coat	No	**Client ID: BS 4.5 - 004 Wall Skim Coat (White)**	
					Non-Fibers	100

Certificate of Analysis
Client: McIntosh Perry Limited (Concord)
Client PO:

Report Date: 30-Aug-2019
Order Date: 26-Aug-2019
Project Description: Z1920014HZ

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-35	01-Aug-19	White	Skim Coat	No	**Client ID: BS 4.6 - 004 Wall Skim Coat (White)**	
					Non-Fibers	100
1935072-36	01-Aug-19	White	Skim Coat	No	**Client ID: BS 4.7 - 004 Wall Skim Coat (White)**	
					Non-Fibers	100
1935072-37	01-Aug-19	Grey	Cement	No	**Client ID: BS 5.1 - 001C - Cementitious Coating**	
					Non-Fibers	100
1935072-38	01-Aug-19	Grey	Cement	No	**Client ID: BS 5.2 - 001C - Cementitious Coating**	
					Non-Fibers	100
1935072-39	01-Aug-19	Grey	Cement	No	**Client ID: BS 5.3 - 001C - Cementitious Coating**	
					Non-Fibers	100
1935072-40	01-Aug-19	Grey	Cement	No	**Client ID: BS 5.4 - 001C - Cementitious Coating**	
					Non-Fibers	100
1935072-41	01-Aug-19	Grey	Cement	No	**Client ID: BS 5.5 - 001C - Cementitious Coating**	
					Non-Fibers	100
1935072-42.1	01-Aug-19	Grey	Vinyl Floor Tile	No	**Client ID: BS 6.1 - 320 - VFT 12x12 - Grey With W/B Spots**	
					Non-Fibers	100
1935072-42.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 6.1 - 320 - VFT 12x12 - Grey With W/B Spots**	
					Non-Fibers	100
1935072-43.1	01-Aug-19	Grey	Vinyl Floor Tile	No	**Client ID: BS 6.2 - 320 - VFT 12x12 - Grey With W/B Spots**	
					Non-Fibers	100
1935072-43.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 6.2 - 320 - VFT 12x12 - Grey With W/B Spots**	
					Non-Fibers	100
1935072-44	01-Aug-19	Grey	Vinyl Floor Tile	No	**Client ID: BS 6.3 - 320 - VFT 12x12 - Grey With W/B Spots**	
					Non-Fibers	100

Certificate of Analysis
Client: McIntosh Perry Limited (Concord)
Client PO:

Report Date: 30-Aug-2019
Order Date: 26-Aug-2019
Project Description: Z1920014HZ

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-45.1	01-Aug-19	Grey	Vinyl Floor Tile	No	**Client ID: BS 7.1 - 318 - VFT 12x12 - Grey With White Spots**	
					Non-Fibers	100
1935072-45.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 7.1 - 318 - VFT 12x12 - Grey With White Spots**	
					Non-Fibers	100
1935072-46.1	01-Aug-19	Grey	Vinyl Floor Tile	No	**Client ID: BS 7.2 - 318 - VFT 12x12 - Grey With White Spots**	
					Non-Fibers	100
1935072-46.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 7.2 - 318 - VFT 12x12 - Grey With White Spots**	
					Non-Fibers	100
1935072-47.1	01-Aug-19	Grey	Vinyl Floor Tile	No	**Client ID: BS 7.3 - 318 - VFT 12x12 - Grey With White Spots**	
					Non-Fibers	100
1935072-47.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 7.3 - 318 - VFT 12x12 - Grey With White Spots**	
					Non-Fibers	100
1935072-48.1	01-Aug-19	Black	Vinyl Floor Tile	No	**Client ID: BS 8.1 - 219 - VFT 12x12 - Black**	
					Non-Fibers	100
1935072-48.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 8.1 - 219 - VFT 12x12 - Black**	
					Non-Fibers	100
1935072-49.1	01-Aug-19	Black	Vinyl Floor Tile	No	**Client ID: BS 8.2 - 219 - VFT 12x12 - Black**	
					Non-Fibers	100
1935072-49.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 8.2 - 219 - VFT 12x12 - Black**	
					Non-Fibers	100
1935072-50.1	01-Aug-19	Black	Vinyl Floor Tile	No	**Client ID: BS 8.3 - 219 - VFT 12x12 - Black**	
					Non-Fibers	100
1935072-50.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 8.3 - 219 - VFT 12x12 - Black**	
					Non-Fibers	100

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-51	01-Aug-19	Blue	Vinyl Floor Tile	No	**Client ID: BS 9.1 - 212 - VFT 12x12 - Blue With Dark Blue/Grey Spots**	
					Non-Fibers	100
1935072-52	01-Aug-19	Blue	Vinyl Floor Tile	No	**Client ID: BS 9.2 - 212 - VFT 12x12 - Blue With Dark Blue/Grey Spots**	
					Non-Fibers	100
1935072-53.1	01-Aug-19	Blue	Vinyl Floor Tile	No	**Client ID: BS 9.3 - 212 - VFT 12x12 - Blue With Dark Blue/Grey Spots**	
					Non-Fibers	100
1935072-53.2	01-Aug-19	Brown	Mastic	No	**Client ID: BS 9.3 - 212 - VFT 12x12 - Blue With Dark Blue/Grey Spots**	
					Non-Fibers	100
1935072-54	01-Aug-19	White	Vinyl Floor Tile	No	**Client ID: BS 10.1 - 206 - VFT 12x12 - White With Black Spots**	
					Non-Fibers	100
1935072-55.1	01-Aug-19	White	Vinyl Floor Tile	No	**Client ID: BS 10.2 - 218 - VFT 12x12 - White With Black Spots**	
					Non-Fibers	100
1935072-55.2	01-Aug-19	Yellow	Mastic	No	**Client ID: BS 10.2 - 218 - VFT 12x12 - White With Black Spots**	
					Non-Fibers	100
1935072-56.1	01-Aug-19	White	Vinyl Floor Tile	No	**Client ID: BS 10.3 - 300 - VFT 12x12 - White With Black Spots**	
					Non-Fibers	100
1935072-56.2	01-Aug-19	Yellow	Mastic	No	**Client ID: BS 10.3 - 300 - VFT 12x12 - White With Black Spots**	
					Non-Fibers	100
1935072-57.1	01-Aug-19	Pink	Vinyl Floor Tile	No	**Client ID: BS 11.1 - 101 VFT 12x12 - Pink**	
					Non-Fibers	100
1935072-57.2	01-Aug-19	Black/Brown	Paper backing/Mastic	No	**Client ID: BS 11.1 - 101 VFT 12x12 - Pink**	[Z-01]
					Cellulose	70
					Non-Fibers	30
1935072-58.1	01-Aug-19	Pink	Vinyl Floor Tile	No	**Client ID: BS 11.2 - 101 VFT 12x12 - Pink**	
					Non-Fibers	100

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-58.2	01-Aug-19	Black/Brown	Paper backing/Mastic	No	**Client ID: BS 11.2 - 101 VFT 12x12 - Pink**	[Z-01]
					Cellulose	70
					Non-Fibers	30
1935072-59.1	01-Aug-19	Pink	Vinyl Floor Tile	No	**Client ID: BS 11.3 - 101 VFT 12x12 - Pink**	
					Non-Fibers	100
1935072-59.2	01-Aug-19	Black/Brown	Paper backing/Mastic	No	**Client ID: BS 11.3 - 101 VFT 12x12 - Pink**	[Z-01]
					Cellulose	70
					Non-Fibers	30
1935072-60.1	01-Aug-19	Green	Vinyl Floor Tile	No	**Client ID: BS 12.1 - 101 VFT 12x12 - Green With White Streaks**	
					Non-Fibers	100
1935072-60.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 12.1 - 101 VFT 12x12 - Green With White Streaks**	
					Non-Fibers	100
1935072-61.1	01-Aug-19	Green	Vinyl Floor Tile	No	**Client ID: BS 12.2 - 101 VFT 12x12 - Green With White Streaks**	
					Non-Fibers	100
1935072-61.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 12.2 - 101 VFT 12x12 - Green With White Streaks**	
					Non-Fibers	100
1935072-62.1	01-Aug-19	Green	Vinyl Floor Tile	No	**Client ID: BS 12.3 - 101 VFT 12x12 - Green With White Streaks**	
					Non-Fibers	100
1935072-62.2	01-Aug-19	Black	Mastic	No	**Client ID: BS 12.3 - 101 VFT 12x12 - Green With White Streaks**	
					Non-Fibers	100
1935072-63	01-Aug-19	Grey	Ceiling Tile	No	**Client ID: BS 13.1 - 310 CT 2x4 Pinholes With Lots of Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-64	01-Aug-19	Grey	Ceiling Tile	No	**Client ID: BS 13.2 - 310 CT 2x4 Pinholes With Lots of Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1935072-65	01-Aug-19	Grey	Ceiling Tile	No	**Client ID: BS 13.3 - 310 CT 2x4 Pinholes With Lots of Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1935072-66	01-Aug-19	Grey	Ceiling Tile	No	**Client ID: BS 14.1 - 206 CT 2x4 Uniform Pinholes**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1935072-67	01-Aug-19	Grey	Ceiling Tile	No	**Client ID: BS 14.2 - 106A CT 2x4 Uniform Pinholes**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1935072-68	01-Aug-19	Grey	Ceiling Tile	No	**Client ID: BS 14.3 - 025 CT 2x4 Uniform Pinholes**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1935072-69	01-Aug-19	Brown	Ceiling Tile	No	**Client ID: BS 15.1 - 107 CT 1x1 Uniform Pinholes**	
					Cellulose	90
					Non-Fibers	10
1935072-70	01-Aug-19	Brown	Ceiling Tile	No	**Client ID: BS 15.2 - 020 CT 1x1 Uniform Pinholes**	
					Cellulose	90
					Non-Fibers	10

Certificate of Analysis
Client: McIntosh Perry Limited (Concord)
Client PO:

Report Date: 30-Aug-2019
Order Date: 26-Aug-2019
Project Description: Z1920014HZ

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-71	01-Aug-19	Brown	Ceiling Tile	No	**Client ID: BS 15.3 - 107 CT 1x1 Uniform Pinholes**	
					Cellulose	90
					Non-Fibers	10
1935072-72	01-Aug-19	Grey	Ceiling Tile	No	**Client ID: BS 16.1 - 103 CT 2x4 Pinholes (Varying Size)**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1935072-73	01-Aug-19	Grey	Ceiling Tile	No	**Client ID: BS 16.2 - 106A CT 2x4 Pinholes (Varying Size)**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1935072-74	01-Aug-19	Brown	Ceiling Tile	No	**Client ID: BS 16.3 - 311 CT 2x4 Pinholes (Varying Size)**	
					Cellulose	90
					Non-Fibers	10
1935072-75	01-Aug-19	Black	Mastic	No	**Client ID: BS 17.1 - 0012 Wall Mastic (Black)**	
					Non-Fibers	100
1935072-76	01-Aug-19	Balck	Mastic	No	**Client ID: BS 17.2 - 0012 Wall Mastic (Black)**	
					Non-Fibers	100
1935072-77	01-Aug-19	Black	Mastic	No	**Client ID: BS 17.3 - 0012 Wall Mastic (Black)**	
					Non-Fibers	100
1935072-78	01-Aug-19	Black	Tar	No	**Client ID: BS 18.1 - 003 Tar (Black) On Foam Ceiling**	[AS-PRE]
					Non-Fibers	100
1935072-79	01-Aug-19	Black	Tar	No	**Client ID: BS 18.2 - 003 Tar (Black) On Foam Ceiling**	[AS-PRE]
					Non-Fibers	100
1935072-80	01-Aug-19	Black	Tar	No	**Client ID: BS 18.3 - 003 Tar (Black) On Foam Ceiling**	[AS-PRE]
					Non-Fibers	100

PARACEL LABORATORIES LTD.

Order #: 1935072

Certificate of Analysis
Client: McIntosh Perry Limited (Concord)
Client PO:

Report Date: 30-Aug-2019
Order Date: 26-Aug-2019
Project Description: Z1920014HZ

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1935072-81	01-Aug-19	Yellow	Mastic	No	**Client ID: BS 19.1 - 204 Carpet Mastic (Yellow)**	
					Non-Fibers	100
1935072-82	01-Aug-19	Yellow	Mastic	No	**Client ID: BS 19.2 - 204 Carpet Mastic (Yellow)**	
					Non-Fibers	100
1935072-83	01-Aug-19	Yellow	Mastic	No	**Client ID: BS 19.3 - 110D Carpet Mastic (Yellow)**	
					Non-Fibers	100

* MMVF: Man Made Vitreous Fibers: Fiberglass, Mineral Wool, Rockwool, Glasswool

** **Analytes in bold indicate asbestos mineral content.**

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code *	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	1 - Mississauga	200863-0	29-Aug-19

* Reference to the NVLAP term does not permit the user of this report to claim product certification , approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Mississauga Lab: 15 - 6800 Kitimat Rd Mississauga, Ontario, L5N 5M1

Qualifier Notes

Sample Qualifiers :

AS-PRE: Due to the difficult nature of the bulk sample (interfering fibers/binders), additional NOB preparation was required prior to analysis

Z-01: Inseparable layers.

Z-01a: Sample appears to be paint.

Work Order Revisions | Comments

None

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Certificate of Analysis

McIntosh Perry Limited (Concord)

6240 Hwy 7, Suite 200
Woodbridge, ON L4H 0R2
Attn: Diana Banakh

Client PO:
Project: Z1920014HZ
Custody: 49340

Report Date: 29-Aug-2019
Order Date: 26-Aug-2019

Revised Report

Order #: 1935156

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1935156-01	Pb-1 014C - Black Door Paint
1935156-02	Pb-2 125 - Green Wall Paint
1935156-03	Pb-3 026A - Light Blue Door Paint
1935156-04	Pb-4 026A - Grey Door Paint
1935156-05	Pb-5 001 - Blue Door Paint
1935156-06	Pb-6 001B - Light Blue Wall Paint
1935156-07	Pb-7 001C - Dark Grey Floor Paint
1935156-08	Pb-8 001C - Orange Wall Paint
1935156-09	Pb-9 005 - Silver Wall Paint
1935156-10	Pb-10 005 - White Floor Paint
1935156-11	Pb-11 0010 - Red Pipe Paint
1935156-12	Pb-12 0010 - Light Pink Floor Paint
1935156-13	Pb-13 0012 - Beige Wall Paint
1935156-14	Pb-14 0012 - Light Grey Floor Paint

Approved By:

Milan Ralitsch, PhD
Senior Technical Manager

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-MS	EPA 6020 - Digestion - ICP-MS	27-Aug-19	27-Aug-19

Sample and QC Qualifiers Notes

1- GEN01 : Elevated Reporting Limits due to limited sample volume.
2- QR-01 : Duplicate RPD is high, however, the sample result is less than 10x the MDL.

Sample Data Revisions

None

Work Order Revisions/Comments:

REVISION-1: This report includes updated reporting units, as per client.

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.

Sample Results

Lead

Matrix: Paint
Sample Date: 01-Aug-19

Paracel ID	Client ID	Units	MDL	Result
1935156-01	Pb-1 014C - Black Door Paint	% by Wt.	0.0001	<0.0016 [1]
1935156-02	Pb-2 125 - Green Wall Paint	% by Wt.	0.0001	0.0036
1935156-03	Pb-3 026A - Light Blue Door Paint	% by Wt.	0.0001	0.0073
1935156-04	Pb-4 026A - Grey Door Paint	% by Wt.	0.0001	0.0006
1935156-05	Pb-5 001 - Blue Door Paint	% by Wt.	0.0001	0.0120
1935156-06	Pb-6 001B - Light Blue Wall Paint	% by Wt.	0.0001	0.0019
1935156-07	Pb-7 001C - Dark Grey Floor Paint	% by Wt.	0.0001	0.0029
1935156-08	Pb-8 001C - Orange Wall Paint	% by Wt.	0.0001	0.0003
1935156-09	Pb-9 005 - Silver Wall Paint	% by Wt.	0.0001	0.159
1935156-10	Pb-10 005 - White Floor Paint	% by Wt.	0.0001	0.0012
1935156-11	Pb-11 0010 - Red Pipe Paint	% by Wt.	0.0001	0.500
1935156-12	Pb-12 0010 - Light Pink Floor Paint	% by Wt.	0.0001	0.0075
1935156-13	Pb-13 0012 - Beige Wall Paint	% by Wt.	0.0001	0.143
1935156-14	Pb-14 0012 - Light Grey Floor Paint	% by Wt.	0.0001	0.0159

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	**ND**	**0.0001**	**% by Wt.**						
Matrix Duplicate									
Lead	**ND**	**0.0001**	**% by Wt.**	**ND**			**0.0**	**30**	
Matrix Spike									
Lead	0.0134	0.0001	% by Wt.	ND	107	70-130			

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http://www.EMSL.com / ottawalab@EMSL.com

EMSL Canada Order 672100841
Customer ID: 55CTCS25B
Customer PO: CCC-213847
Project ID: Ottawa DSS

Attn: Lauren Hamilton
McIntosh Perry Consulting Engineers Ltd
115 Walgreen Rd RR 3
Carp, ON K0A 1L0

Phone: (613) 836-2184
Fax:
Collected: 5/12/2021
Received: 5/13/2021
Analyzed: 5/20/2021

Proj: UofO - 100 Laurier Ave (Ottawa DSS)

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: BS 1.1-Caulking 1 ***Lab Sample ID:*** **672100841-0001**
Sample Description: Window Caulking, Brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Black	0.0%	85.0%	**15% Chrysotile**	

Client Sample ID: BS 1.1-Caulking 2 ***Lab Sample ID:*** **672100841-0001A**
Sample Description: Window Caulking, Brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Brown	0.0%	100.0%	None Detected	

Client Sample ID: BS 1.2 ***Lab Sample ID:*** **672100841-0002**
Sample Description: Window Caulking, Brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021				Positive Stop (Not Analyzed)	

Client Sample ID: BS 1.3 ***Lab Sample ID:*** **672100841-0003**
Sample Description: Window Caulking, Brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021				Positive Stop (Not Analyzed)	

Client Sample ID: BS 2.1 ***Lab Sample ID:*** **672100841-0004**
Sample Description: Window Caulking, Black

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Black	0.0%	100.0%	None Detected	

Client Sample ID: BS 2.2 ***Lab Sample ID:*** **672100841-0005**
Sample Description: Window Caulking, Black

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Black	0.0%	100.0%	None Detected	

Client Sample ID: BS 2.3 ***Lab Sample ID:*** **672100841-0006**
Sample Description: Window Caulking, Black

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Black	0.0%	100.0%	None Detected	

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EMSL Canada Order 672100841
Customer ID: 55CTCS25B
Customer PO: CCC-213847
Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: BS 3.1 ***Lab Sample ID:*** **672100841-0007**
Sample Description: Door Caulking, Grey

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Beige	0.0%	100.0%	None Detected	

Client Sample ID: BS 3.2 ***Lab Sample ID:*** **672100841-0008**
Sample Description: Door Caulking, Grey

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Beige	0.0%	100.0%	None Detected	

Client Sample ID: BS 3.3 ***Lab Sample ID:*** **672100841-0009**
Sample Description: Door Caulking, Grey

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Gray	0.0%	100.0%	None Detected	

Client Sample ID: BS 4.1 ***Lab Sample ID:*** **672100841-0010**
Sample Description: Stair Caulking, Grey/Blue

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Gray	0.0%	100.0%	None Detected	

Client Sample ID: BS 4.2 ***Lab Sample ID:*** **672100841-0011**
Sample Description: Stair Caulking, Grey/Blue

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Gray	0.0%	100.0%	None Detected	

Client Sample ID: BS 4.3 ***Lab Sample ID:*** **672100841-0012**
Sample Description: Stair Caulking, Grey/Blue

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Gray	0.0%	100.0%	None Detected	

Client Sample ID: BS 5.1 ***Lab Sample ID:*** **672100841-0013**
Sample Description: Door Caulking, Brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021	Black	0.0%	94.0%	**6% Chrysotile**	

Client Sample ID: BS 5.2 ***Lab Sample ID:*** **672100841-0014**
Sample Description: Door Caulking, Brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021				Positive Stop (Not Analyzed)	

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EMSL Canada Order 672100841
Customer ID: 55CTCS25B
Customer PO: CCC-213847
Project ID: Ottawa DSS

Test Report: Asbestos Analysis of Bulk Materials for Ontario Regulation 278/05 via EPA600/R-93/116 Method

Client Sample ID: BS 5.3 ***Lab Sample ID:*** **672100841-0015**

Sample Description: Door Caulking, Brown

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	5/20/2021			Positive Stop (Not Analyzed)		

Analyst(s):

Ewa Krupinska PLM (3)
Simon Parent PLM (9)

Reviewed and approved by:

Simon Parent, Laboratory Manager
or Other Approved Signatory

None Detected = <0.1%. EMSL maintains liability limited to cost of analysis. 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. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP of any agency or the U.S. Government

Samples analyzed by EMSL Canada Inc. Ottawa, ON NVLAP Lab Code 201040-0

Initial report from: 05/20/202111:18:58

APPENDIX D

Site Photographs

Photo 1: View of asbestos-containing ceiling tiles (2'x4'-Large fissures with pinholes) observed to be in fair condition in Room 321. Removed Summer, 2022.

Photo 2: View of asbestos-containing vinyl floor tiles (12"X12"-Beige w/ Dark and Light flakes) observed to be in good condition in Room 323.

Photo 3: View of asbestos-containing vinyl floor tiles (12"x12"- Beige w/ Brown Flakes) observed to be in poor condition in Room 314. Removed September, 2020.

Photo 4: View of non-asbestos containing wall plaster observed in Room 310.

Photo 5: View of asbestos-containing drywall joint compound observed to be in poor condition in Room 314. Repaired September 2020.

Photo 6: View of asbestos-containing firestop caulking (Red) observed to be in good condition in Room 105.

Photo 7: View of asbestos-containing ceiling texture coat observed to be in good condition adjacent to Rooms 120 and 120A.

Photo 8: View of asbestos-containing pipe straight aircell insulation observed to be in poor condition in Room 010. Repaired September 2020.

Photo 9: View of lead-containing beige paint observed to be in poor condition in Room 316A.

Photo 10: View of lead-containing white ceiling paint observed to be in poor condition in Room 100C.

Photo 11: Typical view of lead-containing emergency battery packs observed to be in good condition throughout he surveyed building.

Photo 12: View of Honeywell thermostat containing one ampoule of liquid mercury observed to be in good condition in Room 013.

Photo 13: View of Electrohome-brand air conditioning unit observed to be in good condition in Room 216.

Photo 14: View of water-stained ceiling tiles observed in Room 113. Removed Summer, 2022.

APPENDIX E

Asbestos-Containing Materials Checklists

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
00	Room 001	Parging Cement Pipe Elbow/Fitting	Confirmed	Friable	Good Condition	Moderate	Low	7	C	Manage in Place	
00	Room 0010	Parging Cement Pipe Elbow/Fitting	Confirmed	Friable	Good Condition	Moderate	Low	25	C	Manage in Place	
00	Room 0010	Pipe Straight Insulation	Confirmed	Friable	Good Condition	Moderate	Low	220	LF	Manage in Place	
00	Room 008	Parging Cement Pipe Elbow/Fitting	Confirmed	Friable	Good Condition	Moderate	Low	8	C	Manage in Place	
00	Throughout Level	Drywall Joint Compound	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place	
00	Room 0010	Pipe Straight Insulation	Confirmed	Friable	Good Condition	Moderate	Low	3	LF	Manage in Place	
00	Room 0010	Fire Stop Caulking (Red)	Confirmed	Non-Friable	Good Condition	Easy	Low	4	Penetrations	Manage in Place	
0	Room 06B	Drywall Joint Compound	Confirmed	-	Fair Condition	Easy	Moderate	10	SF	Monitor Condition of Material. Consider Removal or Repair.	
0	Room 06C	Drywall Joint Compound	Confirmed	-	Fair Condition	Easy	Moderate	10	SF	Monitor Condition of Material. Consider Removal or Repair.	
0	Room 026A	Drywall Joint Compound	Confirmed	-	Fair Condition	Easy	Moderate	2	SF	Monitor Condition of Material. Consider Removal or Repair.	
0	Room 07	Parging Cement Pipe Elbow/Fitting	Confirmed	Friable	Good Condition	Easy	Low	1	C	Manage in Place	
0	Room 02	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	100	SF	Manage in Place	
0	Room 021	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	130	SF	Manage in Place	

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
0	Room 026	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	65	SF	Manage in Place	
0	Throughout Level	Drywall Joint Compound	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place	
0	Room 05	Pipe Straight Insulation	Confirmed	Friable	Good Condition	Moderate	Low	70	LF	Manage in Place	
0	Room 010	Pipe Straight Insulation	Confirmed	Friable	Good Condition	Moderate	Low	2	LF	Manage in Place	

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
0	Room 020	Ceiling Texture Coat	Confirmed	Friable	Good Condition	Difficult	Low	230	SF	Manage in Place	
1	Room 105	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	65	SF	Manage in Place	
1	Room 107	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	290	SF	Manage in Place	
1	Room 124	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	130	SF	Manage in Place	
1	Throughout Level	Drywall Joint Compound	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place	
1	Room 105	Fire Stop Caulking (Red)	Confirmed	Non-Friable	Good Condition	Easy	Low	4	Penetrations	Manage in Place	
1	Room 120	Ceiling Texture Coat	Confirmed	Friable	Good Condition	Difficult	Low	70	SF	Manage in Place	
1	Room 110D	Drywall Joint Compound	Confirmed	-	Fair Condition	Easy	Moderate	7	SF	Monitor Condition of Material. Consider Removal or Repair.	
1	Room 121	Drywall Joint Compound	Confirmed	-	Fair Condition	Easy	Moderate	1	SF	Monitor Condition of Material. Consider Removal or Repair.	
2	Room 211	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	220	SF	Manage in Place	
2	Room 214	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	200	SF	Manage in Place	
2	Room 223	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	40	SF	Manage in Place	

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
2	Room 214	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	200	SF	Manage in Place	
2	Throughout Level	Drywall Joint Compound	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place	
2	Room 223	Fire Stop Caulking (Red)	Confirmed	Non-Friable	Good Condition	Easy	Low	4	Penetrations	Manage in Place	
3	Room 323	Vinyl Floor Tiles (12"x12" – Beige w/ Brown Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	130	SF	Manage in Place	
3	Room 323	Vinyl Floor Tiles (Beige w/ Dark & Light Flakes)	Confirmed	Non-Friable	Good Condition	Easy	Moderate	30	SF	Manage in Place	
3	Throughout Level	Drywall Joint Compound	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place	
3	Room 314	Fire Stop Caulking (Red)	Confirmed	Non-Friable	Good Condition	Easy	Low	4	Penetrations	Manage in Place	
3	Room 328	Fire Stop Caulking (Red)	Confirmed	Non-Friable	Good Condition	Easy	Low	4	Penetrations	Manage in Place	
3	Room 328	Drywall Joint Compound	Confirmed	-	Fair Condition	Easy	Moderate	113	SF	Monitor Condition of Material. Consider Removal or Repair.	

APPENDIX F

Hazardous Containing Materials Checklists

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
00	Room 001	Lead	Paint	Light Blue	Poor Condition	N/A	10	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
00	Throughout Level	Lead	Paint	Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Throughout Level	Lead	Paint	Silver	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Throughout Level	Lead	Paint	Dark Grey	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Throughout Level	Lead	Paint	Grey	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Throughout Level	Lead	Paint	Orange	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Throughout Level	Lead	Paint	Pink	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Throughout Level	Lead	Paint	White	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Throughout Level	Lead	Paint	Green	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Room 001B	Lead	Paint	Light Blue	Poor Condition	N/A	6	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
00	Room 001C	Lead	Paint	Dark Grey	Poor Condition	N/A	144	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
00	Room 002	Lead	Paint	Beige	Fair Condition	N/A	600	SF	Confirmed	Monitor Condition	
00	Room 002	Lead	Paint	Beige	Poor Condition	N/A	1	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
00	Throughout Level	Lead	Paint	Light Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Room 004	Lead	Paint	Grey	Poor Condition	N/A	200	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
00	Room 004	Lead	Paint	Yellow	Poor Condition	N/A	50	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
00	Room 0010	Lead	Paint	Pink	Poor Condition	N/A	2,080	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
00	Room 0010	Lead	Paint	Dark Grey	Poor Condition	N/A	<1	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
00	Room 0012	Lead	Paint	Grey	Poor Condition	N/A	306	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
00	Room 0010	Mercury	Pressure Gauge	-	Good Condition	-	-	-	Confirmed	Manage in Place	
00	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Phillips	-	-	Confirmed	Manage in Place	
00	Throughout Level	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place	
0	Throughout Level	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place	
0	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Phillips	-	-	Confirmed	Manage in Place	
0	Throughout Level	Lead	Paint	Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place	
0	Throughout Level	Lead	Paint	White	Good Condition	N/A	-	-	Confirmed	Manage in Place	
0	Throughout Level	Lead	Paint	Grey	Good Condition	N/A	-	-	Confirmed	Manage in Place	
00	Room 0012	Lead	Paint	Beige	Poor Condition	N/A	350	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 05	Lead	Paint	White	Poor Condition	N/A	2	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 08	Lead	Paint	Black	Poor Condition	N/A	<1	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 013	Lead	Paint	Blue	Poor Condition	N/A	6	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 020	Lead	Paint	White	Poor Condition	N/A	8	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 022	Lead	Paint	White	Poor Condition	N/A	53	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
0	Room 023	Lead	Paint	Light Yellow	Poor Condition	N/A	10	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 023	Lead	Paint	Grey	Poor Condition	N/A	110	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 026	Lead	Paint	Light Blue	Poor Condition	N/A	5	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 026	Lead	Paint	Grey	Poor Condition	N/A	5	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 027A	Lead	Paint	White	Poor Condition	N/A	2	LF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
0	Room 013A	Mercury	Thermostat	N/A	Good Condition	Honeywell	1	C	Confirmed	Manage in Place	
0	Room 015	Mercury	Thermostat	N/A	Good Condition	Honeywell	1	C	Confirmed	Manage in Place	
0	Room 025	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	2	C	Confirmed	Manage in Place	
0	Room 027A	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	1	C	Confirmed	Manage in Place	
0	Room 027B	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	1	C	Confirmed	Manage in Place	
1	Room 100	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	1	C	Confirmed	Manage in Place	
1	Room 111	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	1	C	Confirmed	Manage in Place	
1	Throughout Level	Lead	Paint	White	Good Condition	N/A	-	-	Confirmed	Manage in Place	
1	Throughout Level	Lead	Paint	Light Grey	Good Condition	N/A	-	-	Confirmed	Manage in Place	
1	Throughout Level	Lead	Paint	Black	Good Condition	N/A	-	-	Confirmed	Manage in Place	
1	Room 100	Lead	Paint	White	Poor Condition	N/A	10	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
1	Room 100A	Lead	Paint	White	Poor Condition	N/A	5	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	

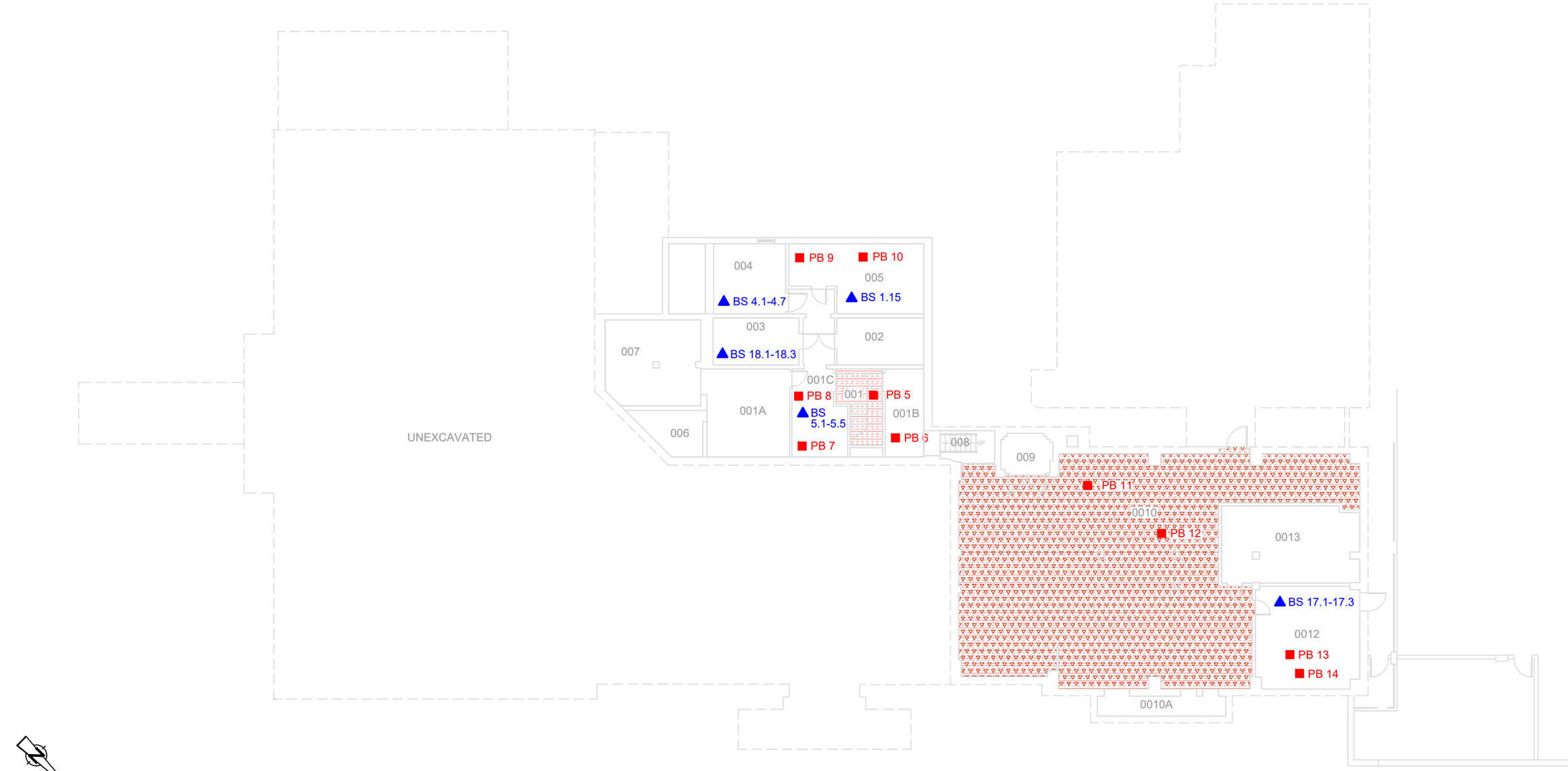
Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
1	Room 100C	Lead	Paint	White	Poor Condition	N/A	25	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
1	Room 107	Lead	Paint	Beige	Poor Condition	N/A	5	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
1	Room 109	Lead	Paint	Beige	Poor Condition	N/A	240	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
1	Room 110	Lead	Paint	White	Poor Condition	N/A	6	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
1	Room 110A	Lead	Paint	Beige	Poor Condition	N/A	10	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
1	Room 110B	Lead	Paint	Beige	Poor Condition	N/A	10	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
1	Room 123A	Lead	Paint	Light Grey	Poor Condition	N/A	<1	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
1	Room 126	Lead	Paint	Black	Poor Condition	N/A	25	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
1	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Phillips	-	-	Confirmed	Manage in Place	

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
1	Throughout Level	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place	
1	Room 102	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	1	C	Confirmed	Manage in Place	
1	Room 104	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	1	C	Confirmed	Manage in Place	
1	Room 106	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	1	C	Confirmed	Manage in Place	
1	Room 110A	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	1	C	Confirmed	Manage in Place	
1	Room 110B	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	1	C	Confirmed	Manage in Place	
1	Room 110D	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	1	C	Confirmed	Manage in Place	
1	Room 110E	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	1	C	Confirmed	Manage in Place	
1	Room 121	Ozone Depleting Substances (ODS)	Water Cooler/Fountain	N/A	Good Condition	Unknown	1	C	Confirmed	Manage in Place	
1	Room 109	Mould/ Water Damage	Ceiling Tiles	White	Poor Condition	Unknown	1	C	Confirmed	Should be replaced as part of regular maintenance.	
1	Room 113	Mould/ Water Damage	Ceiling Tiles	White	Poor Condition	Unknown	2	C	Confirmed	Should be replaced as part of regular maintenance.	
2	Room 221	Mould/ Water Damage	Ceiling Tiles	White	Poor Condition	Unknown	1	C	Confirmed	Should be replaced as part of regular maintenance.	
2	Room 218	Mould/ Water Damage	Ceiling Tiles	White	Poor Condition	Unknown	1	C	Confirmed	Should be replaced as part of regular maintenance.	*Remove following appropriate asbestos abatement procedures
2	Throughout Level	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place	
2	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Phillips	-	-	Confirmed	Manage in Place	
2	Room 205	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	1	C	Confirmed	Manage in Place	
2	Room 226	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	1	C	Confirmed	Manage in Place	
2	Room 210	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	2	C	Confirmed	Manage in Place	
2	Room 212	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	2	C	Confirmed	Manage in Place	
2	Room 219	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	2	C	Confirmed	Manage in Place	
2	Room 214	Ozone Depleting Substances (ODS)	Water Cooler/Fountain	N/A	Good Condition	Electrohome	1	C	Confirmed	Manage in Place	

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
2	Room 216	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Climette	1	C	Confirmed	Manage in Place	
2	Adjacent to Room 227	Ozone Depleting Substances (ODS)	Water Cooler/Fountain	N/A	Good Condition	Unknown	1	C	Confirmed	Manage in Place	
3	Room 331A	Ozone Depleting Substances (ODS)	Air Conditioning Unit	N/A	Good Condition	Freidrich	1	C	Confirmed	Manage in Place	
3	Room 302	Radioactive Materials	Smoke Detectors	N/A	Good Condition	Unknown	2	C	Suspected	Manage in Place	
3	Room 305	Radioactive Materials	Smoke Detectors	N/A	Good Condition	Unknown	2	C	Suspected	Manage in Place	
3	Room 306	Radioactive Materials	Smoke Detectors	N/A	Good Condition	Unknown	2	C	Suspected	Manage in Place	
3	Room 329	Radioactive Materials	Smoke Detectors	N/A	Good Condition	Unknown	2	C	Suspected	Manage in Place	
2	Throughout Level	Lead	Paint	Grey	Good Condition	N/A	-	-	Confirmed	Manage in Place	
2	Throughout Level	Lead	Paint	White	Good Condition	N/A	-	-	Confirmed	Manage in Place	
2	Throughout Level	Lead	Paint	Black	Good Condition	N/A	-	-	Confirmed	Manage in Place	
3	Throughout Level	Lead	Paint	Grey	Good Condition	N/A	-	-	Confirmed	Manage in Place	
3	Throughout Level	Lead	Paint	White	Good Condition	N/A	-	-	Confirmed	Manage in Place	
3	Throughout Level	Lead	Paint	Black	Good Condition	N/A	-	-	Confirmed	Manage in Place	
3	Room 311A	Lead	Paint	Grey	Fair Condition	N/A	280	SF	Confirmed	Monitor Condition	
3	Room 315	Lead	Paint	White	Poor Condition	N/A	5	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
3	Room 316 and 316A	Lead	Paint	Grey	Fair Condition	N/A	120	SF	Confirmed	Monitor Condition	
3	Room 316	Lead	Paint	White	Poor Condition	N/A	40	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
3	Room 320A	Lead	Paint	White	Poor Condition	N/A	10	SF	Confirmed	Paint must be removed and/or stabilized following Class 1 or Type 1 lead Safety Procedures as per MOL & EACO Guidelines.	
3	Room 321	Lead	Paint	Black	Fair Condition	N/A	300	SF	Confirmed	Monitor Condition	
3	Room 302	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	1	C	Confirmed	Manage in Place	
3	Room 314	Lead	Battery Pack	N/A	Good Condition	Emergi-Lite	2	C	Confirmed	Manage in Place	
3	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Phillips	-	-	Confirmed	Manage in Place	
3	Throughout Level	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place	
3	Room 320A	Mould/ Water Damage	Ceiling Tiles	White	Poor Condition	Unknown	5	C	Confirmed	Should be replaced as part of regular maintenance.	*Remove following appropriate asbestos abatement procedures

APPENDIX G

Site Sampling & Location Plans



McINTOSH PERRY

6240 HIGHWAY 7 SUITE 200 WOODBRIDGE ON L4H 4G3
Tel: 905.856.5200 Fax: 905.695.0221
Toll Free: 1.888.348.8991 www.mcintoshperry.com

Legend:

- BS-Asbestos sample
- Lead Sample
- ACM Firestop/Caulking
- ACM Pipe Insulation

Notes:

Drywall with ACM joint compound is present throughout

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: DESIGNATED SUBSTANCE SURVEY
100 LAURIER, OTTAWA, ONTARIO

TITLE: SUB-BASEMENT SITE PLAN & SAMPLE LOCATIONS

SCALE: 1:200

DATE: SEPTEMBER 13,2019

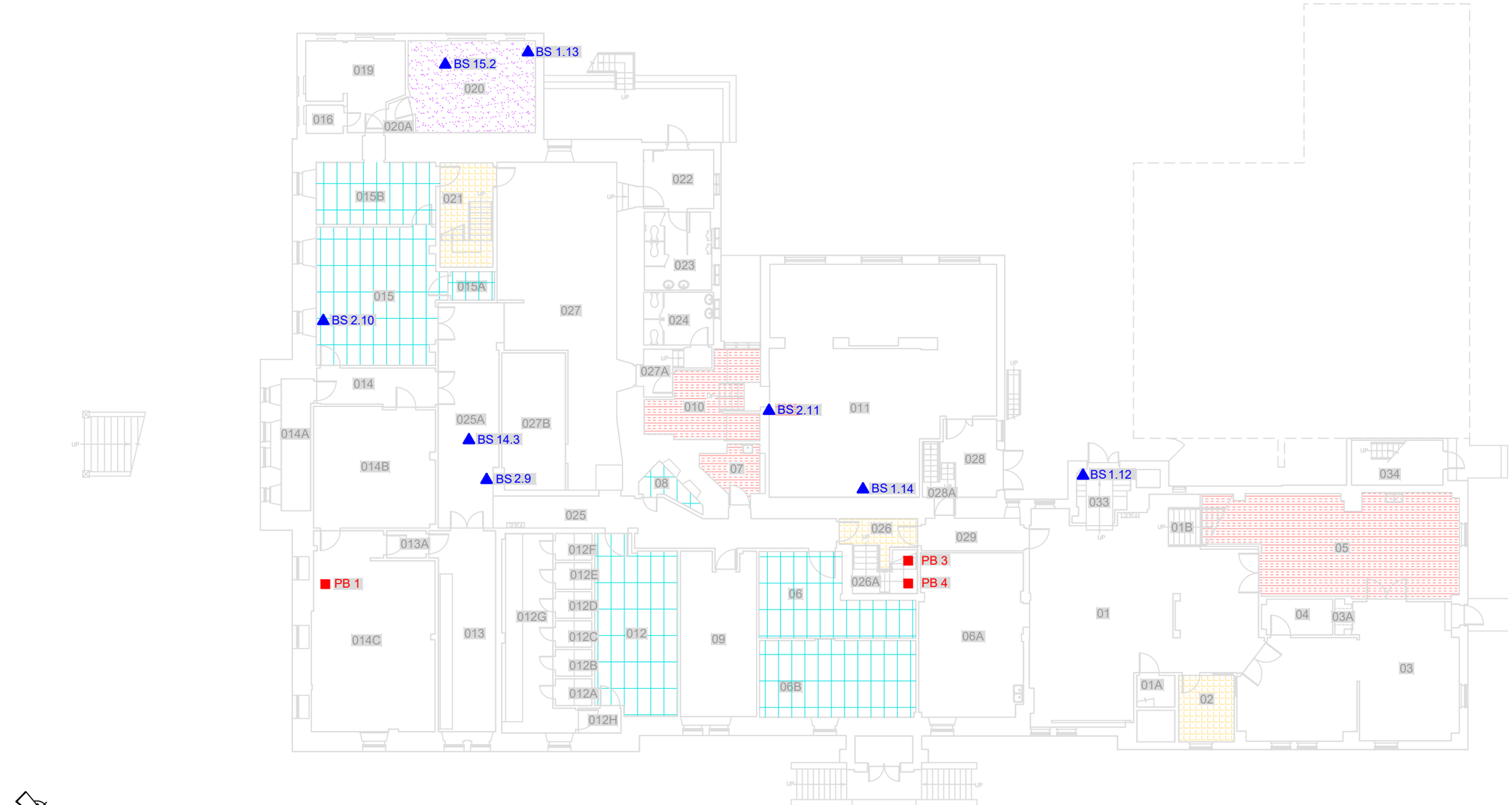
DRAWN: M.A.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: 0ZI-920014-HZ

REV.:



McINTOSH PERRY

6240 HIGHWAY 7 SUITE 200 WOODBRIDGE ON L4H 4G3
Tel: 905.856.5200 Fax: 905.695.0221
Toll Free: 1.888.348.8991 www.mcintoshperry.com

Legend:

- BS-LeadSample
- Asbestos Sample
- ACM Ceiling Tile
- ACM Vinyl floor Tile (VFT)
- ACM Texture Coat
- ACM Pipe Insulation

Notes:

Drywall with ACM joint compound is present throughout

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: DESIGNATED SUBSTANCE SURVEY
100 LAURIER, OTTAWA, ONTARIO

TITLE: GROUND FLOOR SITE PLAN & SAMPLE LOCATIONS

SCALE: 1:200

DATE: SEPTEMBER 13,2019

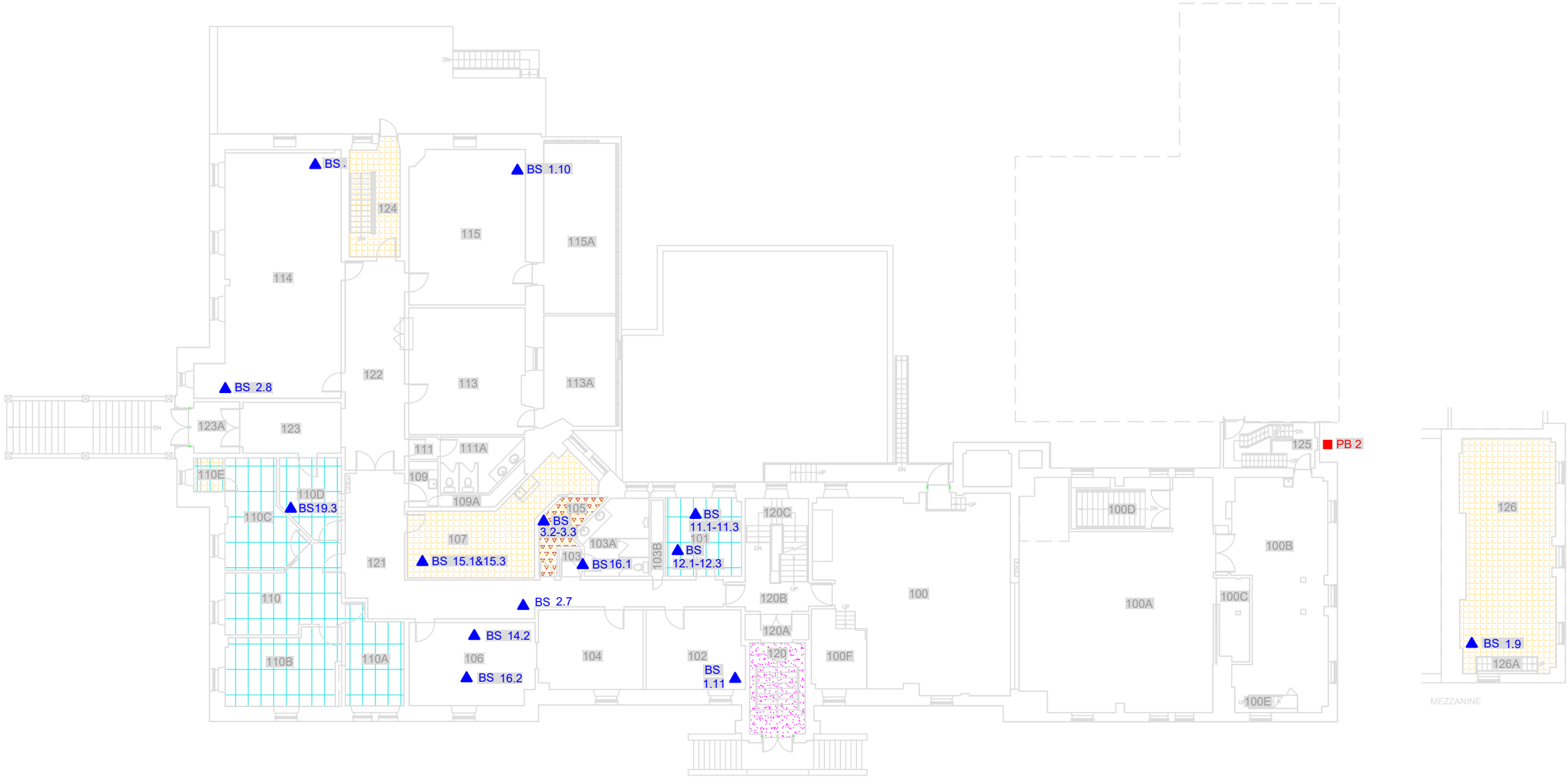
DRAWN: M.A.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: 0ZI-920014-HZ

REV.:



McINTOSH PERRY
6240 HIGHWAY 7 SUITE 200 WOODBRIDGE ON L4H 4G3
Tel: 905.856.5200 Fax: 905.695.0221
Toll Free: 1.888.348.8991 www.mcintoshperry.com

Legend:

- BS-LeadSample
- Asbestos Sample
- ACM Ceiling Tile
- ACM Vinyl floor Tile (VFT)
- ACM Texture Coat
- ACM Firestop/Caulking

Notes:

Drywall with ACM joint compound is present throughout

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: DESIGNATED SUBSTANCE SURVEY
100 LAURIER, OTTAWA, ONTARIO

TITLE: FIRST FLOOR SITE PLAN & SAMPLE LOCATIONS

SCALE: 1:200

DATE: SEPTEMBER 13,2019

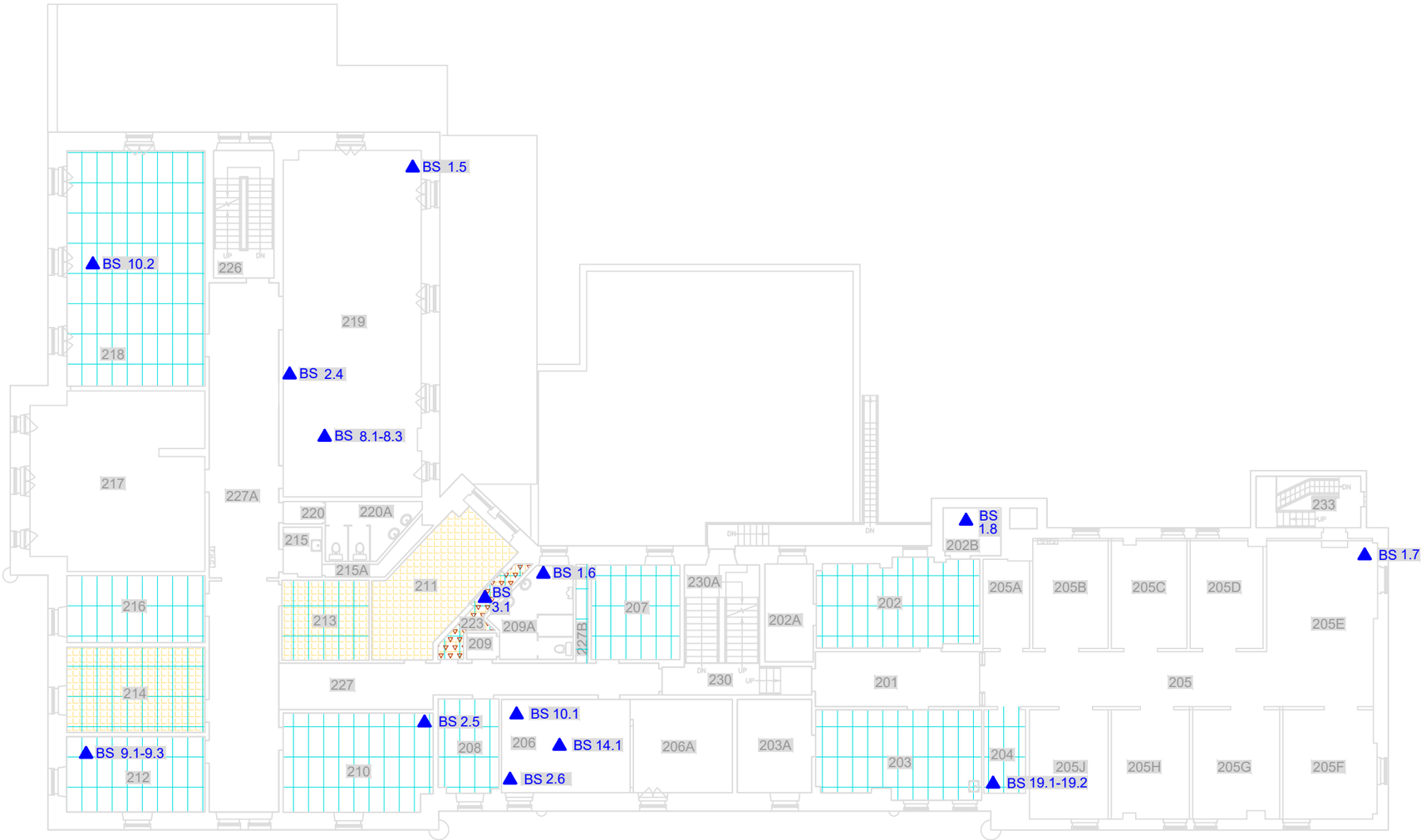
DRAWN: M.A.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: 0ZI-920014-HZ

REV.:



0 2 4 6m
1:200

McINTOSH PERRY
6240 HIGHWAY 7 SUITE 200 WOODBRIDGE ON L4H 4G3
Tel: 905.856.5200 Fax: 905.695.0221
Toll Free: 1.888.348.8991 www.mcintoshperry.com

Legend:

- BS-Asbestos Sample
- Lead Sample
- ACM Ceiling Tile
- ACM Vinyl floor Tile (VFT)
- ACM Firestop/Caulking

Notes:

Drywall with ACM joint compound is present throughout

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: DESIGNATED SUBSTANCE SURVEY
100 LAURIER, OTTAWA, ONTARIO

TITLE: SECOND FLOOR SITE PLAN & SAMPLE LOCATIONS

SCALE: 1:200

DATE: SEPTEMBER 13,2019

DRAWN: M.A.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: 0ZI-920014-HZ

REV.:

0 2 4 6m

1:200

McINTOSH PERRY

6240 HIGHWAY 7 SUITE 200 WOODBRIDGE ON L4H 4G3

Tel: 905.856.5200 Fax: 905.695.0221

Toll Free: 1.888.348.8991 www.mcintoshperry.com

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS, REPORT ALL ERRORS AND OMISSIONS TO THE CONSULTANTS, PRIOR TO PROCEEDING WITH ANY WORKS.

Legend:

- BS-Asbestos Sample
- Lead Sample
- ACM Ceiling Tile
- ACM Vinyl floor Tile (VFT)
- ACM Firestop/Caulking

Notes:

Drywall with ACM joint compound is present throughout

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: DESIGNATED SUBSTANCE SURVEY
100 LAURIER, OTTAWA, ONTARIO

TITLE: THIRD FLOOR SITE PLAN & SAMPLE LOCATIONS

SCALE: 1:200

DATE: SEPTEMBER 13,2019

DRAWN: M.A.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: 0ZI-920014-HZ

REV.: