HAZARDOUS MATERIALS SURVEY AND 2022 REASSESSMENT LAMOUREUX HALL & LEARNING CROSSROADS, OTTAWA, ON

Project No.: Z2021101HZ / CCC-230252-00

Prepared for:

University of Ottawa

Prepared by:

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Date:

January 9, 2023

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 145 Jean Jacques Lussier (Lamoureux Hall) and 150 Louis-Pasteur Private (Learning Crossroads). The survey was conducted on March 30th to April 1st, 2020. The reassessment was completed on June 30th, 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 Paring Debris was observed to be in Fair Condition in Room 200G of the subject building.
- ACM Mechanical Pipe Fitting/Elbow Insulation was observed to be in Good Condition throughout the exterior of the subject building.
- ACM Vinyl Floor Tile (VFT) was observed to be in Good and Fair Condition in select locations of the subject building.
- ACM Window Glazing was observed to be in Good Condition in select locations the subject building.
- 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 a Hazardous Materials survey for the building located at 145 Jean Jacques Lussier (Lamoureux Hall) and 150 Louis-Pasteur Private (Learning Crossroads). The survey was conducted on between March 30th to April 1st, 2020. The Reassessment Survey was completed on June 30th, 2022.

The purpose of the survey was to determine the presence of building materials containing Designated Substances, 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
Vinyl Floor Tiles	No	Specific Areas Only	Chrysotile
Window Glazing	No	Throughout Building	Chrysotile
Grey Parging Debris	Yes	Specific Areas Only	Chrysotile
Pipe/Elbow Fittings (Parging Cement)	Yes	Specific Areas Only	Chrysotile
Brick Mortar	-	Throughout Building	Suspected
Concrete Block Mortar	-	Throughout Building	Suspected
Ceramic Wall/Floor Tile Grout	-	Throughout Building	Suspected
Roofing Materials	-	Specific Areas Only	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 were identified or suspected to be present in the building:

Table B: Summary of Designated Substances & Hazardous Materials Identified

Material Description	Location
Silica	Throughout Building
Lead Paint	Throughout Building
Mercury Vapour	Specific Equipment
Lead Acid Batteries	Specific Equipment
Ozone Depleted Substances	Specific Equipment

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.

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

McINTOSH PERRY

January 9, 2023

University of Ottawa
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via email: joel.lajeunesse@uottawa.ca

Attention: Joel Lajeunesse, Project Manager

Re: 145 Jean Jacques Lussier (Lamoureux Hall) and 150 Louis-Pasteur Private (Learning Crossroads)
Hazardous Materials Survey and 2022 Reassessment
McIntosh Perry Limited Reference No. Z2021101HZ / CCC-230252-00

1.0 INTRODUCTION

In accordance with your instructions, McIntosh Perry Limited (MPL) carried out a Hazardous Materials Survey at the academic building located at 145 Jean Jacques Lussier (Lamoureux Hall) and 150 Louis-Pasteur Private (Learning Crossroads). The site is situated west of Louis Pasteur Private. The survey of the building was conducted between March 30 to April 1, 2020. The Reassessment Survey was completed on June 30th, 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 consists of is a five-storey building (Lamoureux Hall) and newly constructed six-storey addition (Learning Crossroads). The original building was built in 1978, and the addition in 2019. The building covers 150,000 square feet. The subject building was observed to be constructed with a concrete slab floor, aluminum windows and exterior walls were finished with brick. The interior walls were finished with concrete, concrete block, texture coat and drywall. Within the subject building, ceilings consisted of suspended ceiling tiles and concrete. The floors were generally vinyl floor tile, concrete, carpet, and ceramic tile.

3.0 FINDINGS & RECOMMENDATIONS

Designated Substances

3.1 Asbestos

Findings

A total of one hundred and three (103) bulk samples were collected during the survey and sent to an 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
BS 1.1	Room 242A	VFT (12" x 12"- Brown w/ White and Brown Streaks)	3% Chrysotile	Non-Friable
		Mastic (Black)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 1.2	Room 242A	VFT (12" x 12"- Brown w/ White and Brown Streaks)	Stop Positive - Sample Not Analyzed	Non-Friable
		Mastic (Black)	None Detected	N/A
BS 1.3	Room 242A	VFT (12" x 12"- Brown w/ White and Brown Streaks)	Stop Positive - Sample Not Analyzed	Non-Friable
		Mastic (Black)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 2.1	Room 242	Composite Flooring	None Detected	N/A
BS 2.2	Room 242	Composite Flooring	None Detected	N/A
		Joint Compound	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BS 2.3	Room 242	Composite Flooring	None Detected	N/A
BS 3.1	Room 200A	VSF (Grey)	None Detected	N/A
BS 3.2	Room 200A	VSF (Grey)	None Detected	N/A
BS 3.3	Room 200A	VSF (Grey)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 4.1	Room 241	VFT (12" x 12"-White w/ Blue and Purple Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 4.2	Room 241	VFT (12" x 12"-White w/ Blue and Purple Flakes)	None Detected	N/A
		Mastic/Joint Compound (Black/White)	None Detected	N/A
BS 4.3	Room 241	VFT (12" x 12"-White w/ Blue and Purple Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 5.1	Room 402D	VFT (12" x 12"-White w/Grey Marks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 5.2	Room 402D	VFT (12" x 12"-White w/Grey Marks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 5.3	Room 402D	VFT (12" x 12"-White w/Grey Marks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 6.1	Room 221	VFT (12" x 12"- White w/ Grey Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 6.2	Room 221	VFT (12" x 12"- White w/ Grey Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 6.3	Room 221	VFT (12" x 12"- White w/ Grey Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
		Leveller (Grey)	None Detected	N/A
BS 7.1	Room 140A	VFT (12" x 12"- White with Grey Marks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 7.2	Room 140A	VFT (12" x 12"- White with Grey Marks)	None Detected	N/A
BS 7.3	Room 140A	VFT (12" x 12"- White with Grey Marks)	None Detected	N/A
BS 8.1	Room 443	VFT (12" x 12"- White and Grey Camouflage)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 8.2	Room 443	VFT (12" x 12"- White and Grey Camouflage)	None Detected	N/A
BS 8.3	Room 443	VFT (12" x 12"- White and Grey Camouflage)	None Detected	N/A
BS 9.1	Room 270E	SCT (2'x4'- White, Pinholes w/ Small Fissures)	None Detected	N/A
BS 9.2	Room 270E	SCT (2'x4'- White, Pinholes w/ Small Fissures)	None Detected	N/A
BS 9.3	Room 270E	SCT (2'x4'- White, Pinholes w/ Small Fissures)	None Detected	N/A
BS 10.1	Room 220	SCT (2'x4'- Yellow, Pinholes w/ Small Fissures)	None Detected	N/A
BS 10.2	Room 220	SCT (2'x4'- Yellow, Pinholes w/ Small Fissures)	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BS 10.3	Room 220	SCT (2'x4'- Yellow, Pinholes w/ Small Fissures)	None Detected	N/A
BS 11.1	Room 402C	VFT (12" x 12"-Light Grey w/White Streaks)	None Detected	N/A
BS 11.2	Room 402B	VFT (12" x 12"-Light Grey w/White Streaks)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 11.3	Room 402B	VFT (12" x 12" -Light Grey w/White Streaks)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 12.1	Room 105	Window Glazing (Black)	5% Chrysotile	Non- Friable
BS 12.2	Room 105	Window Glazing (Black)	Stop Positive - Sample Not Analyzed	Non- Friable
BS 12.3	Room 105	Window Glazing (Black)	Stop Positive - Sample Not Analyzed	Non- Friable
BS 13.1	Room 404	VFT (12" x 12"- White w/ Blue Flakes)	None Detected	N/A
BS 13.2	Room 404	VFT (12" x 12"- White w/ Blue Flakes)	None Detected	N/A
BS 13.3	Room 404	VFT (12" x 12"- White w/ Blue Flakes)	None Detected	N/A
BS 14.1	Room 251	VFT (12" x 12"-Grey w/ Grey Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 14.2	Room 251	VFT (12" x 12"-Grey w/ Grey Flakes)	None Detected	N/A
BS 14.3	Room 251	VFT (12" x 12"-Grey w/ Grey Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 15.1	Room 226	VSF (Red)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
		Mastic (Leveller)	None Detected	N/A
BS 15.2	Room 226	VSF (Red)	None Detected	N/A
		Mastic (Beige)	None Detected	N/A
		Mastic (Leveller)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 15.3	Room 226	VSF (Red)	None Detected	N/A
		Mastic/Leveler (Yellow/Grey)	None Detected	N/A
BS 16.1	Room 429	VFT (12" x 12"-Beige w/ White and Grey Marks)	None Detected	N/A
BS 16.2	Room 429	VFT (12" x 12"-Beige w/ White and Grey Marks)	None Detected	N/A
BS 16.3	Room 429	VFT (12" x 12"-Beige w/ White and Grey Marks)	None Detected	N/A
BS 17.1	Room 400	Drywall Joint Compound	None Detected	N/A
BS 17.2	Room 400B	Drywall Joint Compound	None Detected	N/A
BS 17.3	Room 400D	Drywall Joint Compound	None Detected	N/A
BS 17.4	Room 300	Drywall Joint Compound	None Detected	N/A
BS 17.5	Room 300C	Drywall Joint Compound	None Detected	N/A
BS 17.6	Room 101	Drywall Joint Compound	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BS 17.7	Room 105	Drywall Joint Compound	None Detected	N/A
BS 17.8	Room 200A	Drywall Joint Compound	None Detected	N/A
BS 17.9	Room 200L	Drywall Joint Compound	None Detected	N/A
BS 18.1	Room 200A	Texture Coat (Wall)	None Detected	N/A
BS 18.2	Room 200D	Texture Coat (Wall)	None Detected	N/A
BS 18.3	Room 200D	Texture Coat (Wall)	None Detected	N/A
BS 18.4	Room 200C	Texture Coat (Wall)	None Detected	N/A
BS 18.5	Room 331A	Texture Coat (Wall)	None Detected	N/A
BS 18.6	Room 347	Texture Coat (Wall)	None Detected	N/A
BS 18.7	Room 400B	Texture Coat (Wall)	None Detected	N/A
	Room 400B	Joint Compound	None Detected	N/A
BS 18.8	Room 400D	Texture Coat (Wall)	None Detected	N/A
BS 18.9	Room 400E	Texture Coat (Wall)	None Detected	N/A
BS 19.1	Room 127A	VFT (12” x 12”-Beige)	2% Chrysotile	Non-Friable
		Mastic (Black)	None Detected	N/A
		Leveller (White)	None Detected	N/A
BS 19.2	Room 127A	VFT (12” x 12”-Beige)	Stop Positive - Sample Not Analyzed	Non-Friable
		Mastic (Black)	None Detected	N/A
		Leveller (White)	None Detected	N/A
BS 19.3	Room 127A	VFT (12” x 12”-Beige)	Stop Positive - Sample Not Analyzed	Non-Friable

N/A – Not Applicable
VFT – Vinyl Floor Tiles

VSF-
SCT – Suspended Ceiling 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, quantities (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

3.1.2.1 Mechanical Pipe Straight Insulation

Mechanical pipe straight insulation was observed throughout 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.

3.1.2.2 Mechanical Piping Elbows/Fittings Insulation

Several different types of mechanical piping elbows/fittings insulation were observed and sampled within the building as follows:

- Previously identified asbestos-containing pipe elbow/fitting insulation (parging cement) was observed in Rooms 500A, Room 500B, 01, and 01B. This material contains between 40-50% Chrysotile asbestos. This material is considered to be friable and was observed in good condition.
- Mechanical pipe elbow/fitting insulation was observed throughout 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.

3.1.2.3 Mechanical Piping Hangers Insulation

Mechanical pipe hanger insulation was observed throughout 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.

3.1.2.4 HVAC Duct Insulation

No HVAC duct insulation was observed in the subject building.

3.1.2.5 Other Mechanical Insulation

No other mechanical insulation was observed in the subject building.

3.1.2.1 Other Insulation

Previously identified asbestos-containing parging debris (Grey) was observed in Room 200G. The material was observed to be concealed underneath vinyl floor tiles. This material contains 40% Chrysotile asbestos. This material is considered to be friable and was enclosed, therefore its condition could not be determined.

3.1.3 Flexible Duct Connector

No flexible duct connectors were observed in the subject building.

3.1.4 Heat Shield or Heat Shield Insulation

No heat shield insulation was observed in the subject building.

3.1.5 Texture Finishes

Wall texture coat was observed and sampled throughout the subject building. The laboratory analytical results indicate that this material does not contain asbestos.

3.1.6 Plaster

No plaster was observed in the subject building.

3.1.7 Drywall

Drywall joint compound was observed and sampled throughout the subject building. The laboratory analytical results indicate that this material does not contain asbestos.

3.1.8 Ceiling Tiles

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

- Suspended ceiling tiles (2'x4'- Pinholes with Small Fissures) were observed and sampled in Room 270E. The laboratory analytical results indicate that this material does not contain asbestos.

- Suspended ceiling tiles (2'x4'- Pinholes with Small Fissures) were observed throughout the subject building. The laboratory analytical results of ceiling tile samples collected indicate that this material does not contain asbestos.

- Suspended ceiling tiles (2'x4' – Pinholes with Medium Fissures) were observed in Room C143B. The date stamp on the back of these tiles indicated that they were manufactured in 2017 and therefore, this material is not considered to contain asbestos.

- Suspended ceiling tiles (2'x4' – Pinholes) were observed in Room 200A. The date stamp on the back of these tiles indicated that they were manufactured in 2010 and therefore, this material is not considered to contain asbestos.

- Suspended ceiling tiles (2'x4' – Pinholes with Medium Fissures) were observed in Room 203P. The date stamp on the back of these tiles indicated that they were manufactured in 2010 and therefore, this material is not considered to contain asbestos.

- Suspended ceiling tiles (2'x4' – Pinholes with Large Fissures) were observed in Room 262A. The date stamp on the back of these tiles indicated that they were manufactured in 2006 and therefore, this material is not considered to 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" – Green with White Stripes) were observed throughout the subject building. This material contains 11% Chrysotile asbestos. This material is considered to be non-friable and was observed in good condition, with the exception of select areas which were observed in poor condition.

- Vinyl floor tiles (12" x 12" – Brown with White and Brown Streaks) were observed and sampled in Room 242A. The laboratory analytical results indicate that this material contains 3% Chrysotile asbestos. This material is considered to be non-friable and was observed in good condition. The associated mastics (Black and Yellow) and was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – Beige) were observed and sampled in Room 127A. The laboratory analytical results indicate that this material contains 2% Chrysotile asbestos. This material is considered to be non-friable and was observed in fair condition during the 2022 Reassessment. The associated mastic (Black) and levelling compound (White) was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – White with Blue and Purple Flakes) were observed and sampled in Room 241. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic (Black) and joint compound was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – White with Grey Marks) were observed and sampled in Room 402D. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic (Black) and joint compound was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – White with Grey Flakes) were observed and sampled in Room 221. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic (Black) and joint compound was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – White with Grey Marks) were observed and sampled in Room 140A. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic (Black) and was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – White and Grey Camouflage) were observed and sampled in Room 443. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic (Yellow) and was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – Light Grey with White Streaks) were observed and sampled in Room 402B and 402C. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic (Yellow) and was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – White with Blue Flakes) were observed and sampled in Room 404. The laboratory analytical results indicate that this material does not contain asbestos.

- Vinyl floor tiles (12" x 12" – Grey with Grey Flakes) were observed and sampled in Room 251. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic (Black) and was found not to contain asbestos.

- Vinyl floor tiles (12" x 12" – Beige with White and Grey Marks) were observed and sampled in Room 429. The laboratory analytical results indicate that this material does not contain asbestos.

3.1.10 Vinyl Sheet Flooring

Several different types of vinyl sheet flooring were observed and sampled within the subject building as follows:

- Vinyl sheet flooring (Grey) was observed and sampled in Room 200A. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic/leveller (Yellow/Beige) was also found not to contain asbestos.

- Vinyl sheet flooring (Red) was observed and sampled in Room 226. The laboratory analytical results indicate that this material does not contain asbestos. The associated mastic/backing material (Beige) was also found not to contain asbestos.

3.1.11 Composite Flooring

Composite flooring was observed and sampled in Room 242. The laboratory analytical results indicate that this material does not contain asbestos. The associated joint compound was also found not to contain asbestos.

3.1.12 Brick/ Stone Mortar

To avoid damage and compromising the integrity of the structure, no bulk samples of the brick/stone mortar were collected. Prior to renovation/demolition, brick/stone mortar should be examined and tested for asbestos content. Exterior brick/stone mortar should therefore be considered to contain asbestos until bulk samples and analysis proves otherwise.

3.1.13 Concrete Block Mortar

To avoid damage and compromising the integrity of the structure, no bulk samples of the concrete block mortar were collected. Prior to renovation/demolition, concrete mortar should be examined and tested for asbestos content. Exterior concrete block mortar should therefore be considered to contain asbestos until bulk samples and analysis proves otherwise.

3.1.14 Ceramic Wall / Floor Tile Grout

To avoid damage and compromising the integrity of the structure, no bulk samples of the ceramic wall/floor tile grout were collected. Prior to renovation/demolition, ceramic tile grout should be examined and tested for asbestos content. Ceramic wall/floor tile grout should therefore be considered to contain asbestos until bulk samples and analysis proves otherwise.

3.1.15 Transite (Asbestos Cement)

No transite materials were observed in the subject building.

3.1.16 Caulking/Glazing

Window glazing (Black) was observed and sampled in Room 105. The laboratory analytical results indicate that this material contains 5% Chrysotile asbestos. This material is considered to be non-friable and was observed in good condition.

3.1.17 Cementitious Coating

No cementitious coating finishes were observed in the subject building.

3.1.18 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.

3.1.19 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;
- 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, quantities (where applicable), and recommended actions;
- Prior to renovation/demolition of materials which are assumed to be asbestos-containing (suspect materials which were not sampled, i.e., brick/stone mortar, concrete block mortar, ceramic wall/floor tile grout, 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 four (4) paint samples from the subject building were collected 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-1	Room 401B	Door Paint	Brown	<0.037
Pb-2	Room 401B	Floor Paint	Pink	<0.0080
Pb-3	Room 401B	Door Paint	Beige	0.050%
Pb-4	Room 401B	Door Frame Paint	Black	0.027%
Previously Identified Paints				
001-B-LBP-01	005	Wall Paint	Yellow	0.01
001-B-LBP-02	005	Door Frame Paint	Blue	0.02

Sample I.D.	Location	Material	Colour	Lead Concentration Weight by Conc. (%)
001-B-LBP-03	019	Wall Paint	Light Beige	0.08
001-B-LBP-04	016	Wall Paint	Dark Beige	<0.01
001-B-LBP-05	004	Wall/Ceiling Paint	Dark Green	<0.01
001-B-LBP 06	106	Door Frame Paint	Light Blue	0.08
001-B-LBP 07	220	Wall Paint	Cream	<0.04
001-B-LBP-08	310	Doors/Trim Paint	Light Green	<0.01
Pb-01	Stairwell A	Stair Paint	Dark Blue	0.013
Pb-02	Stairwell A	Stringer Paint	Orange	0.19
Pb-03	Stairwell A	Riser Paint	Blue	0.010
LMX-LP-02	01A	Mechanical Equipment Paint	Cream	0.13%

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 which were observed in fair and 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 observed in fair and 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 samples are also included in Appendix C.

3.2.2 Battery Packs

No battery packs suspected of containing lead batteries were observed throughout the subject 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 – Designated Substances Checklist for material conditions, quantities (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/m3. 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 did not observe thermostats containing liquid mercury within 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 and float switches containing liquid mercury in the subject building.

Recommendations

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, quantities (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, quantities (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.

3.5.2 Transformers

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

Recommendations

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

Prior to any renovations, all light ballasts and HID lamps containing or suspected of containing PCBs that will be affected by the work, must be decommissioned by a licensed contractor such that PCBs are contained and not released to the environment during decommissioning and properly disposed of.

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, quantities (where applicable), and recommended actions.

Under the management of a licensed contractor, equipment containing R-410a 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 did not observe any electrical components containing radioactive materials.

Recommendations

Since no radioactive materials were observed or suspected to be present during the site survey, no further action is required.

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

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 identify any materials affected by 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 during the 2022 Reassessment.

Recommendations

Since no mould or water damaged building materials were observed to be present during the site survey, no further action is required.

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

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Project Technician
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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 145 Jean Jacques Lussier (Academic Hall) 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,

- Designated Substance Survey by Conestoga-Rovers & Asociates (dated December 2007, reference #45870 (16);
- Asbestos and Mould Abatement, Lamoureux Hall - Memo by Conestoga-Rovers & Associates (dated September 14, 2009, reference #056975);
- Project Specific Asbestos Sampling Report by EHS (dated December 3, 2015, EHS project number 04-0033-15-042);

- Project Specific Asbestos Sampling Report by CM3 (dated August 4, 2016, CM3 project number TLW-1117);
- Asbestos Abatement Report by CM3 (dated November 23, 2016, CM3 project number TLW-1142); and,
- Final Report Limited Designated Substances Survey Lamoureaux Hall by In Air Environmental Ltd. (dated October 20, 2019, InAIR Project No. 19c154).

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 otherwise, such as acoustical plaster on ceilings and fireproofing materials on structural members	Less than 90 square metres	3
		90 or more square metres, but less than 450 square metres	5
		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 EMSL Canada Inc. (EMSL), an independent laboratory. EMSL is an independent laboratory accredited by National Institute of Standards and Technology/National Voluntary Laboratory Accreditation (NIST/NVLAP) (Lab Code #200877-0).

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

EMSL Canada Inc.

22 Antares Drive Suite 102 Ottawa, ON K2E 7Z6
Phone/Fax: (343) 882-6076 / (343) 882-6077
http://www.EMSL.com / ottawalab@EMSL.com

EMSL Canada Order 672000662
Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
Project ID: Ottawa DSS

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

Phone: (613) 836-2184
Fax:
Collected: 3/30/2020
Received: 4/15/2020
Analyzed: 4/21/2020

Proj: University of Ottawa 0Z2-021101 (LMX) (Ottawa DSS)

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

Client Sample ID: 1.1-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0001**
Sample Description: LMX and Crossroads/VFT - Brown with white and brown streaks - Room 242A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Brown	0.0%	97.0%	**3% Chrysotile**	

Client Sample ID: 1.1-Mastic ***Lab Sample ID:*** **672000662-0001A**
Sample Description: LMX and Crossroads/VFT - Brown with white and brown streaks - Room 242A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 1.1-Mastic 2 ***Lab Sample ID:*** **672000662-0001B**
Sample Description: LMX and Crossroads/VFT - Brown with white and brown streaks - Room 242A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 1.2-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0002**
Sample Description: LMX and Crossroads/VFT - Brown with white and brown streaks - Room 242A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 1.2-Mastic ***Lab Sample ID:*** **672000662-0002A**
Sample Description: LMX and Crossroads/VFT - Brown with white and brown streaks - Room 242A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 1.3-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0003**
Sample Description: LMX and Crossroads/VFT - Brown with white and brown streaks - Room 242A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 1.3-Mastic ***Lab Sample ID:*** **672000662-0003A**
Sample Description: LMX and Crossroads/VFT - Brown with white and brown streaks - Room 242A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

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EMSL Canada Order 672000662
Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
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: 1.3-Mastic 2 ***Lab Sample ID:*** **672000662-0003B**

Sample Description: LMX and Crossroads/VFT - Brown with white and brown streaks - Room 242A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 2.1 ***Lab Sample ID:*** **672000662-0004**

Sample Description: LMX and Crossroads/Composite floor - Room 242

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 2.2-Composite ***Lab Sample ID:*** **672000662-0005**

Sample Description: LMX and Crossroads/Composite floor - Room 242

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 2.2-Joint Compound ***Lab Sample ID:*** **672000662-0005A**

Sample Description: LMX and Crossroads/Composite floor - Room 242

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 2.3 ***Lab Sample ID:*** **672000662-0006**

Sample Description: LMX and Crossroads/Composite floor - Room 242

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 3.1 ***Lab Sample ID:*** **672000662-0007**

Sample Description: LMX and Crossroads/VSF - Grey - Room 200A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 3.2 ***Lab Sample ID:*** **672000662-0008**

Sample Description: LMX and Crossroads/VSF - Grey - Room 200A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 3.3-Vinyl Sheet Flooring ***Lab Sample ID:*** **672000662-0009**

Sample Description: LMX and Crossroads/VSF - Grey - Room 200A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	0.0%	100.0%	None Detected	

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EMSL Canada Order 672000662
Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
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: 3.3-Mastic ***Lab Sample ID:*** **672000662-0009A**
Sample Description: LMX and Crossroads/VSF - Grey - Room 200A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 4.1-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0010**
Sample Description: LMX and Crossroads/VFT - White with blue and purple flakes - Room 241

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 4.1-Mastic ***Lab Sample ID:*** **672000662-0010A**
Sample Description: LMX and Crossroads/VFT - White with blue and purple flakes - Room 241

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 4.2-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0011**
Sample Description: LMX and Crossroads/VFT - White with blue and purple flakes - Room 241

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 4.2-Mastic/Joint compound ***Lab Sample ID:*** **672000662-0011A**
Sample Description: LMX and Crossroads/VFT - White with blue and purple flakes - Room 241

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White/Black	0.0%	100.0%	None Detected	Inseparable layers

Client Sample ID: 4.3-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0012**
Sample Description: LMX and Crossroads/VFT - White with blue and purple flakes - Room 241

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 4.3-Mastic ***Lab Sample ID:*** **672000662-0012A**
Sample Description: LMX and Crossroads/VFT - White with blue and purple flakes - Room 241

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 5.1-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0013**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 402D

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

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EMSL Canada Order 672000662
Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
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: 5.1-Mastic ***Lab Sample ID:*** **672000662-0013A**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 402D

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 5.2-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0014**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 402D

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 5.2-Mastic ***Lab Sample ID:*** **672000662-0014A**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 402D

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 5.3-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0015**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 402D

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 5.3-Mastic ***Lab Sample ID:*** **672000662-0015A**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 402D

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 6.1-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0016**
Sample Description: LMX and Crossroads/VFT - White with grey flakes - Room 221

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 6.1-Mastic ***Lab Sample ID:*** **672000662-0016A**
Sample Description: LMX and Crossroads/VFT - White with grey flakes - Room 221

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 6.2-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0017**
Sample Description: LMX and Crossroads/VFT - White with grey flakes - Room 221

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

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EMSL Canada Order 672000662
Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
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: 6.2-Mastic **Lab Sample ID:** **672000662-0017A**
Sample Description: LMX and Crossroads/VFT - White with grey flakes - Room 221

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 6.3-Vinyl Floor Tile **Lab Sample ID:** **672000662-0018**
Sample Description: LMX and Crossroads/VFT - White with grey flakes - Room 221

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 6.3-Mastic **Lab Sample ID:** **672000662-0018A**
Sample Description: LMX and Crossroads/VFT - White with grey flakes - Room 221

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 6.3-Leveler **Lab Sample ID:** **672000662-0018B**
Sample Description: LMX and Crossroads/VFT - White with grey flakes - Room 221

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	5.0%	95.0%	None Detected	

Client Sample ID: 7.1-Vinyl Floor Tile **Lab Sample ID:** **672000662-0019**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 140A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 7.1-Mastic **Lab Sample ID:** **672000662-0019A**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 140A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 7.2-Vinyl Floor Tile **Lab Sample ID:** **672000662-0020**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 140A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 7.2-Mastic **Lab Sample ID:** **672000662-0020A**
Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 140A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020				Insufficient Material	

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Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
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: 7.3 ***Lab Sample ID:*** **672000662-0021**

Sample Description: LMX and Crossroads/VFT - White with grey marks - Room 140A

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 8.1-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0022**

Sample Description: LMX and Crossroads/VFT - White/grey camo - Room 443

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 8.1-Mastic ***Lab Sample ID:*** **672000662-0022A**

Sample Description: LMX and Crossroads/VFT - White/grey camo - Room 443

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 8.2 ***Lab Sample ID:*** **672000662-0023**

Sample Description: LMX and Crossroads/VFT - White/grey camo - Room 443

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 8.3 ***Lab Sample ID:*** **672000662-0024**

Sample Description: LMX and Crossroads/VFT - White/grey camo - Room 443

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 9.1 ***Lab Sample ID:*** **672000662-0025**

Sample Description: LMX and Crossroads/CT - Pinholes with small fissures (white) - Room 270E

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	80.0%	20.0%	None Detected	

Client Sample ID: 9.2 ***Lab Sample ID:*** **672000662-0026**

Sample Description: LMX and Crossroads/CT - Pinholes with small fissures (white) - Room 270E

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	80.0%	20.0%	None Detected	

Client Sample ID: 9.3 ***Lab Sample ID:*** **672000662-0027**

Sample Description: LMX and Crossroads/CT - Pinholes with small fissures (white) - Room 270E

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Gray	80.0%	20.0%	None Detected	

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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: 10.1 ***Lab Sample ID:*** **672000662-0028**
Sample Description: LMX and Crossroads/CT - Pinholes with small fissures (yellow) - Room 220

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	80.0%	20.0%	None Detected	

Client Sample ID: 10.2 ***Lab Sample ID:*** **672000662-0029**
Sample Description: LMX and Crossroads/CT - Pinholes with small fissures (yellow) - Room 220

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	80.0%	20.0%	None Detected	

Client Sample ID: 10.3 ***Lab Sample ID:*** **672000662-0030**
Sample Description: LMX and Crossroads/CT - Pinholes with small fissures (yellow) - Room 220

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Gray	80.0%	20.0%	None Detected	

Client Sample ID: 11.1 ***Lab Sample ID:*** **672000662-0031**
Sample Description: LMX and Crossroads/VFT - Light grey with white streaks - Room 402C

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 11.2-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0032**
Sample Description: LMX and Crossroads/VFT - Light grey with white streaks - Room 402B

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 11.2-Mastic ***Lab Sample ID:*** **672000662-0032A**
Sample Description: LMX and Crossroads/VFT - Light grey with white streaks - Room 402B

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 11.3-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0033**
Sample Description: LMX and Crossroads/VFT - Light grey with white streaks - Room 437

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 11.3-Mastic ***Lab Sample ID:*** **672000662-0033A**
Sample Description: LMX and Crossroads/VFT - Light grey with white streaks - Room 437

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Yellow	0.0%	100.0%	None Detected	

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

Client Sample ID: 12.1 ***Lab Sample ID:*** **672000662-0034**
Sample Description: LMX and Crossroads/Window caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	95.0%	**5% Chrysotile**	

Client Sample ID: 12.2 ***Lab Sample ID:*** **672000662-0035**
Sample Description: LMX and Crossroads/Window caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 12.3 ***Lab Sample ID:*** **672000662-0036**
Sample Description: LMX and Crossroads/Window caulking

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 13.1 ***Lab Sample ID:*** **672000662-0037**
Sample Description: LMX and Crossroads/VFT - White with blue flakes - Room 404

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 13.2 ***Lab Sample ID:*** **672000662-0038**
Sample Description: LMX and Crossroads/VFT - White with blue flakes - Room 404

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	White/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 13.3-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0039**
Sample Description: LMX and Crossroads/VFT - White with blue flakes - Room 404

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 13.3-Mastic ***Lab Sample ID:*** **672000662-0039A**
Sample Description: LMX and Crossroads/VFT - White with blue flakes - Room 404

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020				Insufficient Material	

Client Sample ID: 14.1-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0040**
Sample Description: LMX and Crossroads/VFT - Grey with grey flakes - Room 251

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	0.0%	100.0%	None Detected	

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Customer ID: 55CTCS25B
Customer PO: 0Z2-021101
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: 14.1-Mastic **Lab Sample ID:** **672000662-0040A**
Sample Description: LMX and Crossroads/VFT - Grey with grey flakes - Room 251

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 14.2-Vinyl Floor Tile **Lab Sample ID:** **672000662-0041**
Sample Description: LMX and Crossroads/VFT - Grey with grey flakes - Room 251

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 14.2-Mastic **Lab Sample ID:** **672000662-0041A**
Sample Description: LMX and Crossroads/VFT - Grey with grey flakes - Room 251

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020				Insufficient Material	

Client Sample ID: 14.3-Vinyl Floor Tile **Lab Sample ID:** **672000662-0042**
Sample Description: LMX and Crossroads/VFT - Grey with grey flakes - Room 251

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 14.3-Mastic **Lab Sample ID:** **672000662-0042A**
Sample Description: LMX and Crossroads/VFT - Grey with grey flakes - Room 251

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 15.1-Vinyl Sheet Flooring **Lab Sample ID:** **672000662-0043**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Red	45.0%	55.0%	None Detected	

Client Sample ID: 15.1-Mastic **Lab Sample ID:** **672000662-0043A**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 15.1-Leveler **Lab Sample ID:** **672000662-0043B**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/17/2020	Gray	5.0%	95.0%	None Detected	

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Customer PO: 0Z2-021101
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: 15.2-Vinyl Sheet Flooring **Lab Sample ID:** **672000662-0044**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Red	45.0%	55.0%	None Detected	

Client Sample ID: 15.2-Mastic **Lab Sample ID:** **672000662-0044A**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Beige	5.0%	95.0%	None Detected	

Client Sample ID: 15.2-Leveler **Lab Sample ID:** **672000662-0044B**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Gray	5.0%	95.0%	None Detected	

Client Sample ID: 15.2-Mastic 2 **Lab Sample ID:** **672000662-0044C**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 15.3-Vinyl Sheet Flooring **Lab Sample ID:** **672000662-0045**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Red	45.0%	55.0%	None Detected	

Client Sample ID: 15.3-Mastic/Leveler **Lab Sample ID:** **672000662-0045A**
Sample Description: LMX and Crossroads/VSF - Red floor - Room 266

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Gray/Yellow	5.0%	95.0%	None Detected	Inseparable layers

Client Sample ID: 16.1-Vinyl Floor Tile **Lab Sample ID:** **672000662-0046**
Sample Description: LMX and Crossroads/VFT - Beige with white and grey marks - Room 429

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Gray/White/Beige	0.0%	100.0%	None Detected	

Client Sample ID: 16.1-Mastic **Lab Sample ID:** **672000662-0046A**
Sample Description: LMX and Crossroads/VFT - Beige with white and grey marks - Room 429

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020				Insufficient Material	

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Client Sample ID: 16.2 ***Lab Sample ID:*** **672000662-0047**
Sample Description: LMX and Crossroads/VFT - Beige with white and grey marks - Room 429

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	Gray/White/Beige	0.0%	100.0%	None Detected	

Client Sample ID: 16.3 ***Lab Sample ID:*** **672000662-0048**
Sample Description: LMX and Crossroads/VFT - Beige with white and grey marks - Room 429

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	Gray/White/Beige	0.0%	100.0%	None Detected	

Client Sample ID: 17.1 ***Lab Sample ID:*** **672000662-0049**
Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 17.2 ***Lab Sample ID:*** **672000662-0050**
Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 17.3 ***Lab Sample ID:*** **672000662-0051**
Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 17.4 ***Lab Sample ID:*** **672000662-0052**
Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 17.5 ***Lab Sample ID:*** **672000662-0053**
Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 17.6 ***Lab Sample ID:*** **672000662-0054**
Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	White	0.0%	100.0%	None Detected	

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Customer ID: 55CTCS25B
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Project ID: Ottawa DSS

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Client Sample ID: 17.7 ***Lab Sample ID:*** **672000662-0055**
Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.1 ***Lab Sample ID:*** **672000662-0056**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.2 ***Lab Sample ID:*** **672000662-0057**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.3 ***Lab Sample ID:*** **672000662-0058**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.4 ***Lab Sample ID:*** **672000662-0059**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.5 ***Lab Sample ID:*** **672000662-0060**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.6 ***Lab Sample ID:*** **672000662-0061**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.7-Texture ***Lab Sample ID:*** **672000662-0062**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

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Client Sample ID: 18.7-Joint Compound **Lab Sample ID:** **672000662-0062A**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.8 **Lab Sample ID:** **672000662-0063**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 18.9 **Lab Sample ID:** **672000662-0064**
Sample Description: LMX and Crossroads/Wall texture coat

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 19.1-Vinyl Floor Tile **Lab Sample ID:** **672000662-0065**
Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	Green	0.0%	98.0%	**2% Chrysotile**	

Client Sample ID: 19.1-Mastic **Lab Sample ID:** **672000662-0065A**
Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	Black	0.0%	100.0%	None Detected	

Client Sample ID: 19.1-Leveler **Lab Sample ID:** **672000662-0065B**
Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	White	3.0%	97.0%	None Detected	

Client Sample ID: 19.2-Vinyl Floor Tile **Lab Sample ID:** **672000662-0066**
Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/21/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 19.2-Mastic **Lab Sample ID:** **672000662-0066A**
Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	Black	0.0%	100.0%	None Detected	

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Client Sample ID: 19.2-Leveler ***Lab Sample ID:*** **672000662-0066B**

Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	White	3.0%	97.0%	None Detected	

Client Sample ID: 19.3-Vinyl Floor Tile ***Lab Sample ID:*** **672000662-0067**

Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/21/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 19.3-Mastic ***Lab Sample ID:*** **672000662-0067A**

Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/21/2020				Insufficient Material	

Client Sample ID: 19.3-Leveler ***Lab Sample ID:*** **672000662-0067B**

Sample Description: LMX and Crossroads/VFT - Beige - Room 127A (Crossroads)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/21/2020				Insufficient Material	

Client Sample ID: 17.8 ***Lab Sample ID:*** **672000662-0068**

Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/20/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 17.9 ***Lab Sample ID:*** **672000662-0069**

Sample Description: LMX and Crossroads/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	4/21/2020	White	0.0%	100.0%	None Detected	

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Project ID: Ottawa DSS

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

Analyst(s):

Ewa Krupinska PLM (49)
Simon Parent PLM (48)

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

Initial report from: 04/21/202014:29:37

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CustomerID:	55CTCS25B
CustomerPO:	OZ2-021101
ProjectID:	

Attn: **Stefan Holik**
McIntosh Perry Consulting Engineers Ltd
115 Walgreen Rd RR 3
Carp, ON K0A 1L0

Phone: (613) 836-2184
Fax:
Received: 04/16/20 11:52 AM
Collected:

Project: **University of Ottawa OZ2-021101 Ottawa DSS**

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

Client SampleDescription	Collected	Analyzed	Weight	RDL	Lead Concentration
PB1		4/17/2020	0.0544 g	0.037 % wt	<0.037 % wt
552004106-0001	Site: LMX - Brown Door - Room 401B Insufficient sample to reach reporting limit.				
PB2		4/17/2020	0.2515 g	0.0080 % wt	<0.0080 % wt
552004106-0002	Site: LMX - Pink Floor - Room 401B				
PB3		4/17/2020	0.0589 g	0.034 % wt	0.050 % wt
552004106-0003	Site: Beige Door				
PB4		4/17/2020	0.1328 g	0.015 % wt	0.027 % wt
552004106-0004	Site: Black Door Frame				

Rowena Fanto, Lead Supervisor
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the results, it will be noted on the reoprt. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Canada Inc. Mississauga, ON AIHA-LAP, LLC - ELLAP #196142

Initial report from 04/23/2020 08:34:04

APPENDIX D

Site Photographs

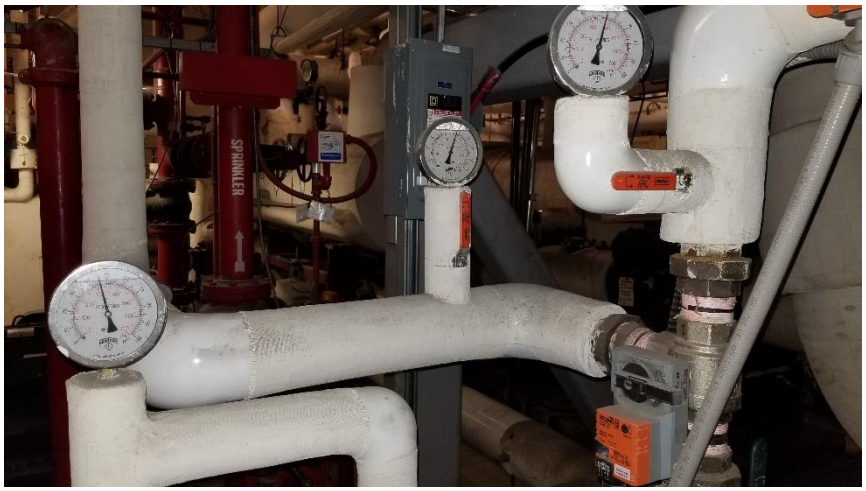


Photo 1: Representative view of the pressure gauges suspected of containing mercury, observed in Room 01.

Photo 2: Representative view of the float switches suspected of containing mercury, observed in Room 01.

Photo 3: Representative view of the asbestos containing pipe elbow/fitting insulation (parging cement) observed in good condition throughout Room 01 and Room 01B.

Photo 4: Representative view of the asbestos containing pipe elbow/fitting insulation (parging cement) observed in good condition throughout Room 01 and Room 01B.

Photo 5: View of the non-asbestos containing pipe straight insulation observed throughout Room 01.

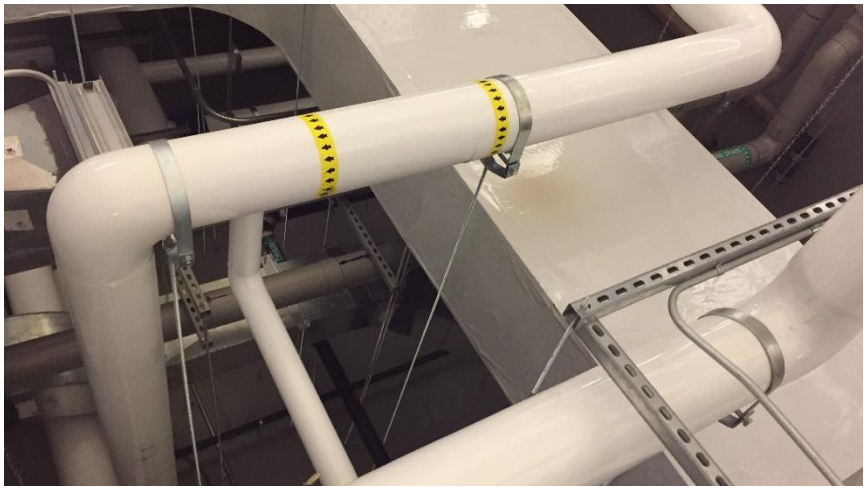


Photo 6: View of the non-asbestos containing pipe straight insulation observed throughout C043.

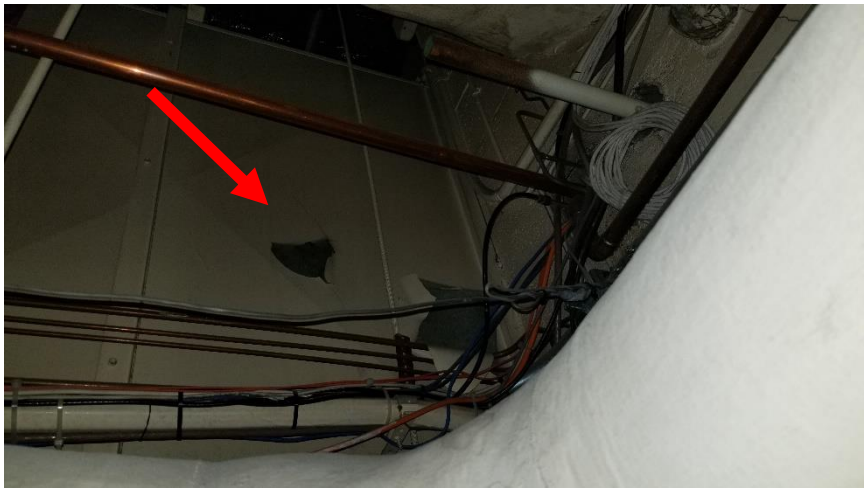


Photo 7: View of the poor condition lead-containing wall paint (Light Beige) observed in Room 01.

Photo 8: Representative view of the dry-type transformers observed in C043.

Photo 9: View of the lead-containing door point (Beige) observed in fair condition throughout the first floor.

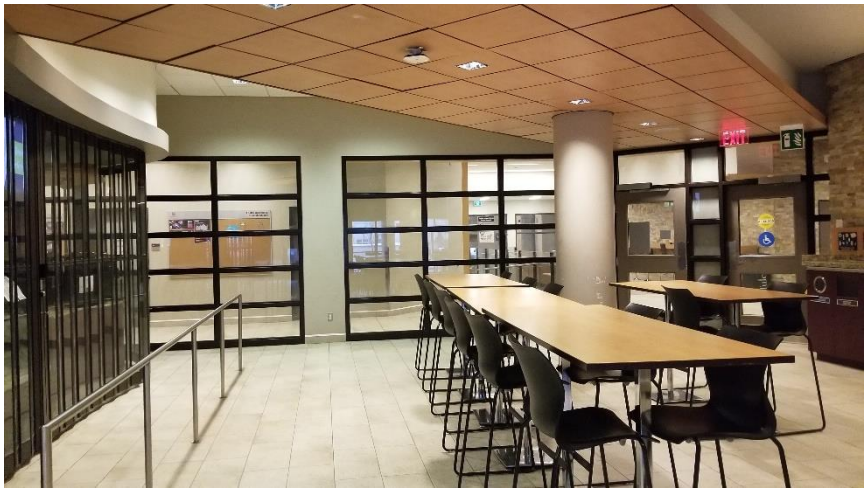


Photo 10: Representative view of the interior finishes observed throughout the first floor.

Photo 11: Representative view of the interior finishes observed throughout the first floor.

Photo 12: View of the equipment containing ODSs observed in Room C100A.

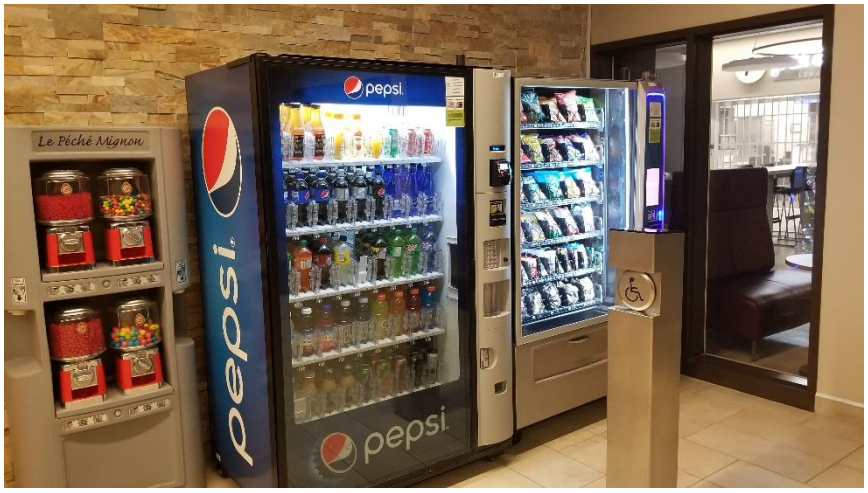


Photo 13: View of the equipment containing ODSs observed in Room 101.

Photo 14: View of the asbestos-containing window glazing (Black) identified in Room 105.

Photo 15: View of the floor paint (Pink) in Room 104A, which was determined not to contain lead.

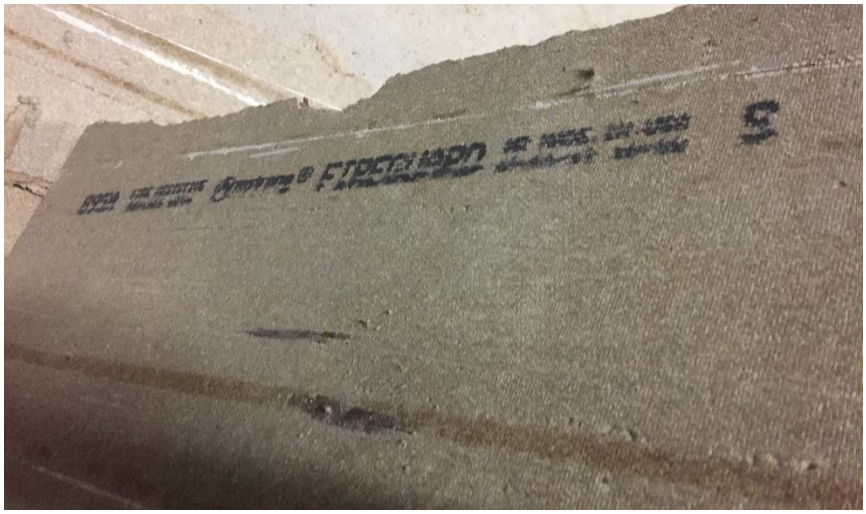


Photo 16: View of the non-asbestos ceiling tiles observed in Room C144 with the date stamp of 2017.

Photo 17: Representative view of the finishes observed throughout Room 251.

Photo 18: Representative view of the finishes observed throughout Room 270E

Photo 19: Representative view of the finishes observed throughout Room 203

Photo 20: View of the asbestos-containing vinyl floor tiles (12”x12” Green w/ White Striped) observed in good condition in Room 262A.

Photo 21: Representative view of the finishes observed throughout Room 300D.

Photo 22: View of the equipment containing ODSs observed in Room 331A.

Photo 23: View of the asbestos-containing vinyl floor tiles (12”x12” Green w/ White Striped) observed in good condition in Room 331A.

Photo 24: Representative view of the finishes observed throughout Room 346.

Photo 25: View of the asbestos-containing vinyl floor tiles (12”x12” Green w/ White Striped) observed in good condition in Room 329A.

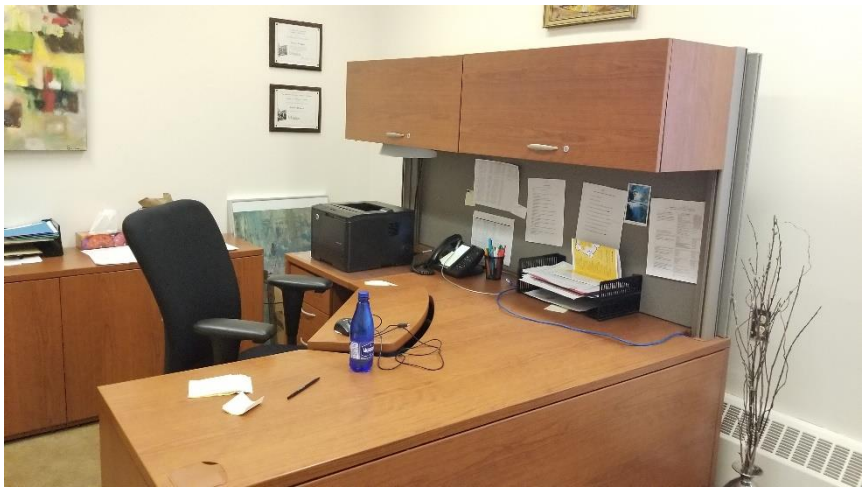


Photo 26: Representative view of the finishes observed throughout Room 316.

Photo 27: Representative view of the finishes observed throughout Room 407, including asbestos-containing vinyl floor tiles (12”x12” Green w/ White Striped) observed in good condition.

Photo 28: View of the asbestos-containing vinyl floor tiles (12”x12” Green w/ White Striped) observed in good condition in Room 471.

Photo 29: View of the equipment containing ODSs observed in Room 402.

Photo 30: View of the non-asbestos containing wall texture coat observed throughout the 4th floor.

Photo 31: View of the lead-containing paint (Cream) observed in poor condition in Room 500A.

Photo 32: View of the lead-containing paint (Cream) observed in poor condition throughout Room 500B.

Photo 33: View of the asbestos-containing pipe elbow/fitting insulation (parging cement) observed in good condition in Room 500B.

Photo 34: View of the asbestos-containing vinyl floor tiles (12”x12” Green w/ White Striped) observed in good condition in Room 127A during the 2022 Reassessment.

Photo 35: View of the ceiling tiles affected by water damage observed in Room 402 during the 2022 Reassessment.

APPENDIX E

Asbestos-Containing Materials Checklists

Floor /Level	Room	ID	Type of ACM	Description	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approx. Quantity	Unit	Recommended Action	Estimated Abatement Cost	Comments
0	Room	01	Pipe Fittings	Parging Cement	Confirmed	Friable	Good Condition	Moderate	Low	94	C	Manage in Place		
0	Room	01B	Pipe Fittings	Parging Cement	Confirmed	Friable	Good Condition	Moderate	Low	90	C	Manage in Place		
0	Throughout Level	-	Concrete Block Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
0	Throughout Level	-	Fire Doors	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
1	Room	127A	12" x 12" Vinyl Floor Tile	Beige	Confirmed	Non-Friable	Good Condition	Easy	Low	45	SF	Manage in Place		
1	Room	127A	12" x 12" Vinyl Floor Tile	Beige	Confirmed	Non-Friable	Fair Condition	Easy	Low	2	SF	Monitor Condition of Material. Consider Removal or Repair.		
1	Throughout Level	-	Window Glazing	Black	Confirmed	Non-	Good Condition	Easy	Low	-	-	Manage in Place		
1	Throughout Level	-	Brick Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
1	Throughout Level	-	Concrete Block Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
1	Throughout Level	-	Ceramic Wall/Floor Tile	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
1	Throughout Level	-	Fire Doors	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
2	Throughout Level	-	Brick Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
2	Throughout Level	-	Concrete Block Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
2	Throughout Level	-	Ceramic Wall/Floor Tile	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
2	Throughout Level	-	Fire Doors	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
2	Room	200G	Parging	Debris (Grey)	Confirmed	Friable	Enclosed	Difficult	Low	-	-	Manage in Place		Unable to be accessed during 2022 Reassessment
2	Room	219	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	1100	SF	Manage in Place		
2	Room	220	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	840	SF	Manage in Place		
2	Room	221	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	1420	SF	Manage in Place		
2	Room	225A	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	55	SF	Manage in Place		
2	Room	226A	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	55	SF	Manage in Place		
2	Room	240A	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	1000	SF	Manage in Place		
2	Room	242A	12" x 12" Vinyl Floor Tile	Brown w/ White & Brown Streaks	Confirmed	Non-Friable	Good Condition	Easy	Low	55	SF	Manage in Place		
2	Room	243	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	950	SF	Manage in Place		
2	Room	262	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	55	SF	Manage in Place		
3	Throughout Level	-	Brick Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		

Floor/Level	Room	ID	Type of ACM	Description	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approx. Quantity	Unit	Recommended Action	Estimated Abatement Cost	Comments
3	Throughout Level	-	Concrete Block Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
3	Throughout Level	-	Ceramic Wall/Floor Tile	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
3	Throughout Level	-	Fire Doors	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
3	Room	329A	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	55	SF	Manage in Place		
3	Room	331A	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	55	SF	Manage in Place		
3	Room	383	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	150	SF	Manage in Place		
3	Room	393	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	55	SF	Manage in Place		
4	Throughout Level	-	Brick Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
4	Throughout Level	-	Concrete Block Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
4	Throughout Level	-	Ceramic Wall/Floor Tile	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
4	Throughout Level	-	Fire Doors	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
4	Room	402	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	400	SF	Manage in Place		
4	Room	402B	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	100	SF	Manage in Place		
4	Room	402C	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	100	SF	Manage in Place		
4	Room	403B	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	140	SF	Manage in Place		No Access during 2022 Reassessment
4	Room	405	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	950	SF	Manage in Place		
4	Room	406	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Difficult	Low	55	SF	Manage in Place		New VFT observed during 2022 Reassessment. ACM VFT presumed to be underneath.
4	Room	407	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	950	SF	Manage in Place		
4	Room	407A	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	140	SF	Manage in Place		
4	Room	412A	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	55	SF	Manage in Place		
4	Room	416	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	1000	SF	Manage in Place		
4	Room	437	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	250	SF	Manage in Place		

Floor/Level	Room	ID	Type of ACM	Description	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approx. Quantity	Unit	Recommended Action	Estimated Abatement Cost	Comments
4	Room	471	12" x 12" Vinyl Floor Tile	Green w/ White Stripes	Confirmed	Non-Friable	Good Condition	Easy	Low	200	SF	Manage in Place		
5	Room	500A	Pipe Fittings	Parging Cement	Confirmed	Friable	Good Condition	Moderate	Low	6	C	Manage in Place		
5	Room	500B	Pipe Fittings	Parging Cement	Confirmed	Friable	Good Condition	Moderate	Low	6	C	Manage in Place		
5	Throughout Level	-	Brick Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
5	Throughout Level	-	Concrete Block Mortar	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
5	Throughout Level	-	Fire Doors	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		
5	Roof Level	-	Roofing Materials	-	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place		

APPENDIX F

Hazardous Materials Checklists

Floor/Level	Room	ID	DS Type	Component	Colour	Condition	Manufacturer	Approx. Quantity	Unit	Suspected/ Confirmed	Recommended Action	Estimated Abatement Cost	Comments
0	Throughout Level	-	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
0	Throughout Level	-	Mercury	Fluorescent Light Tubes	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
0	Throughout Level	-	Lead	Door Paint	Beige	Good Condition	N/A	-	-	Confirmed	Manage in Place		
0	Throughout Level	-	Lead	Door Frame Paint	Black	Fair Condition	N/A	-	-	Confirmed	Monitor Condition of Material		
0	Throughout Level	-	Lead	Wall Paint	Yellow	Good Condition	N/A	-	-	Confirmed	Manage in Place		
0	Throughout Level	-	Lead	Door Frame Paint	Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
0	Throughout Level	-	Lead	Wall Paint	Light Beige	Good Condition	N/A	-	-	Confirmed	Manage in Place		
0	Room	01	Lead	Wall Paint	Light Beige	Poor Condition	N/A	4	SF	Confirmed	Paint must be removed and/or stabilized following Class 1/2 or Type 1/2 lead Procedures as per MOL and EACO Guidelines.	$ 500.00	
0	Throughout Level	-	Lead	Mechanical Equipment Paint	Cream	Good Condition	N/A	-	-	Confirmed	Manage in Place		
0	Throughout Level	-	Mercury	Pressure Gauge	N/A	Good Condition	N/A	-	-	Suspected	Manage in Place		
0	Throughout Level	-	Mercury	Float Switch	N/A	Good Condition	N/A	6	C	Suspected	Manage in Place		
1	Throughout Level	-	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
1	Throughout Level	-	Mercury	Fluorescent Light Tubes	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
1	Throughout Level	-	Lead	Door Paint	Beige	Fair Condition	N/A	-	-	Confirmed	Monitor Condition of Material		
1	Throughout Level	-	Lead	Door Frame Paint	Black	Fair Condition	N/A	-	-	Confirmed	Monitor Condition of Material		
1	Throughout Level	-	Lead	Door Frame Paint	Light Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
1	Throughout Level	-	Lead	Stair Paint	Dark Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
1	Throughout Level	-	Lead	Stringer Paint	Orange	Good Condition	N/A	-	-	Confirmed	Manage in Place		
1	Throughout Level	-	Lead	Riser Paint	Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
1	Room	101D	Ozone Depleting Substances	Water Fountain	N/A	Good Condition		1	C	Confirmed	Manage in Place		R134a

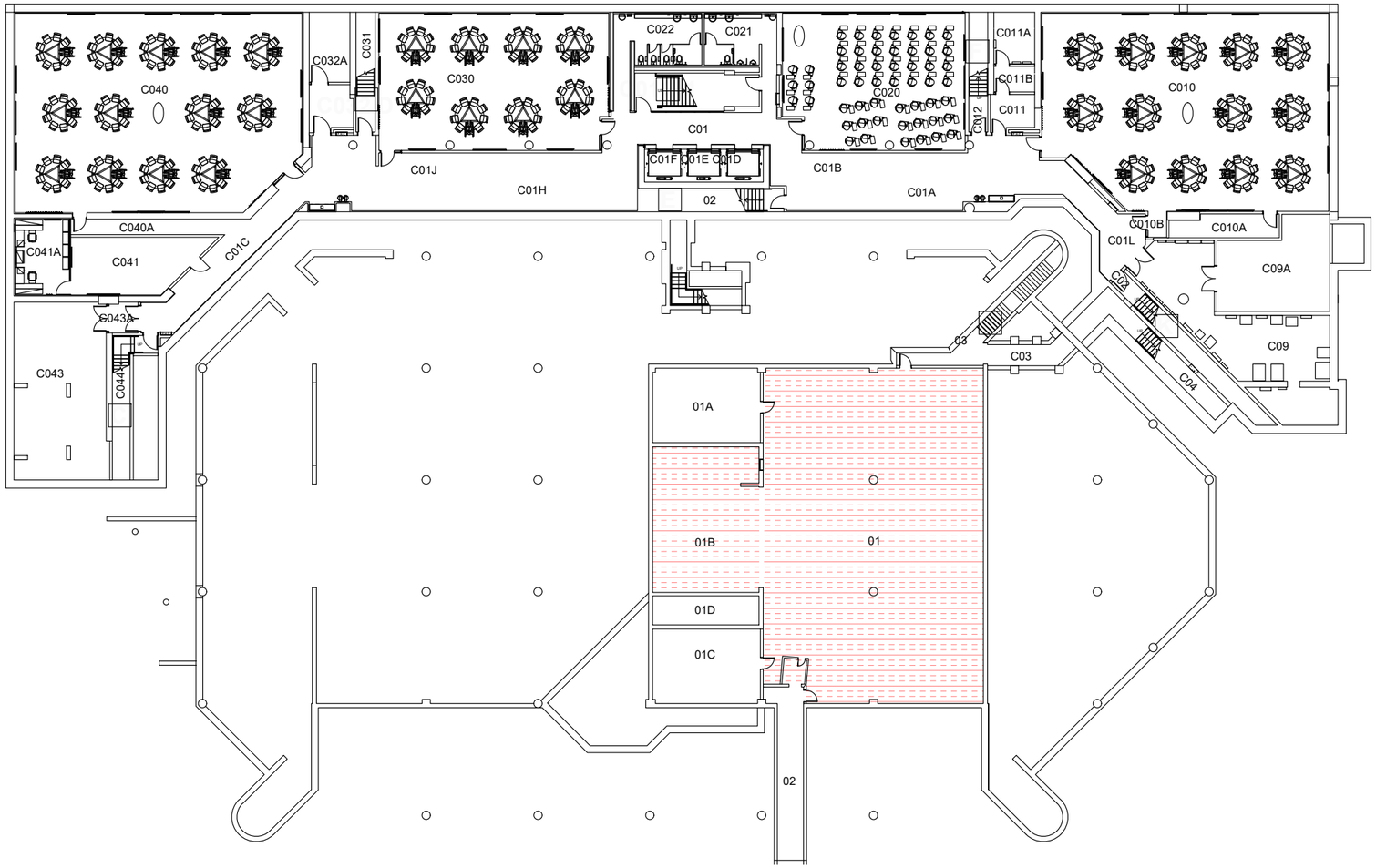
Floor/Level	Room	ID	DS Type	Component	Colour	Condition	Manufacturer	Approx. Quantity	Unit	Suspected/ Confirmed	Recommended Action	Estimated Abatement Cost	Comments
1	Room	101	Ozone Depleting Substances	Vending Machine	N/A	Good Condition	QBD Cooling	1	C	Confirmed	Manage in Place		R134a
1	Room	130	Ozone Depleting Substances	Vending Machine	N/A	Good Condition	QBD Cooling	1	C	Confirmed	Manage in Place		R134a
1	Room	130	Ozone Depleting Substances	Vending Machine	N/A	Good Condition	Imbera	2	C	Confirmed	Manage in Place		R744
1	Room	143H	Ozone Depleting Substances	Refrigerator	N/A	Good Condition	Danby	1	C	Confirmed	Manage in Place		R134a
1	Room	C100A	Ozone Depleting Substances	Vending Machine	N/A	Good Condition	QBD Cooling	1	C	Confirmed	Manage in Place		R134a
1	Room	C100A	Ozone Depleting Substances	Water Fountain	N/A	Good Condition	Elkay	2	C	Confirmed	Manage in Place		R134a
1	Room	C124	Ozone Depleting Substances	Water Fountain	N/A	Good Condition	Elkay	1	C	Confirmed	Manage in Place		R134a
2	Throughout Level	-	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
2	Throughout Level	-	Mercury	Fluorescent Light Tubes	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
2	Throughout Level	-	Lead	Door Paint	Beige	Good Condition	N/A	-	-	Confirmed	Manage in Place		
2	Throughout Level	-	Lead	Door Frame Paint	Black	Fair Condition	N/A	-	-	Confirmed	Monitor Condition of Material		
2	Throughout Level	-	Lead	Stair Paint	Dark Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
2	Throughout Level	-	Lead	Stringer Paint	Orange	Good Condition	N/A	-	-	Confirmed	Manage in Place		
2	Throughout Level	-	Lead	Riser Paint	Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
2	Room	200D	Ozone Depleting Substances	Water Fountain	N/A	Good Condition	Haws	1	C	Confirmed	Manage in Place		R134a
2	Room	C200K	Ozone Depleting Substances	Water Fountain	N/A	Good Condition	Elkay	2	C	Confirmed	Manage in Place		R134a
3	Throughout Level	-	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
3	Throughout Level	-	Mercury	Fluorescent Light Tubes	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
3	Throughout Level	-	Lead	Door Paint	Beige	Good Condition	N/A	-	-	Confirmed	Manage in Place		
3	Throughout Level	-	Lead	Door Frame Paint	Black	Fair Condition	N/A	-	-	Confirmed	Monitor Condition of Material		
3	Throughout Level	-	Lead	Stair Paint	Dark Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		

Floor/Level	Room	ID	DS Type	Component	Colour	Condition	Manufacturer	Approx. Quantity	Unit	Suspected/ Confirmed	Recommended Action	Estimated Abatement Cost	Comments
3	Throughout Level	-	Lead	Stringer Paint	Orange	Good Condition	N/A	-	-	Confirmed	Manage in Place		
3	Throughout Level	-	Lead	Riser Paint	Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
3	Room	300B	Ozone Depleting Substances	Water Fountain	N/A	Good Condition	Haws	1	C	Confirmed	Manage in Place		R134a
3	Room	328	Ozone Depleting Substances	Refrigerator	N/A	Good Condition	Danby	1	C	Confirmed	Manage in Place		R134a
3	Room	331A	Ozone Depleting Substances	Air Conditioning Unit	N/A	Good Condition	LG	1	C	Confirmed	Manage in Place		Unknown Refrigerant
3	Room	350A	Ozone Depleting Substances	Refrigerator	N/A	Good Condition	Admiral	1	C	Confirmed	Manage in Place		Unknown Refrigerant
3	Room	374	Ozone Depleting Substances	Refrigerator	N/A	Good Condition	Haier	1	C	Confirmed	Manage in Place		Unknown Refrigerant
3	Room	370	Ozone Depleting Substances	Refrigerator	N/A	Good Condition	Danby	1	C	Confirmed	Manage in Place		R134a
3	Room	C300P	Ozone Depleting Substances	Water Fountain	N/A	Good Condition	Elkay	2	C	Confirmed	Manage in Place		R134a
4	Throughout Level	-	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
4	Throughout Level	-	Mercury	Fluorescent Light Tubes	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
4	Throughout Level	-	Lead	Door Paint	Beige	Good Condition	N/A	-	-	Confirmed	Manage in Place		
4	Throughout Level	-	Lead	Door Frame Paint	Black	Fair Condition	N/A	-	-	Confirmed	Monitor Condition of Material		
4	Throughout Level	-	Lead	Stair Paint	Dark Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
4	Throughout Level	-	Lead	Stringer Paint	Orange	Good Condition	N/A	-	-	Confirmed	Manage in Place		
4	Throughout Level	-	Lead	Riser Paint	Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
4	Room	400B	Ozone Depleting Substances	Water Fountain	N/A	Good Condition		1	C	Confirmed	Manage in Place		R134a
4	Room	402	Ozone Depleting Substances	Refrigerator	N/A	Good Condition	Estate	1	C	Confirmed	Manage in Place		R134a
4	Room	402	Water Damage	Ceiling Tiles	N/A	Fair Condition	N/A	3	C	Confirmed	Should be replaced as part of regular maintenance.		
4	Room	475	Ozone Depleting Substances	Freezer	N/A	Good Condition	Frigidaire	1	C	Confirmed	Manage in Place		R134a
4	Room	477A	Ozone Depleting Substances	Refrigerator	N/A	Good Condition	Frigidaire	1	C	Confirmed	Manage in Place		R134a

Floor/Level	Room	ID	DS Type	Component	Colour	Condition	Manufacturer	Approx. Quantity	Unit	Suspected/ Confirmed	Recommended Action	Estimated Abatement Cost	Comments
5	Throughout Level	-	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
5	Throughout Level	-	Mercury	Fluorescent Light Tubes	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
5	Throughout Level	-	Lead	Door Paint	Beige	Fair Condition	N/A	-	-	Confirmed	Monitor Condition of Material		
5	Throughout Level	-	Lead	Door Frame Paint	Black	Fair Condition	N/A	-	-	Confirmed	Monitor Condition of Material		
5	Throughout Level	-	Lead	Door Frame Paint	Light Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
5	Throughout Level	-	Lead	Stair Paint	Dark Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
5	Throughout Level	-	Lead	Stringer Paint	Orange	Good Condition	N/A	-	-	Confirmed	Manage in Place		
5	Throughout Level	-	Lead	Riser Paint	Blue	Good Condition	N/A	-	-	Confirmed	Manage in Place		
5	Room	500A	Lead	Mechanical Equipment Paint	Cream	Poor Condition	N/A	6	SF	Confirmed	Paint must be removed and/or stabilized following Class 1/2 or Type 1/2 lead Procedures as per MOL and EACO Guidelines.	$ 500.00	
5	Room	500B	Lead	Ceiling Paint	Cream	Poor Condition	N/A	300	SF	Confirmed	Paint must be removed and/or stabilized following Class 1/2 or Type 1/2 lead Procedures as per MOL and EACO Guidelines.	$ 1,500.00	
5	Throughout Level	-	Lead	Mechanical Equipment Paint	Cream	Good Condition	N/A	-	-	Confirmed	Manage in Place		
5	Room	C510	Ozone Depleting Substances	Water Fountain	N/A	Good Condition	Elkay	2	C	Confirmed	Manage in Place		R134a
6	Throughout Level	-	Silica	Concrete, Mortar, Etc.	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		
6	Throughout Level	-	Mercury	Fluorescent Light Tubes	N/A	Good Condition	N/A	-	-	Confirmed	Manage in Place		

APPENDIX G

Site Sampling & Location Plans



Legend:

- ▲ Asbestos Bulk Sample
- □ Lead Paint Sample <LOD
- ■ Lead Paint Sample >LOD
- ACM Vinyl Floor Tile (VFT)
- ACM Mechanical Insulation

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

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: LAMOUREUX HALL
HAZARDOUS MATERIALS SURVEY

TITLE: SAMPLE LOCATIONS
LEVEL 0

SCALE: 1:400

DATE: JULY 08, 2020

DRAWN: D.B.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A0

REV.:

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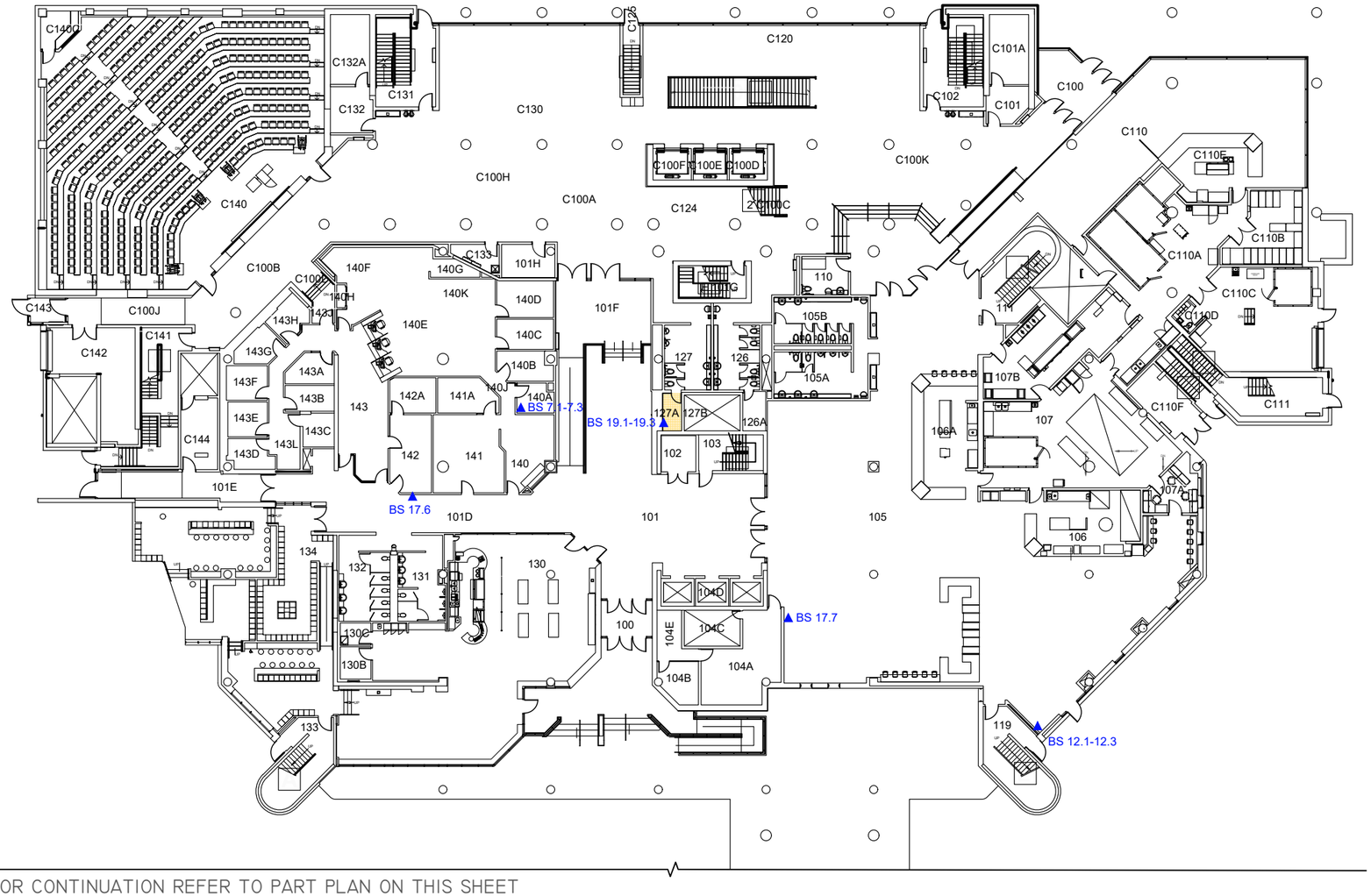

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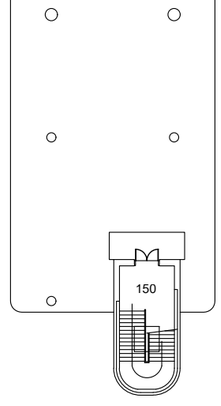

FOR CONTINUATION REFER TO PART PLAN ON THIS SHEET

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:

- ▲ Asbestos Bulk Sample
- □ Lead Paint Sample <LOD
- ■ Lead Paint Sample >LOD
- ACM Vinyl Floor Tile (VFT)
- ACM Mechanical Insulation

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: LAMOUREUX HALL
HAZARDOUS MATERIALS SURVEY

TITLE: SAMPLE LOCATIONS
LEVEL 1

SCALE: 1:400

DATE: JULY 08, 2020

DRAWN: D.B.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A1

REV.:

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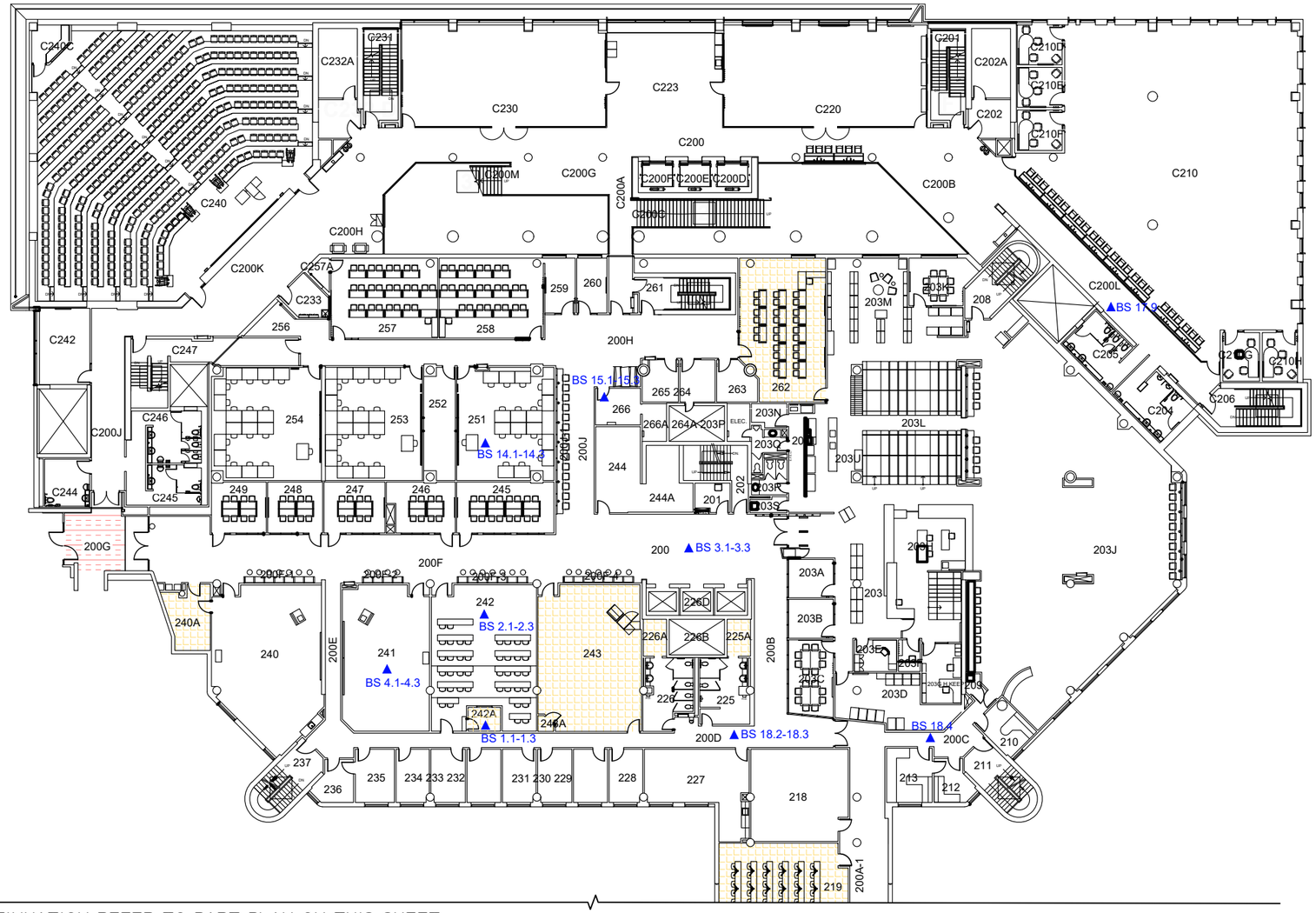


FOR CONTINUATION REFER TO PART PLAN ON THIS SHEET

FOR CONTINUATION REFER TO PART PLAN ON THIS SHEET

C:\USERS\DIANAB\ONEDRIVE - MCINTOSH PERRY\LMG DRAFTING\7. LAMOUREUX HALL\6 LAMOREAUX HALL.DWG

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:

- ▲ Asbestos Bulk Sample
- □ Lead Paint Sample <LOD
- ■ Lead Paint Sample >LOD
- ACM Vinyl Floor Tile (VFT)
- ACM Mechanical Insulation

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: LAMOUREUX HALL
HAZARDOUS MATERIALS SURVEY

TITLE: SAMPLE LOCATIONS
LEVEL 2

SCALE: 1:400

DATE: JULY 08, 2020

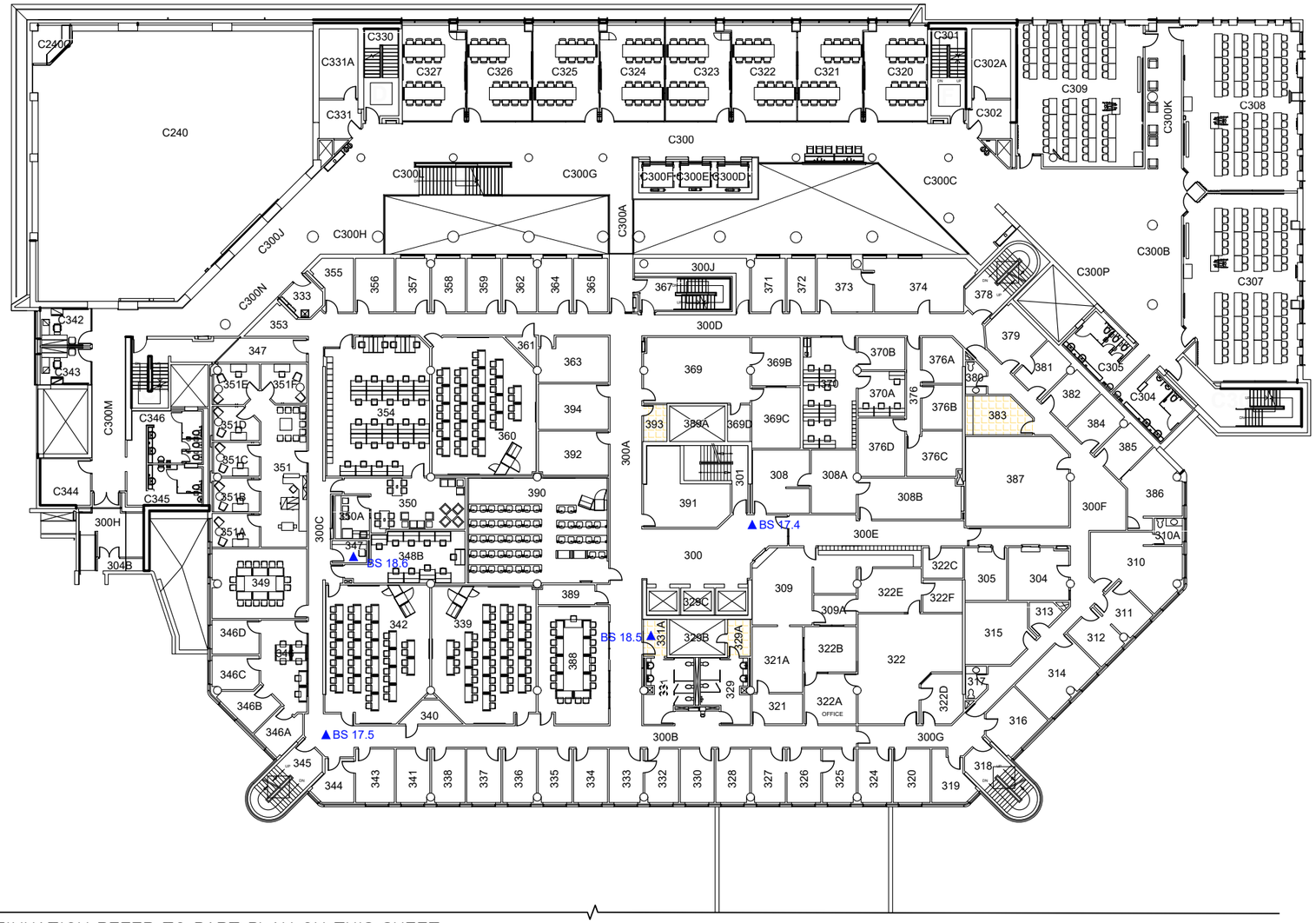
DRAWN: D.B.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

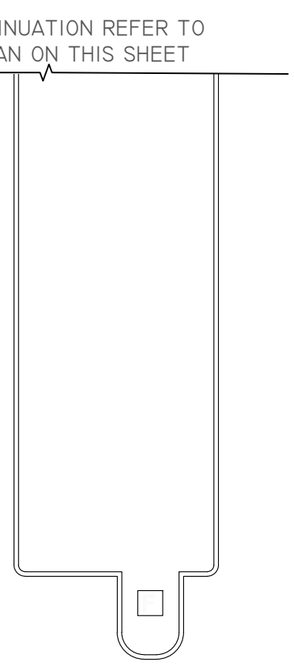
DRAWING NUMBER: A2

REV.:



FOR CONTINUATION REFER TO PART PLAN ON THIS SHEET

FOR CONTINUATION REFER TO PART PLAN ON THIS SHEET



C:\USERS\DIANAB\ONEDRIVE - MCINTOSH PERRY\LMG DRAFTING\7. LAMOUREUX HALL\16 LAMOREAUX HALL.DWG

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:

- ▲ Asbestos Bulk Sample
- □ Lead Paint Sample <LOD
- ■ Lead Paint Sample >LOD
- ACM Vinyl Floor Tile (VFT)
- ACM Mechanical Insulation

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: LAMOUREUX HALL
HAZARDOUS MATERIALS SURVEY

TITLE: SAMPLE LOCATIONS
LEVEL 3

SCALE: 1:400

DATE: JULY 08, 2020

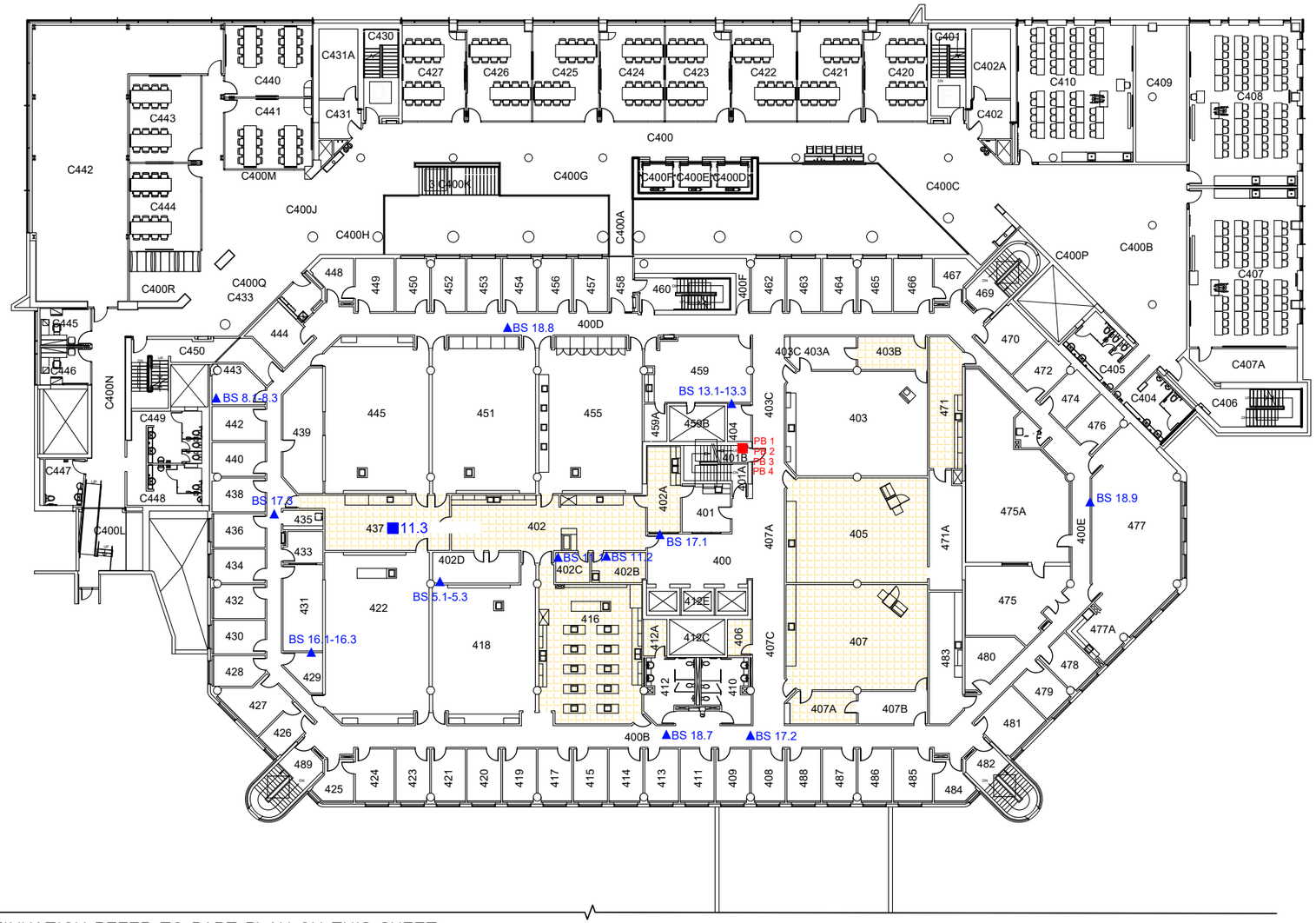
DRAWN: D.B.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A3

REV.:



FOR CONTINUATION REFER TO PART PLAN ON THIS SHEET

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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:

- ▲ Asbestos Bulk Sample
- □ Lead Paint Sample <LOD
- ■ Lead Paint Sample >LOD
- ACM Vinyl Floor Tile (VFT)
- ACM Mechanical Insulation

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: LAMOUREUX HALL
HAZARDOUS MATERIALS SURVEY

TITLE: SAMPLE LOCATIONS LEVEL 4

SCALE: 1:400

DATE: JULY 08, 2020

DRAWN: D.B.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A4

REV.:

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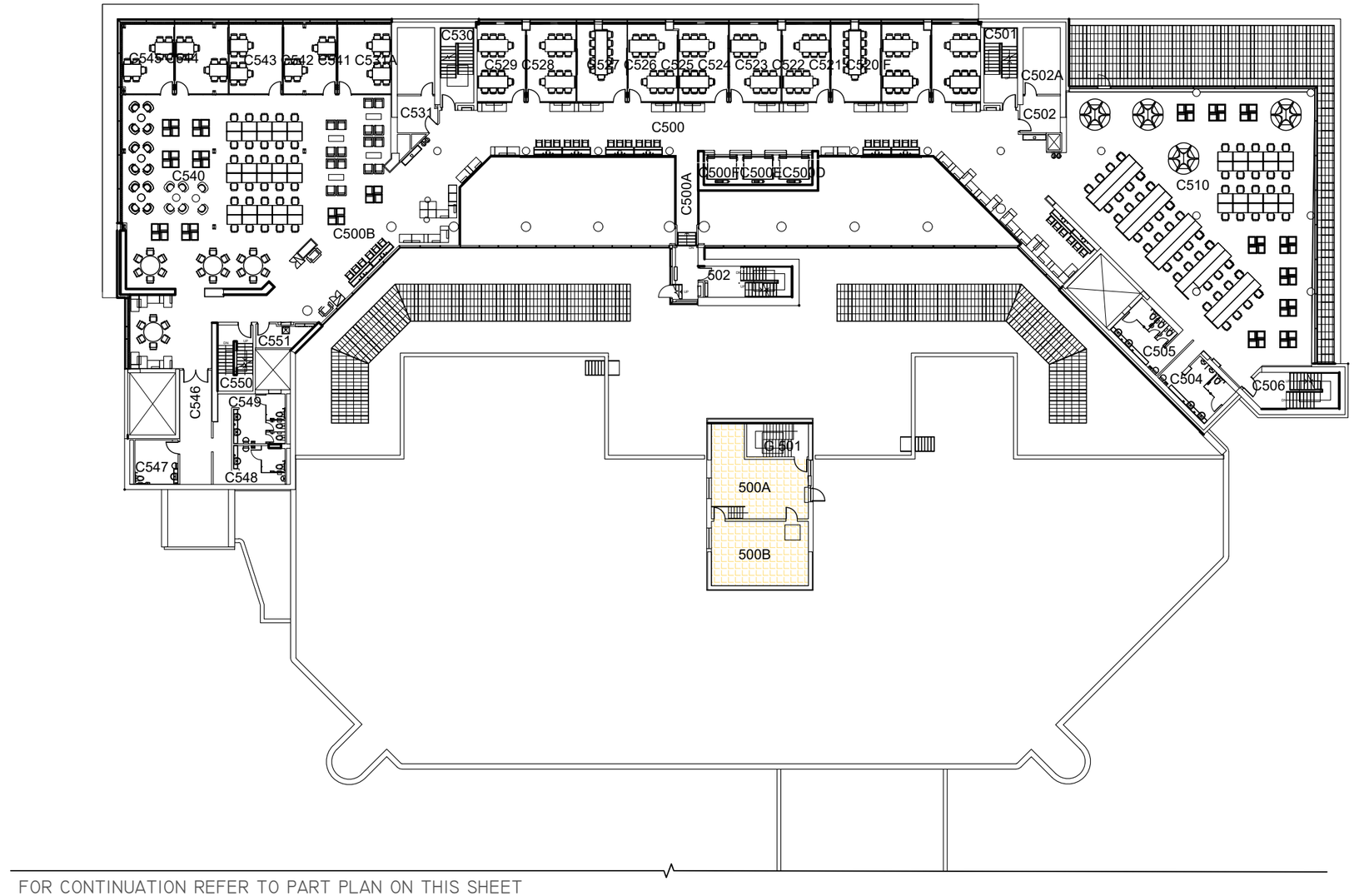

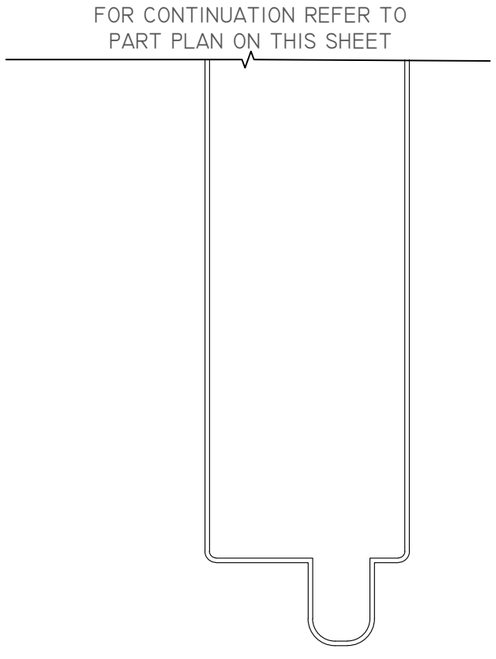

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Toll Free: 1.888.348.8991 www.mcintoshperry.com

Legend:

- ▲ Asbestos Bulk Sample
- □ Lead Paint Sample <LOD
- ■ Lead Paint Sample >LOD
- ACM Vinyl Floor Tile (VFT)
- ACM Mechanical Insulation

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: LAMOUREUX HALL
HAZARDOUS MATERIALS SURVEY

TITLE: SAMPLE LOCATIONS LEVEL 5

SCALE: 1:400

DATE: JULY 08, 2020

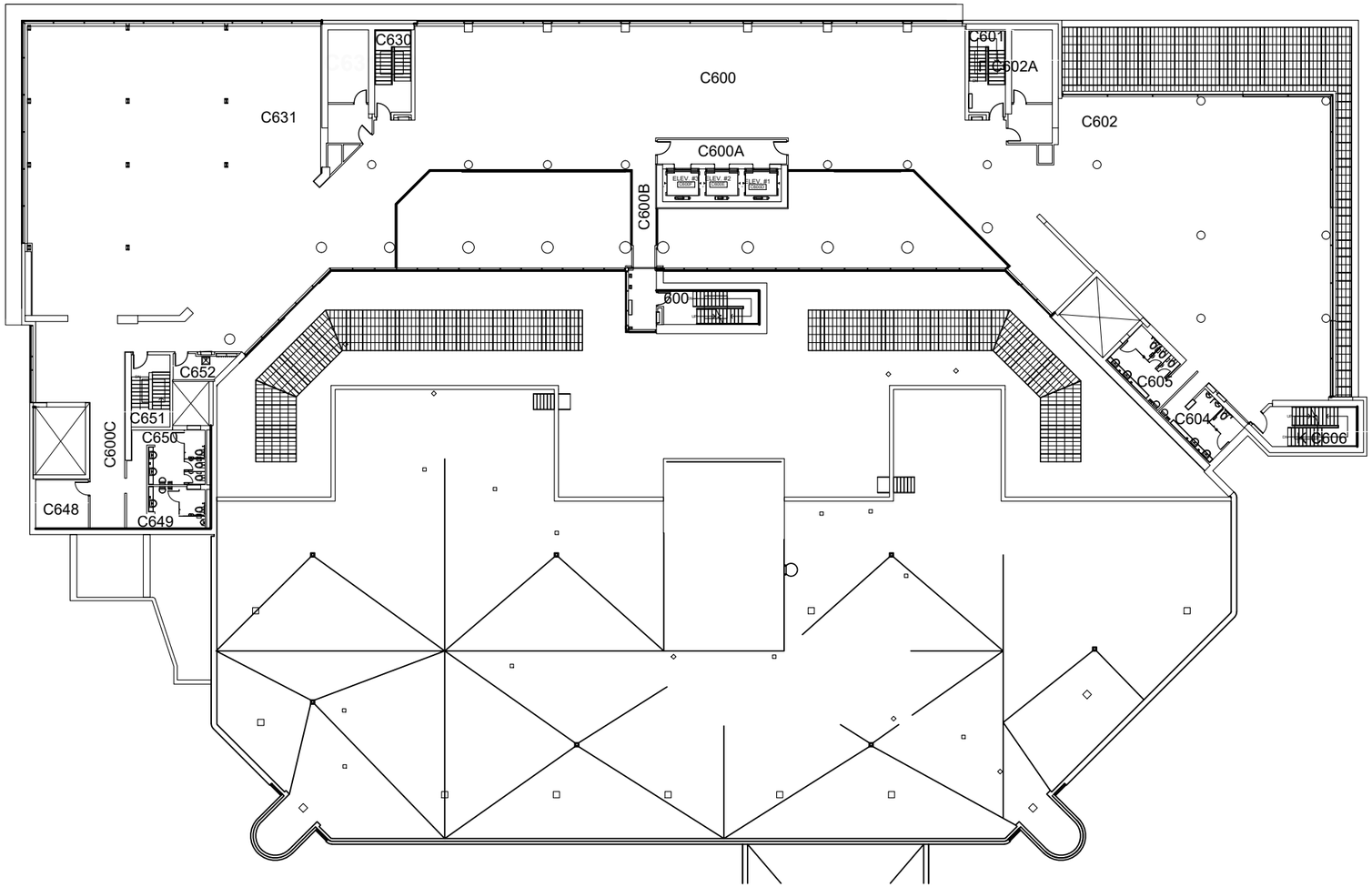
DRAWN: D.B.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A5

REV.:



Legend:

- Asbestos Bulk Sample
- Lead Paint Sample <LOD
- Lead Paint Sample >LOD
- ACM Vinyl Floor Tile (VFT)
- ACM Mechanical Insulation

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CLIENT: UNIVERSITY OF OTTAWA

PROJECT: LAMOUREUX HALL
HAZARDOUS MATERIALS SURVEY

TITLE: SAMPLE LOCATIONS
LEVEL 6

SCALE: 1:400

DATE: JULY 08, 2020

DRAWN: D.B.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A6

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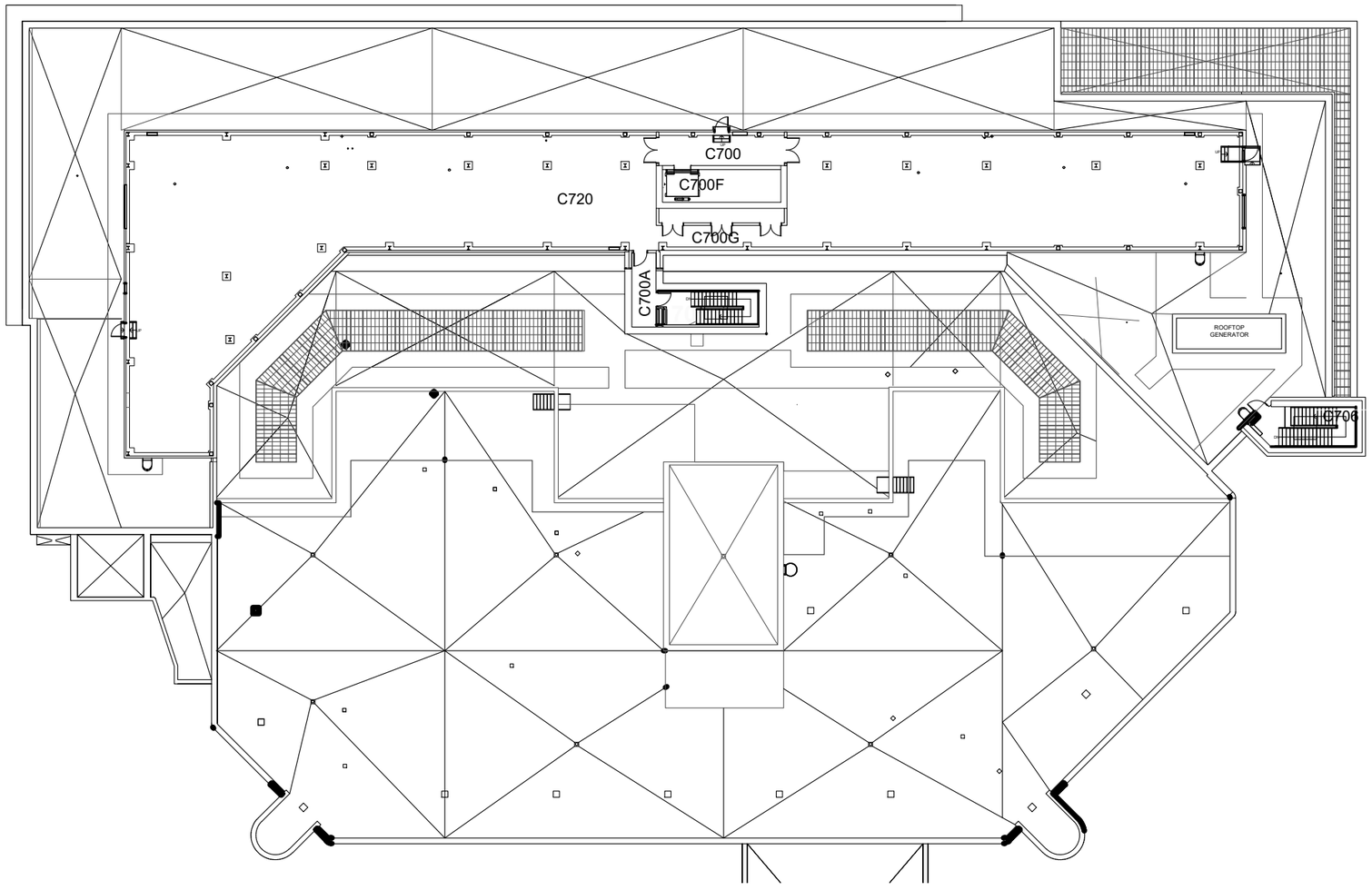

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Tel: 905.856.5200 Fax: 905.695.0221
Toll Free: 1.888.348.8991 www.mcintoshperry.com

Legend:

- ▲ Asbestos Bulk Sample
- □ Lead Paint Sample <LOD
- ■ Lead Paint Sample >LOD
- ACM Vinyl Floor Tile (VFT)
- ACM Mechanical Insulation

CLIENT: UNIVERSITY OF OTTAWA

PROJECT: LAMOUREUX HALL
HAZARDOUS MATERIALS SURVEY

TITLE: SAMPLE LOCATIONS
LEVEL 7

SCALE: 1:400

DATE: JULY 08, 2020

DRAWN: D.B.

CHECKED: M.M.

REV. NO.	DESCRIPTION	DATE	BY	APPD.

DRAWING NUMBER: A7

REV.:

C:\USERS\DIANA\ONEDRIVE - MCINTOSH PERRY\LMG DRAFTING\7- LAMOUREUX HALL\6 LAMOREAUX HALL.DWG