HAZARDOUS MATERIALS SURVEY AND 2022 REASSESSMENT MORISSET HALL, 65 UNIVERSITY PRIVATE, OTTAWA, ON

Project No.: Z1920014HZ / CCC-230252-00

Prepared for:

University of Ottawa

Prepared by:

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Date:

December 1, 2022

McINTOSH PERRY

TABLE OF CONTENTS

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 65 University Private. The survey was conducted on August 8th to 14th, 2019. **The reassessment was completed on July 12th, 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 Vinyl Floor Tiles was observed to be in Good Condition in various locations throughout the facility.
- ACM Vinyl Baseboard Mastic was observed to be in Good Condition in Room 0014.
- ACM Suspended Ceiling Tiles were observed to be in Good Condition throughout the facility.
- ACM Acoustic Wall Tiles were observed to be in Good Condition in Rooms 220 and 255.
- ACM Drywall Joint Compound was observed to be in Good Condition throughout the facility.
- ACM Ceiling Plaster was observed to be in Good Condition in Room 0035 and 218.
- ACM Texture Finish was observed to be in Good Condition in Room 217, 218A and 218C.
- ACM Parging Cement Pipe Fittings was observed to be in Good Condition throughout the facility.
- ACM Pipe Straight Insulation was observed to be in Good Condition throughout the facility.
- ACM Thermal Insulation in Heating Units was observed to be in Good Condition in Room 048.
- No mould affected or water damaged 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 Morisset Hall located at 65 University Private in Ottawa, ON. The survey was conducted between August 8th to 14th 2019. **The reassessment was completed on July 12th, 2022.**

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

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

Table A: Summary of Asbestos-Containing Materials Identified

Material Description	Friable?	Location	Type of Asbestos
Ceiling Tiles	-	Throughout Building	Multiple Types
Acoustic Wall Tiles	-	Specific Areas Only	Amosite
Vinyl Floor Tiles	No	Throughout Building	Chrysotile
Vinyl Baseboard Mastic	No	Specific Areas Only	Chrysotile
Mechanical Pipe Insulation	Yes	Specific Areas Only	Chrysotile
Drywall Joint Compound	-	Throughout Building	Chrysotile
Ceiling Plaster	Yes	Throughout Building	Tremolite
Texture Finishes	Yes	Specific Areas Only	Chrysotile
Thermal Insulation	No	Specific Areas Only	Chrysotile
Fire Doors	-	Throughout Building	Suspected
Roofing Materials	-	Roof	Suspected

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

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

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

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

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

Table B: Summary of Designated Substances & Hazardous Materials Identified

Material Description	Location
Lead Paint	Throughout Building
Lead Acid Batteries	Specific Areas Only
Mercury Liquid	Specific Areas Only
Ozone Depleted Substances	Specific Areas Only
Silica	Throughout Building
Mercury Vapour	Throughout Building
Above Ground Storage Tank (AST)	Specific Areas Only
Mould/ Water Damage	Specific Areas Only

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

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

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

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

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

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

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

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

McINTOSH PERRY

December 1, 2022

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Attention: Joel Lajeunesse, Project Manager

Re: Morisset Hall, University of Ottawa - 65 University Private
Hazardous Materials Survey and 2022 Reassessment
McIntosh Perry Limited Reference No. Z1920014HZ / CCC-230252-00

1.0 INTRODUCTION

In accordance with your instructions, McIntosh Perry Limited (MPL) carried out a Hazardous Materials Survey and 2022 Reassessment at Morisset Hall, the institutional building located at 65 University Private in Ottawa, ON. The site is situated on the northeast corner of the intersection of Copernicus Street and University Private. The survey of the building was conducted August 8th to 14th 2019. **The reassessment was completed on July 12th, 2022.**

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

MPL completed the following,

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

2.0 PROPERTY DESCRIPTION

The subject building is an eight-storey institutional building, covering approximately 276,000 square feet and constructed circa 1972. The subject building was observed to be constructed with a concrete slab floor, exterior walls, and roof deck. The interior walls were gypsum wallboard and concrete block. Ceilings were observed to be either concrete, suspended ceiling tiles or plaster on metal lathe. The floors generally consisted of terrazzo, vinyl floor tiles, ceramic tiles, and carpet.

3.0 FINDINGS & RECOMMENDATIONS

Designated Substances

3.1 Asbestos

Findings

A total of one hundred (100) bulk samples were collected during the survey and sent to an independent accredited laboratory for analysis. A summary of potential asbestos-containing samples collected along with the sample location, type and friability are presented in Table 1.

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

Table 1:

Asbestos Laboratory Results

Sample ID	Location	Material	Type and Content	Friability
BS 1.1	Room 602	Drywall Joint Compound (Grey)	None Detected	N/A
BS 1.2	Room 600G	Drywall Joint Compound (Grey)	None Detected	N/A
BS 1.3	Room 503	Drywall Joint Compound (Grey)	None Detected	N/A
BS 1.4	Room 403	Drywall Joint Compound (White)	None Detected	N/A
BS 1.5	Room 218B	Drywall Joint Compound (Beige)	None Detected	N/A
BS 1.6	Room 218	Drywall Joint Compound (Beige)	None Detected	N/A
BS 1.7	Room 202D	Drywall Joint Compound (Beige)	None Detected	N/A
BS 1.8	Room 130	Drywall Joint Compound (Grey)	None Detected	N/A
BS 1.9	Room 155	Drywall Joint Compound (Beige)	None Detected	N/A
BS 1.10	Room 022B	Drywall Joint Compound (Grey)	None Detected	N/A
BS 1.11	Room 038	Drywall Joint Compound (Off-White)	None Detected	N/A
BS 1.12	Room 043	Drywall Joint Compound (Beige)	None Detected	N/A
BS 1.13	Room 036	Drywall Joint Compound (White)	None Detected	N/A
BS 1.14	Room 001	Drywall Joint Compound (White)	None Detected	N/A
BS 2.1	Room 218	Ceiling Plaster (White)	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
		Ceiling Plaster (Beige)	None Detected	N/A
BS 2.2	**Room 218**	Ceiling Plaster (White)	None Detected	N/A
		Ceiling Plaster (Beige)	**1% Tremolite**	**Friable**
BS 2.3	Room 218	Ceiling Plaster (White)	None Detected	N/A
Bs 2.4	Room 218	Ceiling Plaster (White)	None Detected	N/A
BS 2.5	Room 218	Ceiling Plaster (White)	None Detected	N/A
BS 2.6	Room 218	Ceiling Plaster (White)	None Detected	N/A
BS 2.7	Room 218	Ceiling Plaster (White)	None Detected	N/A
BS 3.1	Room 219A	CT (2'X4'- Pinholes w/ Medium Fissures)	None Detected	N/A
BS 3.2	Room 219A	CT (2'X4'- Pinholes w/ Medium Fissures)	None Detected	N/A
BS 3.3	Room 219A	CT (2'X4'- Pinholes w/ Medium Fissures)	None Detected	N/A
BS 4.1	Room 602	CT (2'X4'- Pinholes w/ Small Fissures)	None Detected	N/A
BS 4.2	Room 602	CT (2'X4'- Pinholes w/ Small Fissures)	None Detected	N/A
BS 4.3	Room 602	CT (2'X4'- Pinholes w/ Small Fissures)	None Detected	N/A
BS 5.1	Room 0025B	Acoustic Wall Panel (Brown)	None Detected	N/A
BS 5.2	Room 0025B	Acoustic Wall Panel (Brown)	None Detected	N/A
BS 5.3	Room 0025B	Acoustic Wall Panel (Brown)	None Detected	N/A
BS 6.1	**Room 600G**	**CT (2'x'4 - Varying Pinholes)**	**1% Chrysotile**	-
BS 6.2	**Room 600G**	**CT (2'x'4 - Varying Pinholes)**	**Stop Positive**	-
BS 6.3	**Room 600G**	**CT (2'x'4 - Varying Pinholes)**	**Stop Positive**	-
BS 7.1	**Room 220**	**1'x1' Acoustic Wall Tile (Beige)**	**1% Amosite**	-
		Acoustic Wall Tile Mastic (Brown)	None Detected	N/A
BS 7.2	Room 220	Acoustic Wall Tile Mastic (Brown)	None Detected	N/A
BS 7.3	Room 220	Acoustic Wall Tile Mastic (Brown)	None Detected	N/A
BS 8.1	Room 0039	VFT (12"x12"-Beige w/ Pink and Blue Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 8.2	Room 0039	VFT (12"x12"-Beige w/ Pink and Blue Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 8.3	Room 0039	VFT (12"x12"-Beige w/ Pink and Blue Flakes)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 9.1	Room 0021	VFT (12"x12"-Dark Grey w/ White Streaks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 9.2	Room 0021	VFT (12"x12"-Dark Grey w/ White Streaks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 9.3	Room 0021	VFT (12"x12"-Dark Grey w/ White Streaks)	None Detected	N/A
		Mastic (Black)	None Detected	N/A

Sample ID	Location	Material	Type and Content	Friability
BS 10.1	Room 004	VFT (12”x12”- Grey w/ Light Flakes)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 10.2	Room 004	VFT (12”x12”- Grey w/ Light Flakes)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 10.3	Room 004	VFT (12”x12”- Grey w/ Light Flakes)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 11.1	Room 007D	VFT (12”x12”- Brown w/ White Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 11.2	Room 007D	VFT (12”x12”- Brown w/ White Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 11.3	Room 007D	VFT (12”x12”- Brown w/ White Spots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 12.1	Room 05	VFT (12”x12”- Brown w/ White Streak)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 12.2	Room 05	VFT (12”x12”- Brown w/ White Streak)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 12.3	Room 05	VFT (12”x12”- Brown w/ White Streak)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 13.1	Room 021	VFT (12”x12”- White w/ Blue Pink Flakes)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 13.2	Room 021	VFT (12”x12”- White w/ Blue Pink Flakes)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
BS 13.3	Room 021	VFT (12”x12”- White w/ Blue Pink Flakes)	None Detected	N/A
		Mastic (Yellow)	None Detected	N/A
Bs 14.1	Room 206	VFT (12”x12”- Beige w/ Blue Pink Dots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
Bs 14.2	Room 206	VFT (12”x12”- Beige w/ Blue Pink Dots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 14.3	Room 206	VFT (12”x12”- Beige w/ Blue Pink Dots)	None Detected	N/A
		Mastic (Black)	None Detected	N/A
BS 15.1	Room 503	Carpet Mastic (Yellow)	None Detected	N/A
BS 15.2	Room 503	Carpet Mastic (Yellow)	None Detected	N/A
BS 15.3	Room 503	Carpet Mastic (Yellow)	None Detected	N/A
BS 16.1	Room 218	Carpet Mastic (Grey)	None Detected	N/A
BS 16.2	Room 218	Carpet Mastic (Grey)	None Detected	N/A
BS 16.3	Room 218	Carpet Mastic (Grey)	None Detected	N/A
BS17.1	**Room 0014**	**Vinyl Baseboard Mastic (Brown)**	**1% Chrysotile**	**Non-Friable**

Sample ID	Location	Material	Type and Content	Friability
BS17.2	**Room 0014**	**Vinyl Baseboard Mastic (Brown)**	**Stop Positive**	**Non-Friable**
BS17.3	**Room 0014**	**Vinyl Baseboard Mastic (Brown)**	**Stop Positive**	**Non-Friable**
BS 18.1	Room 128B	Floor Coating (Beige/Red)	None Detected	N/A
BS 18.2	Room 128B	Floor Coating (Beige/Red)	None Detected	N/A
BS 18.3	Room 128B	Floor Coating (Beige/Red)	None Detected	N/A
BS 19.1	Room 0015	Wall Board (White/Grey)	None Detected	N/A
BS 19.2	Room 0015	Wall Board (White/Grey)	None Detected	N/A
BS 19.3	Room 0015	Wall Board (White/Grey)	None Detected	N/A

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

Please refer to Appendix E – Asbestos-Containing Materials Checklist for material conditions, approximate 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

Previously identified mechanical pipe straight insulation was observed in Rooms 0042D, 0048, 010A, 027A, 037, 0046, 047A, 051, 103A, 128B, 132A, 152A, 164E, 204A, 214, 241A, 304A, 306A, 311A, 319A, 402A, 413A, 431A, 440A, 622A, 701, 703, and 704. This material **contains 30% Chrysotile asbestos** and is considered to be friable. This material was observed to be in good condition with the exception of select areas which were observed in poor condition.

Mechanical pipe straight insulation was observed in Room 0042, 212, 402, 403, 431, 440, 400G, 503, 505, 506A, 509A, 510, 510A, 601A, 602, 608A, and 625A. 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

Previously identified parging cement mechanical insulation on pipe elbows/fittings was observed in Rooms 007, 0011, 0012, 0018, 0020, 0021, 0027, 0032, 0042A, 0042B, 0042C, 0050, 0051, 010A, 027A, 037, 037A, 044, 047A, 103A, 127, 128A, 128B, 128C, 132, 132A, 152A, 164E, 204A, 225B, 227, 253A, 304A, 306A, 311A, 319A, 400G, 402A, 413A, 431A, 440A, 503, 505A, 506A, 509A, 510A, 622A, 701, 703, 703A, and 704. This material was previously sampled in Room 0027 and was determined to **contain 65% Chrysotile asbestos.** It was also sampled

in Room 0042C and determined to **contain 10% Amosite and 15% Chrysotile asbestos** and is considered to be friable. This material was observed to be in good condition with the exception of select areas observed to be in poor condition.

3.1.2.3 Mechanical Piping Hangers Insulation

Mechanical pipe hanger insulation was observed in Room 0042, 400G. 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 not observed in the subject building.

3.1.2.5 Other Mechanical Insulation

Thermal Insulation in Heating Units was previously sampled in Room 048. The laboratory analytical results of the samples collected indicated that this material **contains 85% Chrysotile asbestos**. This material could not be assessed during the site survey as heating units were not disassembled. Based on the historical records, this material was encapsulated.

Thermal insulation behind metal panels inside the air handling unit (AHU) was previously sampled in Room 0042. The laboratory analytical results of the samples collected indicated that this material does not contain asbestos.

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 potential asbestos-containing heat shield or heat shield insulation were observed in the subject building.

3.1.5 Texture Finishes

Ceiling texture coating was observed in Room 217 and 218A and previously sampled in Room 218C. This material **contains 10% Chrysotile asbestos** and is considered to be friable. This material was observed to be in good condition.

3.1.6 Plaster

Ceiling plaster was observed throughout the second floor of the subject building and sampled in Room 218. The laboratory analytical results of the ceiling plaster samples collected indicated that this material **contains 1% Tremolite asbestos**.

Ceiling plaster was previously sampled in Room 0035. This material **contains <1% Tremolite asbestos**.

Since plaster is a homogeneous material, all areas must be treated as asbestos-containing unless additional testing confirms otherwise. This material is considered to be friable and was observed in good condition with the exception of select areas which were observed in poor condition.

3.1.7 Drywall Joint Compound

Drywall joint compound was observed throughout the walls and ceilings of the subject building and sampled from Rooms 001, 036, 043, 038, 022B, 155, 130, 202D, 218, 218B, 403, 503, 600G, and 602. The laboratory analytical results of the drywall joint compound samples collected indicated that this material does not contain asbestos.

Drywall joint compound was previously sampled in the ceiling space on mechanical equipment in Room 0035. This material **contains 2% Chrysotile asbestos**. Drywall joint compound in Room 0035 should therefore be considered to contain asbestos, until further laboratory analysis proves otherwise.

3.1.8 Ceiling/Wall Tiles

Several different types of ceiling/wall tiles were observed in various locations throughout the subject building.

- Suspended ceiling tiles (2'x4' – Beige w/ Varying Pinholes) were observed and sampled in Room 600G. The laboratory analytical results of the samples collected in Room 600G indicate that this material contains **1% Chrysotile asbestos**. Visually similar ceiling tiles were observed in Rooms 621, 502A, 418, 400F, 312, 302, 256, 250, 255, 221, 220, 130, 050, 043, 005, 0014, 0015, 0017, 0021, 0021A, 0025A, 0034, 0034A, 0035, 0040, This material was observed in good condition with the exception of select areas which were observed in poor condition.

- Acoustic glue-on wall tiles (1'x1' w/ Uniform Holes) were observed and sampled in Room 220. The laboratory analytical results indicate that this material **contains 1% Amosite asbestos**. The associated mastic (Brown) was determined not to contain asbestos. Visually similar acoustic glue-on wall tiles (1'x1' w/ Uniform Holes) were observed and previously sampled in Room 255. This material **contains 5% Amosite and 2% Chrysotile asbestos**. This material was observed in good condition, with the exception of select areas that were observed in poor condition.

- Suspended ceiling tiles (2'x4' – Pinholes w/ Medium Fissures) were observed and sampled in Room 219A. The laboratory analytical results indicate that this material does not contain asbestos.

- Suspended ceiling tiles (2'x4' – Pinholes w/ Small Fissures) were observed and sampled in Room 602. The laboratory analytical results indicate that this material does not contain asbestos.

- Acoustic glue-on wall panels (Brown w/ Uniform Holes) were observed in Room 0023A, 0023B, 0024B 0025A, 0025B, 0025 and sampled in Room 0025B. The laboratory analytical results indicate that this material does not contain asbestos.

- Acoustic Tiles (White & Grey) were observed and sampled in Room 0015. The laboratory analytical results indicate that this material does not contain asbestos.

- Suspended ceiling tiles (2'x4' – Pinholes w/ Large Fissures) were observed in Room 001A. The date stamp on the back of these tiles indicated that they were manufactured in 1995 and therefore, this material is not considered to contain asbestos.

- Suspended ceiling tiles (2'x4' – Varying Pinholes) were observed in Room 0023A. The date stamp on the back of these tiles indicated that they were manufactured in 1996 and therefore, this material is not considered to contain asbestos.

- Suspended ceiling tiles (2'x4' – Pinholes & Small Fissures) were observed in Room 218. The date stamp on the back of these tiles indicated that they were manufactured in 1997 and therefore, this material is not considered to contain asbestos.

- Suspended ceiling tiles (2'x4' – Pinholes & Small Fissures) were observed in Room 038. The date stamp on the back of these tiles indicated that they were manufactured in 2012 and therefore, this material is not considered to contain asbestos.

- Suspended ceiling tiles (2'x4' – Small Pinholes) were observed in Room 205. This material was visually identified as fiberglass, and therefore not suspected of containing 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" – White w/ Brown Flakes) were observed in Room 001, 001A, 007, 0014, 0015, 0017, 0019, 0019A, 0020, 0021, 0021A, 0022, 0023, 0024, 0026, 0027, 0034, 0035, 0035A, 0040, 035, 044, 043, 049, 050, 127, 128, 130, 205C, 218A, 218C, 218D, 219, 220, 221, and 256. This material **contains 19% Chrysotile asbestos**. This material is considered to be non-friable and was observed to be in good condition with the exception of select areas that were observed in fair and poor condition.

- Vinyl floor tiles (12"x12" - Beige w/ Pink and Blue Flakes) were observed and sampled in Room 0039. The laboratory analytical results of the samples collected indicated that this material does not contain asbestos. The associated mastic (Black) was also determined not to contain asbestos.

- Vinyl floor tiles (12"x12" - VFT (12"x12"-Dark Grey w/ White Streaks)) were observed and sampled in Room 0021. The laboratory analytical results of the samples collected indicated that this material does not contain asbestos. The associated mastic (Black) was also determined not to contain asbestos.

- Vinyl floor tiles (12”x12”- Grey w/ Light Flakes) were observed and sampled in Room 004. The laboratory analytical results of the samples collected indicated that this material does not contain asbestos. The associated mastic (Yellow) was also determined not to contain asbestos.

- Vinyl floor tiles (12”x12”- Brown w/ White Spots) were observed and sampled in Room 007D. The laboratory analytical results of the samples collected indicated that this material does not contain asbestos. The associated mastic (Black) was also determined not to contain asbestos.

- Vinyl floor tiles (12”x12”- Brown w/ White Streak) were observed and sampled in Room 05. The laboratory analytical results of the samples collected indicated that this material does not contain asbestos. The associated mastic (Black) was also determined not to contain asbestos.

- Vinyl floor tiles (12”x12”- White w/ Blue Pink Flakes) were observed and sampled in Room 021. The laboratory analytical results of the samples collected indicated that this material does not contain asbestos. The associated mastic (Yellow) was also determined not to contain asbestos.

- Vinyl floor tiles (12”x12”- Beige w/ Blue Pink Dots) were observed and sampled in Room 206. The laboratory analytical results of the samples collected indicated that this material does not contain asbestos. The associated mastic (Black) was also determined not to contain asbestos.

3.1.10 Transite (Asbestos Cement)

No transite (asbestos cement) materials were observed in the subject building.

3.1.11 Mastic

Several different types of mastics were observed and sampled within the subject building as follows:

- Vinyl baseboard mastic (Brown) was observed and sampled in Room 0014. The laboratory analytical results of the mastic samples collected indicate that this material does **contains 1% Chrysotile asbestos**. This material is considered non-friable and was observed in good condition.

- Carpet mastic (Yellow) was observed and sampled in Room 503. The laboratory analytical results of the mastic samples collected indicate that this material does not contain asbestos.

- Carpet mastic (Grey) was observed and sampled in Room 218. The laboratory analytical results of the mastic samples collected indicate that this material does not contain asbestos.

3.1.12 Caulking

Window caulking (Grey) was previously sampled throughout the subject building. The laboratory analytical results of the samples collected indicate that this material does not contain asbestos.

3.1.13 Floor Coating

Floor coating (Beige/Red) was observed and sampled in Room 128B. The laboratory analytical results of the samples collected indicate that this material does not contain asbestos.

3.1.14 Cementitious Coating

No cementitious coating finishes were observed in the subject building.

3.1.15 Fire Doors

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

3.1.16 Roofing Material

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

Recommendations

- Asbestos-containing materials identified to be in poor condition must be repaired/removed immediately, following Type 1/2/3 asbestos abatement work procedures as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;
- Asbestos-containing materials that have been identified to be in fair condition should be either repaired (where possible) and/or closely monitored for signs of further deterioration. Depending on type of material and location, these materials should be scheduled for removal if there is potential risk of exposure to worker and/or occupants;
- Materials identified to contain asbestos that are in good condition and do not pose a risk to workers or occupants can be managed in place. Prior to renovation/demolition activities that may disturb the ACMs, these materials must be removed following appropriate Type 1/2/3 asbestos abatement work procedures as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;
- Please refer to Appendix E – Asbestos-Containing Materials Checklist for material conditions, approximate quantities (where applicable), and recommended actions;
- Entry into ceiling spaces where asbestos-containing ceiling tiles are present will require Type 1/2 asbestos abatement procedures.

- Prior to renovation/demolition of materials which are assumed to be asbestos-containing (suspect materials which were not sampled, i.e., roofing materials and fire doors), these materials must either be tested for asbestos content or removed following appropriate asbestos abatement work procedures (Type 1/2/3) as detailed in O. Reg. 278/05 and disposed of as asbestos waste under O. Reg. 347;

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

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

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

3.2 Lead

Findings

3.2.1 Paint Finishes

A total of fifteen (15) 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 Results

Sample I.D.	Location	Material	Colour	Lead Concentration Weight by Conc. (%)
Pb-1	Room 128A	Wall Paint	Red	0.007
Pb-2	Room 212	Door Paint	Light Blue	0.116
Pb-3	Room 043A	Door Paint	Beige	0.0012
Pb-4	Room 128B	Floor Paint	Dark Red	0.0031

Sample I.D.	Location	Material	Colour	Lead Concentration Weight by Conc. (%)
Pb-5	Room 043B	Wall Paint	Light Yellow	0.0019
Pb-7	Room 0011	Floor Paint	Grey	0.0053
Pb-9	Room 0014	Floor Paint	Green	0.399
Pb-10	Room 041	Wall Paint	Light Green	<0.0005
Pb-11	Room 0037	Door Paint	Lime Green	<0.0005
Pb-12	Room 0042	Pipe Paint	Green	0.187
Pb-13	Room 0042	Pipe Paint	Yellow	5.84
Pb-14	Room 0042	Mechanical Equipment Paint	Black	0.692
Pb-15	Room 0042	Floor Paint	Orange	0.0022
Previously Identified Lead Paint Finishes				
MRT-B-LBP-122006-01	Room 001A	Door & Frame Paint	Blue	<0.04
MRT-1-LBP-122006-02	First Floor	Door & Frame Paint	Green	0.02
MRT-G-LBP-122006-02	Room 02A	Door & Frame Paint	Black	<0.19
MRT-2-LBP-122006-02	Room 215A	Wall Paint	Beige	<0.03
MRT-2-LBP-122006-02	Room 251	Wall Paint	Grey	<0.07
MRT-4-LBP-122006-02	Room 422A	Railing Paint	Orange	0.47

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

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

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

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

3.2.2 Battery Packs

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

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

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

Recommendations

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

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

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

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

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

Please refer to Appendix F – Hazardous Materials Checklist for material conditions, approximate 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

No thermostat switches suspected of containing mercury were identified in the subject building.

3.3.2 Fluorescent Light Tubes

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

3.3.3 Pressure Gauges and Float Switches

MPL identified pressure gauges containing liquid mercury in Room 038E.

Recommendations

Please refer to Appendix F – Hazardous Materials Checklist for equipment conditions, approximate 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, approximate 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 and were observed to be manufactured by Sylvannia.

3.5.2 Transformers

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

Recommendations

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

3.6 Ozone Depleting Substances (ODSs) and Other Halocarbon

Findings

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

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

Recommendations

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

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

3.7 Radioactive Materials

Findings

A visual assessment of the subject building was conducted to determine if any electrical components containing radioactive materials were present. MPL observed smoke detectors in Rooms 0025A, 0025B, 0026, and 218C which contain small quantities of radioactive material.

Recommendations

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

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

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

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

Findings

A visual survey of the subject building was conducted to determine if any USTs and ASTs were present. MPL observed a Diesel Storage Tank in Room 0042D.

Recommendations

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

Prior to any demolition in the buildings within the facility, all USTs and ASTs equipment must be decommissioned by a licensed contractor such that substances are contained and not released to the environment during decommissioning.

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 areas with 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 did not identify any areas affected by water damage.

Recommendations

Since no suspected mould growth or water damaged materials were observed or suspected 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

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

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APPENDIX A

Regulatory Requirements

REGULATORY REQUIREMENTS

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

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

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

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

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

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

The Ministry of Labour has designated the following substances:

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

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

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

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

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

APPENDIX B

Survey Methodology & Background Information

SURVEY METHODOLOGY

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

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

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

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 Fauteaux 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 & Associates (dated December 2007, reference # 45870(14));
- Asbestos Abatement Report by Conestoga-Rovers & Associates (dated July 14 2010, reference # 071916);
- Asbestos Sampling Memorandum by Conestoga-Rovers & Associates (dated June 15 2009, reference # 07966Memo-176);

- Asbestos Abatement Report by EHS (report dated June 30, 2011, EHS Project No. 04-0033-11-015);
- Asbestos Assessment Report by EHS (dated February 9, 2012, EHS Project No.: 04-0033-12-003);
- Pre-Construction Asbestos Containing Materials Assessment by EHS (report dated October 16, 2013, EHS Project No. 04-0033-13-055);
- Asbestos Sampling Report by EHS (report dated June 4, 2014, EHS Project No. 04-0033-14-020);
- Potential Asbestos Containing Material Assessment Report by EHS (dated October 14 2014, EHS Project No.: 04-0033-14-048);
- Asbestos Assessment Report by EHS (dated February 10, 2012, EHS Project No.: 04-0033-12-002);
- Project Specific Asbestos Sampling Report by EHS (dated February 29, 2012, EHS Project No.: 04-0033-12-0-007);
- Asbestos Abatement Report by EHS (report dated June 19, 2012, EHS Project No. 04-0033-12-022);
- Project Specific Designated Substance Report by CM3 (report dated April 3, 2018, CM3 Project No. TLW 1871);
- Asbestos Analysis Report by CM3 (report dated November 15, 2017, CM3 Project No. TLW1647);
- Asbestos Sampling Report by CM3 (report dated May 29, 2018, CM3 Project No. TLW1958);
- Asbestos Air Samplig Report by CM3 (report dated December 4, 2018, CM3 Project No. TLW2242);
- Asbestos Sampling Report by CM3 (report dated December 4, 2018, CM3 Project No. TLW2242);
- Asbestos Abatement Report by CM3 (report dated January 10, 2019, CM3 Project No. TLW2270);
- Asbestos Abatement Report by CM3 (report dated March 6, 2019, CM3 Project No. TLW2402);
- Asbestos Abatement Report by CM3 (report dated March 23, 2019, CM3 Project No. TLW2357); and,
- Asbestos Abatement Report by CM3 (report dated December 22, 2017, CM3 Project No. TLW1751).

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

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.

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.

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

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

Polychlorinated Biphenyls (PCBs)

Background Information on PCBs

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

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

PCB Regulations (SOR/2008-273)

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

Ozone Depleting Substances (ODSs) and Other Halocarbons

Background Information on ODSs

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

Radioactive Materials

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

Mould & Water Damage

Mould growth inside buildings is due to excess moisture caused by leakages, condensation or capillary movement of water into the building. Toxic moulds such as *Stachybotrys chartarum* and some species of *Aspergillus* spp. are greenish-black, wet and slimy moulds that grow on soaking wet cellulose-based materials. They are often found near water leaks or where drying is very slow and can form after flooding if insufficient cleanup and drying occurred. They will generally not occur if materials are kept dry.

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

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

Other Designated Substances

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

Vinyl Chloride

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

Acrylonitrile

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

Arsenic

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

Benzene

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

Coke Oven Emissions

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

Ethylene Oxides

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

Isocyanates

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

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

APPENDIX C

Laboratory Analytical Reports

PARACEL LABORATORIES LTD.
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Certificate of Analysis

McIntosh Perry Limited (Concord)

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

Client PO:
Project: Z1920014HZ (Morisset Hall)
Custody:

Report Date: 26-Nov-2019
Order Date: 15-Nov-2019
Revised Report

Order #: 1947013

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

Paracel ID	Client ID
1947013-01	BS1.1 Drywall Joint Compound
1947013-02	BS1.2 Drywall Joint Compound
1947013-03	BS1.3 Drywall Joint Compound
1947013-04	BS1.4 Drywall Joint Compound
1947013-05	BS1.5 Drywall Joint Compound
1947013-06	BS1.6 Drywall Joint Compound
1947013-07	BS1.7 Drywall Joint Compound
1947013-08	BS1.8 Drywall Joint Compound
1947013-09	BS1.9 Drywall Joint Compound
1947013-10	BS1.10 Drywall Joint Compound
1947013-11	BS1.11 Drywall Joint Compound
1947013-12	BS1.12 Drywall Joint Compound
1947013-13	BS1.13 Drywall Joint Compound
1947013-14.1	BS1.14 Drywall Joint Compound
1947013-14.2	BS1.14 Drywall Joint Compound
1947013-15.1	BS2.1 Ceilling Plaster
1947013-15.2	BS2.1 Ceilling Plaster
1947013-16.1	BS2.2 Ceilling Plaster
1947013-16.2	BS2.2 Ceilling Plaster
1947013-17	BS2.3 Ceilling Plaster
1947013-18	BS2.4 Ceilling Plaster
1947013-19	BS2.5 Ceilling Plaster
1947013-20	BS2.6 Ceilling Plaster
1947013-21	BS2.7 Ceilling Plaster
1947013-22	BS3.1 2x4 CT Pinholes With Medium Fissures
1947013-23	BS3.2 2x4 CT Pinholes With Medium Fissures

Approved By:

Emma Diaz
Senior Analyst

1947013-24	BS3.3 2x4 CT Pinholes With Medium Fissures
1947013-25	BS4.1 2x4 CT Pinholes With Small Fissures
1947013-26	BS4.2 2x4 CT Pinholes With Small Fissures
1947013-27	BS4.3 2x4 CT Pinholes With Small Fissures
1947013-28	BS5.1 Acoustic Wall Parel
1947013-29	BS5.2 Acoustic Wall Parel
1947013-30	BS5.3 Acoustic Wall Parel
1947013-31	BS6.1 2x4 CT Pinholes
1947013-32	BS6.2 2x4 CT Pinholes
1947013-33	BS6.3 2x4 CT Pinholes
1947013-34.1	BS7.1 Acoustic Wall Tile Mastic (Brown)
1947013-34.2	BS7.1 Acoustic Wall Tile Mastic (Brown)
1947013-35.1	BS7.2 Acoustic Wall Tile Mastic (Brown)
1947013-35.2	BS7.2 Acoustic Wall Tile Mastic (Brown)
1947013-36.1	BS7.3 Acoustic Wall Tile Mastic (Brown)
1947013-36.2	BS7.3 Acoustic Wall Tile Mastic (Brown)
1947013-37.1	BS8.1 12 x 12 VFT Beige with Pink and Blue Flakes
1947013-37.2	BS8.1 12 x 12 VFT Beige with Pink and Blue Flakes
1947013-38.1	BS8.2 12 x 12 VFT Beige with Pink and Blue Flakes
1947013-38.2	BS8.2 12 x 12 VFT Beige with Pink and Blue Flakes
1947013-39.1	BS8.3 12 x 12 VFT Beige with Pink and Blue Flakes
1947013-39.2	BS8.3 12 x 12 VFT Beige with Pink and Blue Flakes
1947013-40.1	BS9.1 12 x 12 VFT Dark Grey with White Streaks
1947013-40.2	BS9.1 12 x 12 VFT Dark Grey with White Streaks
1947013-41.1	BS9.2 12 x 12 VFT Dark Grey with White Streaks
1947013-41.2	BS9.2 12 x 12 VFT Dark Grey with White Streaks
1947013-42.1	BS9.3 12 x 12 VFT Dark Grey with White Streaks
1947013-42.2	BS9.3 12 x 12 VFT Dark Grey with White Streaks
1947013-43.1	BS10.1 12 x 12 VFT Grey with Kight Flakes
1947013-43.2	BS10.1 12 x 12 VFT Grey with Kight Flakes
1947013-44	BS10.2 12 x 12 VFT Grey with Kight Flakes
1947013-45.1	BS10.3 12 x 12 VFT Grey with Kight Flakes
1947013-45.2	BS10.3 12 x 12 VFT Grey with Kight Flakes
1947013-46.1	BS11.1 12 x 12 VFT Brown with White Spots
1947013-46.2	BS11.1 12 x 12 VFT Brown with White Spots
1947013-47.1	BS11.2 12 x 12 VFT Brown with White Spots
1947013-47.2	BS11.2 12 x 12 VFT Brown with White Spots
1947013-48.1	BS11.3 12 x 12 VFT Brown with White Spots
1947013-48.2	BS11.3 12 x 12 VFT Brown with White Spots
1947013-49.1	BS12.1 12 x 12 VFT Blue with White Streaks (Black Mastic)
1947013-49.2	BS12.1 12 x 12 VFT Blue with White Streaks (Black Mastic)
1947013-50.1	BS12.2 12 x 12 VFT Blue with White Streaks (Black Mastic)
1947013-50.2	BS12.2 12 x 12 VFT Blue with White Streaks (Black Mastic)
1947013-51.1	BS12.3 12 x 12 VFT Blue with White Streaks (Black Mastic)

1947013-51.2	BS12.3 12 x 12 VFT Blue with White Streaks (Black Mastic)
1947013-52.1	BS13.1 12 x 12 VFT White with Blue Pink Flakes
1947013-52.2	BS13.1 12 x 12 VFT White with Blue Pink Flakes
1947013-53.1	BS13.2 12 x 12 VFT White with Blue Pink Flakes
1947013-53.2	BS13.2 12 x 12 VFT White with Blue Pink Flakes
1947013-54.1	BS13.3 12 x 12 VFT White with Blue Pink Flakes
1947013-54.2	BS13.3 12 x 12 VFT White with Blue Pink Flakes
1947013-55.1	BS14.1 12 x 12 VFT Beige with Blue Pink Dots
1947013-55.2	BS14.1 12 x 12 VFT Beige with Blue Pink Dots
1947013-56.1	BS14.2 12 x 12 VFT Beige with Blue Pink Dots
1947013-56.2	BS14.2 12 x 12 VFT Beige with Blue Pink Dots
1947013-57.1	BS14.3 12 x 12 VFT Beige with Blue Pink Dots
1947013-57.2	BS14.3 12 x 12 VFT Beige with Blue Pink Dots
1947013-58	BS15.1 Carpet Mastic Yellow
1947013-59	BS15.2 Carpet Mastic Yellow
1947013-60	BS15.3 Carpet Mastic Yellow
1947013-61	BS16.1 Carpet Mastic Grey
1947013-62	BS16.2 Carpet Mastic Grey
1947013-63	BS16.3 Carpet Mastic Grey
1947013-64	BS17.1 Brown Vinyl Baseboard Mastic
1947013-65	BS17.2 Brown Vinyl Baseboard Mastic
1947013-66	BS17.3 Brown Vinyl Baseboard Mastic
1947013-67	BS18.1 Loading Dock Floor Coating
1947013-68	BS18.2 Loading Dock Floor Coating
1947013-69	BS18.3 Loading Dock Floor Coating
1947013-70	BS19.1 Wall Board
1947013-71	BS19.2 Wall Board
1947013-72	BS19.3 Wall Board

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-01	09-Aug-19	Grey	Drywall Joint Compound	No	**Client ID: BS1.1 Drywall Joint Compound**	
					Non-Fibers	100
1947013-02	09-Aug-19	Grey	Drywall Joint Compound	No	**Client ID: BS1.2 Drywall Joint Compound**	
					Non-Fibers	100
1947013-03	09-Aug-19	Grey	Drywall Joint Compound	No	**Client ID: BS1.3 Drywall Joint Compound**	
					Non-Fibers	100
1947013-04	09-Aug-19	White	Drywall Joint Compound	No	**Client ID: BS1.4 Drywall Joint Compound**	
					Non-Fibers	100
1947013-05	09-Aug-19	Beige	Leveling Compound	No	**Client ID: BS1.5 Drywall Joint Compound**	
					Non-Fibers	100
1947013-06	09-Aug-19	Beige	Leveling Compound	No	**Client ID: BS1.6 Drywall Joint Compound**	
					Non-Fibers	100
1947013-07	09-Aug-19	Grey	Drywall Joint Compound	No	**Client ID: BS1.7 Drywall Joint Compound**	
					Non-Fibers	100
1947013-08	09-Aug-19	Grey	Drywall Joint Compound	No	**Client ID: BS1.8 Drywall Joint Compound**	
					Non-Fibers	100
1947013-09	09-Aug-19	Beige	Leveling Compound	No	**Client ID: BS1.9 Drywall Joint Compound**	
					Non-Fibers	100
1947013-10	09-Aug-19	Grey	Drywall Joint Compound	No	**Client ID: BS1.10 Drywall Joint Compound**	
					Non-Fibers	100
1947013-11	09-Aug-19	Off-white	Drywall Joint Compound	No	**Client ID: BS1.11 Drywall Joint Compound**	
					Non-Fibers	100
1947013-12	09-Aug-19	Beige	Leveling Compound	No	**Client ID: BS1.12 Drywall Joint Compound**	
					Non-Fibers	100

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-13	09-Aug-19	White	Drywall Joint Compound	No	**Client ID: BS1.13 Drywall Joint Compound**	
					Non-Fibers	100
1947013-14.1	09-Aug-19	White	Drywall Joint Compound	No	**Client ID: BS1.14 Drywall Joint Compound**	
					Non-Fibers	100
1947013-14.2	09-Aug-19	Yellow	Mastic	No	**Client ID: BS1.14 Drywall Joint Compound**	
					Non-Fibers	100
1947013-15.1	09-Aug-19	White	Plaster	No	**Client ID: BS2.1 Ceilling Plaster**	
					Non-Fibers	100
1947013-15.2	09-Aug-19	Beige	Plaster	No	**Client ID: BS2.1 Ceilling Plaster**	[Z-01]
					Non-Fibers	100
1947013-16.1	09-Aug-19	White	Plaster	No	**Client ID: BS2.2 Ceilling Plaster**	
					Non-Fibers	100
1947013-16.2	09-Aug-19	Beige	Plaster	**Yes**	**Client ID: BS2.2 Ceilling Plaster**	
					Tremolite	1
					Non-Fibers	99
1947013-17	09-Aug-19	White	Plaster	No	**Client ID: BS2.3 Ceilling Plaster**	
					Non-Fibers	100
1947013-18	09-Aug-19	White	Plaster	No	**Client ID: BS2.4 Ceilling Plaster**	
					Non-Fibers	100
1947013-19	09-Aug-19	White	Plaster	No	**Client ID: BS2.5 Ceilling Plaster**	
					Non-Fibers	100
1947013-20	09-Aug-19	White	Plaster	No	**Client ID: BS2.6 Ceilling Plaster**	
					Non-Fibers	100
1947013-21	09-Aug-19	White	Plaster	No	**Client ID: BS2.7 Ceilling Plaster**	
					Non-Fibers	100

Certificate of Analysis

Report Date: 26-Nov-2019

Client: McIntosh Perry Limited (Concord)

Order Date: 15-Nov-2019

Client PO:

Project Description: Z1920014HZ (Morisset Hall)

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-22	09-Aug-19	White/Beige	Ceiling Tile	No	**Client ID: BS3.1 2x4 CT Pinholes With Medium Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1947013-23	09-Aug-19	White/Beige	Ceiling Tile	No	**Client ID: BS3.2 2x4 CT Pinholes With Medium Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1947013-24	09-Aug-19	White/Beige	Ceiling Tile	No	**Client ID: BS3.3 2x4 CT Pinholes With Medium Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1947013-25	09-Aug-19	White/Beige	Ceiling Tile	No	**Client ID: BS4.1 2x4 CT Pinholes With Small Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1947013-26	09-Aug-19	White/Beige	Ceiling Tile	No	**Client ID: BS4.2 2x4 CT Pinholes With Small Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1947013-27	09-Aug-19	White/Beige	Ceiling Tile	No	**Client ID: BS4.3 2x4 CT Pinholes With Small Fissures**	
					Cellulose	40
					MMVF	30
					Non-Fibers	30
1947013-28	09-Aug-19	Brown	Wall Panel	No	**Client ID: BS5.1 Acoustic Wall Parel** [AS-PRE]	
					Cellulose	95
					Non-Fibers	5

Certificate of Analysis

Report Date: 26-Nov-2019

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Order Date: 15-Nov-2019

Client PO:

Project Description: Z1920014HZ (Morisset Hall)

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-29	09-Aug-19	Brown	Wall Panel	No	**Client ID: BS5.2 Acoustic Wall Parel** [AS-PRE]	
					Cellulose	95
					Non-Fibers	5
1947013-30	09-Aug-19	Brown	Wall Panel	No	**Client ID: BS5.3 Acoustic Wall Parel** [AS-PRE]	
					Cellulose	95
					Non-Fibers	5
1947013-31	09-Aug-19	Beige/Pink	Ceiling Tile	**Yes**	**Client ID: BS6.1 2x4 CT Pinholes**	
					Chrysotile	1
					Cellulose	20
					MMVF	50
					Non-Fibers	29
1947013-32	09-Aug-19				**Client ID: BS6.2 2x4 CT Pinholes**	
					not analyzed	
1947013-33	09-Aug-19				**Client ID: BS6.3 2x4 CT Pinholes**	
					not analyzed	
1947013-34.1	09-Aug-19	Beige	Ceiling Tile	**Yes**	**Client ID: BS7.1 Acoustic Wall Tile Mastic (Brown)**	
					Amosite	1
					MMVF	69
					Non-Fibers	30
1947013-34.2	09-Aug-19	Brown	Mastic	No	**Client ID: BS7.1 Acoustic Wall Tile Mastic (Brown)**	
					Non-Fibers	100
1947013-35.1	09-Aug-19	Brown	Mastic	No	**Client ID: BS7.2 Acoustic Wall Tile Mastic (Brown)**	
					Non-Fibers	100
1947013-35.2	09-Aug-19				**Client ID: BS7.2 Acoustic Wall Tile Mastic (Brown)**	
					not analyzed	

Certificate of Analysis

Report Date: 26-Nov-2019

Client: McIntosh Perry Limited (Concord)

Order Date: 15-Nov-2019

Client PO:

Project Description: Z1920014HZ (Morisset Hall)

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-36.1	09-Aug-19	Brown	Mastic	No	**Client ID: BS7.3 Acoustic Wall Tile Mastic (Brown)**	
					Non-Fibers	100
1947013-36.2	09-Aug-19				**Client ID: BS7.3 Acoustic Wall Tile Mastic (Brown)**	
					not analyzed	
1947013-37.1	09-Aug-19	Beige	Floor Tile	No	**Client ID: BS8.1 12 x 12 VFT Beige with Pink and Blue Flakes**	
					Non-Fibers	100
1947013-37.2	09-Aug-19	Black	Mastic	No	**Client ID: BS8.1 12 x 12 VFT Beige with Pink and Blue Flakes**	
					Non-Fibers	100
1947013-38.1	09-Aug-19	Beige	Floor Tile	No	**Client ID: BS8.2 12 x 12 VFT Beige with Pink and Blue Flakes**	
					Non-Fibers	100
1947013-38.2	09-Aug-19	Black	Mastic	No	**Client ID: BS8.2 12 x 12 VFT Beige with Pink and Blue Flakes**	
					Non-Fibers	100
1947013-39.1	09-Aug-19	Beige	Floor Tile	No	**Client ID: BS8.3 12 x 12 VFT Beige with Pink and Blue Flakes**	
					Non-Fibers	100
1947013-39.2	09-Aug-19	Black	Mastic	No	**Client ID: BS8.3 12 x 12 VFT Beige with Pink and Blue Flakes**	
					Non-Fibers	100
1947013-40.1	09-Aug-19	Grey	Floor Tile	**Yes**	**Client ID: BS9.1 12 x 12 VFT Dark Grey with White Streaks**	
					Chrysotile	1
					Non-Fibers	99
1947013-40.2	09-Aug-19	Black	Mastic	No	**Client ID: BS9.1 12 x 12 VFT Dark Grey with White Streaks**	
					Non-Fibers	100
1947013-41.1	09-Aug-19				**Client ID: BS9.2 12 x 12 VFT Dark Grey with White Streaks**	
					not analyzed	
1947013-41.2	09-Aug-19				**Client ID: BS9.2 12 x 12 VFT Dark Grey with White Streaks**	
					not analyzed	

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-42.1	09-Aug-19	Black	Mastic	No	**Client ID: BS9.3 12 x 12 VFT Dark Grey with White Streaks**	
					Non-Fibers	100
1947013-42.2	09-Aug-19				**Client ID: BS9.3 12 x 12 VFT Dark Grey with White Streaks**	
					not analyzed	
1947013-43.1	09-Aug-19	Grey	Floor Tile	No	**Client ID: BS10.1 12 x 12 VFT Grey with Kight Flakes**	
					Non-Fibers	100
1947013-43.2	09-Aug-19	Yellow	Mastic	No	**Client ID: BS10.1 12 x 12 VFT Grey with Kight Flakes**	
					Non-Fibers	100
1947013-44	09-Aug-19	Grey	Floor Tile	No	**Client ID: BS10.2 12 x 12 VFT Grey with Kight Flakes**	
					Non-Fibers	100
1947013-45.1	09-Aug-19	Grey	Floor Tile	No	**Client ID: BS10.3 12 x 12 VFT Grey with Kight Flakes**	
					Non-Fibers	100
1947013-45.2	09-Aug-19	Yellow	Mastic	No	**Client ID: BS10.3 12 x 12 VFT Grey with Kight Flakes**	
					Non-Fibers	100
1947013-46.1	09-Aug-19	Brown	Floor Tile	No	**Client ID: BS11.1 12 x 12 VFT Brown with White Spots**	
					Non-Fibers	100
1947013-46.2	09-Aug-19	Black	Mastic	No	**Client ID: BS11.1 12 x 12 VFT Brown with White Spots**	
					Non-Fibers	100
1947013-47.1	09-Aug-19	Brown	Floor Tile	No	**Client ID: BS11.2 12 x 12 VFT Brown with White Spots**	
					Non-Fibers	100
1947013-47.2	09-Aug-19	Black	Mastic	No	**Client ID: BS11.2 12 x 12 VFT Brown with White Spots**	
					Non-Fibers	100
1947013-48.1	09-Aug-19	Brown	Floor Tile	No	**Client ID: BS11.3 12 x 12 VFT Brown with White Spots**	
					Non-Fibers	100

Certificate of Analysis

Report Date: 26-Nov-2019

Client: McIntosh Perry Limited (Concord)

Order Date: 15-Nov-2019

Client PO:

Project Description: Z1920014HZ (Morisset Hall)

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-48.2	09-Aug-19	Black	Mastic	No	**Client ID: BS11.3 12 x 12 VFT Brown with White Spots**	
					Non-Fibers	100
1947013-49.1	09-Aug-19	Blue	Floor Tile	No	**Client ID: BS12.1 12 x 12 VFT Blue with White Streaks (Black Mastic)**	
					Non-Fibers	100
1947013-49.2	09-Aug-19	Black	Mastic	No	**Client ID: BS12.1 12 x 12 VFT Blue with White Streaks (Black Mastic)**	
					Non-Fibers	100
1947013-50.1	09-Aug-19	Blue	Floor Tile	No	**Client ID: BS12.2 12 x 12 VFT Blue with White Streaks (Black Mastic)**	
					Non-Fibers	100
1947013-50.2	09-Aug-19	Black	Mastic	No	**Client ID: BS12.2 12 x 12 VFT Blue with White Streaks (Black Mastic)**	
					Non-Fibers	100
1947013-51.1	09-Aug-19	Blue	Floor Tile	No	**Client ID: BS12.3 12 x 12 VFT Blue with White Streaks (Black Mastic)**	
					Non-Fibers	100
1947013-51.2	09-Aug-19	Black	Mastic	No	**Client ID: BS12.3 12 x 12 VFT Blue with White Streaks (Black Mastic)**	
					Non-Fibers	100
1947013-52.1	09-Aug-19	White	Floor Tile	No	**Client ID: BS13.1 12 x 12 VFT White with Blue Pink Flakes**	
					Non-Fibers	100
1947013-52.2	09-Aug-19	Yellow	Mastic	No	**Client ID: BS13.1 12 x 12 VFT White with Blue Pink Flakes**	
					Non-Fibers	100
1947013-53.1	09-Aug-19	White	Floor Tile	No	**Client ID: BS13.2 12 x 12 VFT White with Blue Pink Flakes**	
					Non-Fibers	100
1947013-53.2	09-Aug-19	Yellow	Mastic	No	**Client ID: BS13.2 12 x 12 VFT White with Blue Pink Flakes**	
					Non-Fibers	100
1947013-54.1	09-Aug-19	White	Floor Tile	No	**Client ID: BS13.3 12 x 12 VFT White with Blue Pink Flakes**	
					Non-Fibers	100

Certificate of Analysis

Report Date: 26-Nov-2019

Client: McIntosh Perry Limited (Concord)

Order Date: 15-Nov-2019

Client PO:

Project Description: Z1920014HZ (Morisset Hall)

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-54.2	09-Aug-19	Yellow	Mastic	No	**Client ID: BS13.3 12 x 12 VFT White with Blue Pink Flakes**	
					Non-Fibers	100
1947013-55.1	09-Aug-19	Beige	Floor Tile	No	**Client ID: BS14.1 12 x 12 VFT Beige with Blue Pink Dots**	
					Non-Fibers	100
1947013-55.2	09-Aug-19	Black	Mastic	No	**Client ID: BS14.1 12 x 12 VFT Beige with Blue Pink Dots**	
					Non-Fibers	100
1947013-56.1	09-Aug-19	Beige	Floor Tile	No	**Client ID: BS14.2 12 x 12 VFT Beige with Blue Pink Dots**	
					Non-Fibers	100
1947013-56.2	09-Aug-19	Black	Mastic	No	**Client ID: BS14.2 12 x 12 VFT Beige with Blue Pink Dots**	
					Non-Fibers	100
1947013-57.1	09-Aug-19	Beige	Floor Tile	No	**Client ID: BS14.3 12 x 12 VFT Beige with Blue Pink Dots**	
					Non-Fibers	100
1947013-57.2	09-Aug-19	Black	Mastic	No	**Client ID: BS14.3 12 x 12 VFT Beige with Blue Pink Dots**	
					Non-Fibers	100
1947013-58	09-Aug-19	Black	Mastic	No	**Client ID: BS15.1 Carpet Mastic Yellow**	
					Non-Fibers	100
1947013-59	09-Aug-19	Yellow	Mastic	No	**Client ID: BS15.2 Carpet Mastic Yellow**	
					Non-Fibers	100
1947013-60	09-Aug-19	Yellow	Mastic	No	**Client ID: BS15.3 Carpet Mastic Yellow**	
					Non-Fibers	100
1947013-61	09-Aug-19	Grey	Mastic	No	**Client ID: BS16.1 Carpet Mastic Grey**	
					Non-Fibers	100
1947013-62	09-Aug-19	Grey	Mastic	No	**Client ID: BS16.2 Carpet Mastic Grey**	
					Non-Fibers	100

Certificate of Analysis

Report Date: 26-Nov-2019

Client: McIntosh Perry Limited (Concord)

Order Date: 15-Nov-2019

Client PO:

Project Description: Z1920014HZ (Morisset Hall)

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

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1947013-63	09-Aug-19	Grey	Mastic	No	**Client ID: BS16.3 Carpet Mastic Grey**	
					Non-Fibers	100
1947013-64	09-Aug-19	Brown	Mastic	**Yes**	**Client ID: BS17.1 Brown Vinyl Baseboard Mastic**	
					Chrysotile	1
					Non-Fibers	99
1947013-65	09-Aug-19				**Client ID: BS17.2 Brown Vinyl Baseboard Mastic**	
					not analyzed	
1947013-66	09-Aug-19				**Client ID: BS17.3 Brown Vinyl Baseboard Mastic**	
					not analyzed	
1947013-67	09-Aug-19	Beige/Red	Floor Coating	No	**Client ID: BS18.1 Loading Dock Floor Coating**	
					Non-Fibers	100
1947013-68	09-Aug-19	Beige/Red	Floor Coating	No	**Client ID: BS18.2 Loading Dock Floor Coating**	
					Non-Fibers	100
1947013-69	09-Aug-19	Beige/Red	Floor Coating	No	**Client ID: BS18.3 Loading Dock Floor Coating**	
					Non-Fibers	100
1947013-70	09-Aug-19	White/Grey	Wall Board	No	**Client ID: BS19.1 Wall Board** [AS-PRE]	
					Cellulose	50
					Non-Fibers	50
1947013-71	09-Aug-19	Grey	Wall Board	No	**Client ID: BS19.2 Wall Board** [AS-PRE]	
					Cellulose	95
					Non-Fibers	5
1947013-72	09-Aug-19	White/Grey	Wall Board	No	**Client ID: BS19.3 Wall Board** [AS-PRE]	
					Cellulose	50
					Non-Fibers	50

Certificate of Analysis

Report Date: 26-Nov-2019

Client: McIntosh Perry Limited (Concord)

Order Date: 15-Nov-2019

Client PO:

Project Description: Z1920014HZ (Morisset Hall)

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

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

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code *	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	2 - Ottawa West Lab	200812-0	21-Nov-19

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

Ottawa West Lab: 25 Northside Rd, Unit C Nepean, Ontario K2H 8S1

Qualifier Notes

Sample Qualifiers :

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

Z-01: Sample contains vermiculite.

Work Order Revisions | Comments

Revision 1: Report has been revised to include qualifiers on samples layer that were not included in the report.

Paracel ID: 1947013

(2)

Head Office
300-2319 St. Laurent Blvd.
Ottawa, Ontario K1G 4J8
t: 1-800-749-1947
e: paracel@paracellabs.com

Chain of Custody
(Lab Use Only)

Client Name: McIntosh Perry

Contact Name: Diana Banakh

Address: 6240 Highway 7, Suite 200, Concord, Ontario L4K 2A3

Telephone: 905-856-5200

Project Reference: Z1920014HZ (Morisset Hall)

Quote #: 19-651

PO #:

Email Address: d.banakh@mcintoshperry.com

Turnaround Time:
☐ Immediate ☐ 1 Day
☐ 4 Hour 2 Day
☐ 8 Hour x Regular

Date Required:

ASBESTOS & MOLD ANALYSIS

Matrix: ☐ Air x Bulk ☐ Tape Lift ☐ Swab ☐ Other **Regulatory Guideline:** x ON ☐ QC ☐ AB ☐ SK ☐ Other:

Analyses: ☐ Microscopic Mold ☐ Culturable Mold ☐ Bacteria GRAM ☐ PCM Asbestos X PLM Asbestos ☐ Chatfield Asbestos ☐ TEM Asbestos

Paracel Order Number: 1947013

Sample ID		Sampling Date	Air Volume (L)	Analysis Required	Asbestos - Bulk: Identify Distinct Building Materials to Be Analyzed		Positive Stop?
BS1.1-1.1	Drywall Joint Compound	August 9th, 2019	N/A	PLM			x
BS2.1-2.7	Ceiling Plaster	August 9th, 2019	N/A	PLM			x
BS3.1-3.3	2x4 CT Pinholes With Medium Fissures	August 9th, 2019	N/A	PLM			x
BS4.1-4.3	2x4 CT Pinholes With Small Fissures	August 9th, 2019	N/A	PLM			x
BS5.1-5.3	Acoustic Wall Parel	August 9th, 2019	N/A	PLM			x
BS6.1-6.3	2x4 CT Pinholes	August 9th, 2019	N/A	PLM			x
BS7.1-7.3	Acoustic Wall Tile Mastic (Brown)	August 9th, 2019	N/A	PLM			x
BS8.1-8.3	12 x 12 VFT Beige with Pink and Blue Flakes	August 9th, 2019	N/A	PLM			x
BS9.1-9.3	12 x 12 VFT Dark Grey with White streaks	August 9th, 2019	N/A	PLM			x
BS10.1-10.3	12 x 12 VFT Grey with Kight Flakes	August 9th, 2019	N/A	PLM			x
BS11.1-11.3	12 x 12 VFT Brown with White Spots	August 9th, 2019	N/A	PLM			x
BS12.1-12.3	12 x 12 VFT Blue with White Streaks (Black Mastic)	August 9th, 2019	N/A	PLM			x
BS13.1-13.3	12 x 12 VFT White with Blue Pink Flakes	August 9th, 2019	N/A	PLM			x
BS14.1-14.3	12x 12 VFT Beige with Blue Pink Dots	August 9th, 2019	N/A	PLM			x
BS15.1-15.3	Carpet Mastic Yellow	August 9th, 2019	N/A	PLM			x
BS16.1-16.3	Carpet Mastic Grey	August 9th, 2019	N/A	PLM			x
BS17.1-17.3	Brown Vinyl Baseborad Mastic	August 9th, 2019	N/A	PLM			x
BS18.1-18.3	Loading Dock Floor Coating	August 9th, 2019	N/A	PLM			x
BS19.1-19.3	Wall Board	August 9th, 2019	N/A	PLM			x

* If left blank, Paracel will analyze all materials identified during analysis ** If left blank, Paracel will analyze all materials as individual samples (at additional cost) per EPA 600/R -93/116

Comments: 100 samples

Method of Delivery: United.

Relinquished By (Sign):	Received at Depot:	Received at Lab:	Verified By:
Relinquished By (Print): Diana Banakh			
Date/Time:	Date/Time:	Date/Time: NOV 15/2019 15:20	Date/Time: NOV 18/2019 9:38

PARACEL LABORATORIES LTD.
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351 Nash Road North, unit 9B
Hamilton, ON L8H 7P4
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

McIntosh Perry Limited (Concord)

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

Client PO:
Project: Z1920014HZ (Morisset Hall)
Custody:

Report Date: 22-Nov-2019
Order Date: 15-Nov-2019

Order #: 1946552

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

Paracel ID	Client ID
1946552-01	Pb.1
1946552-02	Pb.2
1946552-03	Pb.3
1946552-04	Pb.4
1946552-05	Pb.5
1946552-07	Pb.7
1946552-09	Pb.9
1946552-10	Pb.10
1946552-11	Pb.11
1946552-12	Pb.12
1946552-13	Pb.13
1946552-14	Pb.14
1946552-15	Pb.15

Approved By:

Milan Ralitsch, PhD
Senior Technical Manager

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

Report Date: 22-Nov-2019
Order Date: 15-Nov-2019
Project Description: Z1920014HZ (Morisset Hall)

Analysis Summary Table

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

Sample and QC Qualifiers Notes

1- QR-01 : Duplicate RPD is high, however, the sample result is less than 10x the MDL.

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

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

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

Report Date: 22-Nov-2019
Order Date: 15-Nov-2019
Project Description: Z1920014HZ (Morisset Hall)

Sample Results

Lead

Matrix: Paint
Sample Date: 09-Aug-19

Paracel ID	Client ID	Units	MDL	Result
1946552-01	Pb.1	% by Wt.	0.0005	0.0070
1946552-02	Pb.2	% by Wt.	0.0005	0.116
1946552-03	Pb.3	% by Wt.	0.0005	0.0012
1946552-04	Pb.4	% by Wt.	0.0005	0.0031
1946552-05	Pb.5	% by Wt.	0.0005	0.0019
1946552-07	Pb.7	% by Wt.	0.0005	0.0053
1946552-09	Pb.9	% by Wt.	0.0005	0.399
1946552-10	Pb.10	% by Wt.	0.0005	<0.0005
1946552-11	Pb.11	% by Wt.	0.0005	<0.0005
1946552-12	Pb.12	% by Wt.	0.0005	0.187
1946552-13	Pb.13	% by Wt.	0.0005	5.84
1946552-14	Pb.14	% by Wt.	0.0005	0.692
1946552-15	Pb.15	% by Wt.	0.0005	0.0022

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	**ND**	**0.0005**	**% by Wt.**						
Matrix Duplicate									
Lead	**1.77**	**0.0005**	**% by Wt.**	**1.63**			**8.5**	**50**	
Matrix Spike									
Lead	1.78	0.0005	% by Wt.	1.63	121	70-130			

PARACEL LABORATORIES LTD.

Paracel ID: 1946552

Office
319 St. Laurent Blvd.
a, Ontario K1G 4J8
00-749-1947
aceleparacellabs.com

Chain of Custody
(Lab Use Only)
1946552

Page 1 of 1

Client Name: McIntosh Perry	Project Reference: Z1920014HZ (Morisset Hall)
Contact Name: Diana Banakh	Quote #: 19-651
Address:6420 Highway 7, Suite 200, Woodbridge Ontario L4H 4G3	PO #
Telephone:905-856-5200	Email Address: d.banakh@mcintoshperry.com

Turnaround Time:
☐ 1 Day o 3 Day
☐ 2 Day X Regular
Date Required:

Criteria: ☐ O. Reg. 153/04 (As Amended) Table __ ☐ RSC Filing ☐ O. Reg. 558/00 ☐ PWQO ☐ CCME ☐ SUB (Storm) ☐ SUB (Sanitary) Municipality:_____ ☐ Other:_____

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

	Paracel Order Number: / Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	Required Analyses: Lead in Paint
1	Pb.1	P		1	August 9th, 2019		X
2	Pb.2	P		1	August 9th, 2019		X
3	Pb.3	P		1	August 9th, 2019		X
4	Pb.4	P		1	August 9th, 2019		X
5	Pb.5	P		1	August 9th, 2019		X
6	Pb.6	P		1	August 9th, 2019		X
7	Pb.7	P		1	August 9th, 2019		X
8	Pb.8	P		1	August 9th, 2019		X
9	Pb.9	P		1	August 9th, 2019		X
10	Pb.10	P		1	August 9th, 2019		X
11	Pb.11	P		1	August 9th, 2019		X
12	Pb.12	P		1	August 9th, 2019		X
13	Pb.13	P		1	August 9th, 2019		X
14	Pb.14	P		1	August 9th, 2019		X
15	Pb.15	P		1	August 9th, 2019		X

Comments: 15 samples

Method of Delivery: United

Relinquished By (Sign):	Received by Driver/Depot: Cynthia Chy	Received at Lab: Kelsey Wright
Relinquished By (Print): Diana Banakh	Date/Time: Nov 15/2019 15:20	Date/Time: 8:30AM Nov 18, 2019
Date/Time:	Temperature: _____ °C	Temperature: _____ °C
	Chain of Custody- Lead- Ottawa1_filled.xlsx	pH Verified [ ] By:
		Verified By: Date/Time: Nov 15/19 15:57

APPENDIX D

Site Photographs

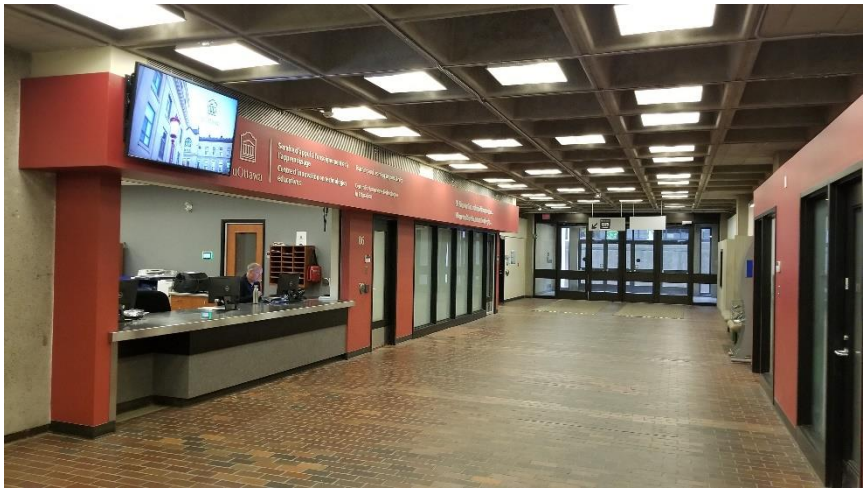


Photo 1: Representative view of the finishes observed throughout Room 02.

Photo 2: Representative view of the concrete ceilings observed throughout the 0 Level.

Photo 3: Representative view of the pressure gauges containing liquid mercury observed in Room 038E.

Photo 4: Representative view of the AHU unit doors, with non-asbestos containing thermal insulation in Room 0042.

Photo 5: View of the non-asbestos vinyl floor tiles (12”x12”- Brown w/ White Spots) were observed and sampled in Room 007D.

Photo 6: Representative view of Room 001, containing asbestos vinyl floor tiles (12”x12” – White w/ Brown Flakes).

Photo 7: Previously identified vinyl floor tiles (12”x12” – White w/ Brown Flakes) observed in poor condition in Room 001.

Photo 8: View of the suspended ceiling tiles (2’x4’ – Pinholes w/ Large Fissures) observed to be manufactured in 1996 in Room 001A. Water staining was observed on select tiles.

Photo 9: View of the water damaged asbestos-containing ceiling tile observed in Room 0021.

Photo 10: View of the asbestos-contianing parging cement elbows/fitting observed in good condition in Room 0032.

Photo 11: Representative view of the lead containing Black mechanical equipment paint observed throughout Room 0042 in poor condition.

Photo 12: View of the above ground diesel tank observed in Room 0042D.

Photo 13: View of the asbestos-containing textured ceiling observed in good condition in Room 218A.

Photo 14: View of the ceiling space above the asbestos-containing ceiling plaster observed in Room 218.

Photo 15: View of the asbestos-containing ceiling plaster observed in Room 218D, with poor condition areas.

Photo 16: View of the lead containing blue door paint observed in poor condition in Room 217.

Photo 17: Representative view of the interior finishes observed throughout Room 202.

Photo 18: View of the asbestos-containing glue-on acoustic walls tiles observed in good condition in Room 255.

Photo 19: Representative view of classroom finishes observed throughout Level 2.

Photo 20: Representative view of the finishes observed throughout Level 3 library area.

Photo 21: Representative view of the emergency lights containing lead batteries observed in Room 306.

Photo 22: Representative view of the fiberglass insulation observed in Room 431 and 431A.

Photo 23: View of the asbestos-containing parging cement elbows observed in good condition in Room 506A.

Photo 24: View of the dry-type Westinghouse transformers observed in Room 510.

Photo 25: View of the water damaged fiberglass pipe straight insulation observed in Room 510A.

Photo 26: View of the water damaged asbestos-containing parging cement insulation observed in Room 510A.

Photo 27: Representative view of the bare concrete ceiling finishes observed above suspended ceiling tiles in Room 600G.

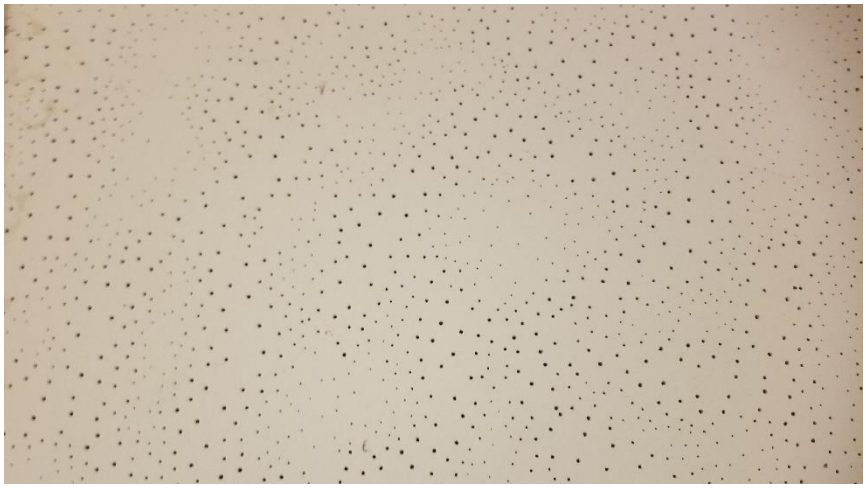


Photo 28: View of the asbestos-containing ceiling tiles (Beige w/ Varying Pinholes) observed and sampled in Room 600G.

Photo 29: Representative view of the bare concrete ceiling finishes observed above suspended ceiling tiles in Room 602.

Photo 30: View of the poor condition asbestos-containing pipe straight insulation observed in Room 622A.

Photo 31: View of the asbestos-containing ceiling tiles (Beige w/ Varying Pinholes) observed with damages in Room 621.

Photo 32: Representative view of the finishes observed throughout Level 6.

Photo 33: Representative view of the finishes observed in Room 703A.

APPENDIX E

Asbestos-Containing Materials Checklists

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
00	Room 001	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Poor Condition	Easy	Low	15	SF	Repair or Remove Following Type 1 Abatement	
00	Room 0034	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Poor Condition	Easy	Low	2	C	Repair or Remove Following Type 1 Abatement	
00	Room 001	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Fair Condition	Easy	Low	15	SF	Monitor Condition. Consider Removal Following Type 1 Abatement	
00	Throughout Level	Ceiling Plaster	Confirmed	-	Good Condition	Easy	Low	-	-	Manage in Place	
00	Room 0035	Drywall Joint Compound	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place	
00	Room 0014	Vinyl Baseboard Mastic	Confirmed	Non-Friable	Good Condition	Easy	Low	165	LF	Manage in Place	
00	Room 007	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	2	C	Manage in Place	
00	Room 0020	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	2	C	Manage in Place	
00	Room 0021	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	8	C	Manage in Place	
00	Room 0027	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	5	C	Manage in Place	
00	Room 0032	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	12	C	Manage in Place	

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
00	Room 0050	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	72	C	Manage in Place	
00	Room 0051	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	6	C	Manage in Place	
00	Room 0053	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	6	C	Manage in Place	
00	Room 0011	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	2	C	Manage in Place	
00	Room 0012	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	7	C	Manage in Place	
00	Room 0018	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	10	C	Manage in Place	
00	Room 042C	Mechanical Parging Cement Pipe/Elbow Insulation	Confirmed	Friable	Good Condition	Moderate	Low	8	C	Manage in Place	
00	Room 0042D	Mechanical Pipe Straight Insulation	Confirmed	Friable	Good Condition	Easy	Low	4	LF	Manage in Place	
00	Room 0048	Mechanical Pipe Straight Insulation	Confirmed	Friable	Good Condition	Easy	Low	8	LF	Manage in Place	
00	Room 001	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	200	SF	Manage in Place	
00	Room 001A	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	1080	SF	Manage in Place	

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
00	Room 007	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	210	SF	Manage in Place	
00	Room 0015	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	115	SF	Manage in Place	
00	Room 0017	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	450	SF	Manage in Place	
00	Room 0019	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	450	SF	Manage in Place	
00	Room 0019A	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	160	SF	Manage in Place	
00	Room 0020	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	240	SF	Manage in Place	
00	Room 0021A	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	500	SF	Manage in Place	
00	Room 0022	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	750	SF	Manage in Place	
00	Room 0023	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	600	SF	Manage in Place	
00	Room 0024	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	620	SF	Manage in Place	
00	Room 0026	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	100	SF	Manage in Place	

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
00	Room 0027	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	300	SF	Manage in Place	
00	Room 0034	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	200	SF	Manage in Place	
00	Room 0035	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	320	SF	Manage in Place	
00	Room 0035A	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	100	SF	Manage in Place	
00	Room 0037	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	820	SF	Manage in Place	
00	Room 0040	VFT 12”x12” – White w/ Brown Flakes	Confirmed	Non-Friable	Good Condition	Easy	Low	400	SF	Manage in Place	
00	Room 0034	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	200	SF	Manage in Place	
00	Room 0017	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	450	SF	Manage in Place	
00	Room 0040	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	400	SF	Manage in Place	
00	Room 0021	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	200	SF	Manage in Place	
00	Room 0021A	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	500	SF	Manage in Place	
00	Room 0014	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	60	SF	Manage in Place	
00	Room 0035	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	320	SF	Manage in Place	

Floor/Level	Location	Type of ACM	Asbestos Confirmed/ Suspected	Friable/Non-Friable	Damaged/ Deteriorated	Accessibility	Level of Work Near Material	Approximate Quantity	Unit	Recommended Action	Comments
00	Room 0034	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	200	SF	Manage in Place	
00	Room 0015	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	115	SF	Manage in Place	
00	Room 0025A	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	15	SF	Manage in Place	
00	Room 005	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Good Condition	Easy	Low	20	SF	Manage in Place	
00	Room 0017	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Poor Condition	Easy	Low	1	C	Repair or Remove Following Type 1 Abatement	
00	Room 0021	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Poor Condition	Easy	Low	1	C	Repair or Remove Following Type 1 Abatement	
00	Room 0015	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed		Poor Condition	Easy	Low	1	C	Repair or Remove Following Type 1 Abatement	
00	Room 0040	Ceiling Tiles (2'x4' - Varying Pinholes)	Confirmed	-	Poor Condition	Easy	Low	2	C	Repair or Remove Following Type 1 Abatement	
00	Throughout Level	Fire Doors	Suspected	-	Good Condition	Easy	Low	-	-	Manage in Place	

APPENDIX F

Hazardous Containing Materials Checklists

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
00	Throughout Level	Lead	Floor Paint	Grey	Good Condition	-	-	-	Confirmed	Manage in Place	
00	0013	Lead	Floor Paint	Grey	Good Condition	-	250	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.	
00	0042	Lead	Floor Paint	Orange	Fair Condition	-	-	-	Confirmed	Monitor Condition	
00	0042	Lead	Pipe Paint	Green	Good Condition	-	-	-	Confirmed	Manage in Place	
00	0042	Lead	Pipe Paint	Yellow	Good Condition	-	-	-	Confirmed	Manage in Place	
00	0042	Lead	Mechanical Equipment Paint	Black	Good Condition	-	-	-	Confirmed	Manage in Place	
00	0050	Lead	Mechanical Equipment Paint	Black	Poor Condition	-	10	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.	
00	0014	Lead	Floor Paint	Green	Good Condition	-	-	-	Confirmed	Manage in Place	
00	0011	Lead	Floor Paint	Grey	Poor Condition	-	100	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.	
00	Throughout Level	Lead	Railing Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place	
00	Room 0042C	Lead	Battery Pack	-	Good Condition	Lumacell	2	C	Confirmed	Manage in Place	
00	Room 0042C	Lead	Battery Pack	-	Good Condition	Magnacharge	2	C	Confirmed	Manage in Place	
00	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Varies	-	-	Confirmed	Manage in Place	
00	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	
00	Room 0042D	USTs/ASTs	Diesal Storage Tank	-	Good Condition				Confirmed	Manage in Place	
00	Room 001A	Ozone Depleting Substances (ODS)	Water Fountain	-	Good Condition	Elkay	1	C	Confirmed	Manage in Place	R134A

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
00	Room 0050	Ozone Depleting Substances (ODS)	AC Unit	-	Good Condition	Carrier	1	C	Confirmed	Manage in Place	R410A
00	Room 0013	Ozone Depleting Substances (ODS)	Mini Fridge	-	Good Condition	Danby	1	C	Confirmed	Manage in Place	R134A
00	Room 006	Ozone Depleting Substances (ODS)	Mini Fridge	-	Good Condition	Diplomat	1	C	Confirmed	Manage in Place	R134A
00	Room 0025A	Radioactive Materials	Smoke Detector	-	Good Condition	Unknown	1	C	Confirmed	Manage in Place	
00	Room 0025B	Radioactive Materials	Smoke Detector	-	Good Condition	Unknown	1	C	Confirmed	Manage in Place	
00	Room 0026	Radioactive Materials	Smoke Detector	-	Good Condition	Unknown	1	C	Confirmed	Manage in Place	
00	Room 0046	Mould/ Water Damage	Drywall Ceiling	-	Poor Condition	-	5	SF	Confirmed	Must be removed following Level I mould remediation procedures, as per EACO Guidelines	
00	Room 0042D	Mould/ Water Damage	Pipe Straight Insulation	-	Poor Condition		30		Confirmed	Must be removed following Level II mould remediation procedures, as per EACO Guidelines	
0	Throughout Level	Lead	Wall Paint	Light Yellow	Good Condition	-	-	-	Confirmed	Manage in Place	
0	Throughout Level	Lead	Railing Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place	
0	Room 015	Lead	Battery Pack	-	Good Condition	Lumacell	1	C	Confirmed	Manage in Place	
0	Room 06D	Lead	Battery Pack	-	Good Condition	Lumacell	1	C	Confirmed	Manage in Place	
0	Room 038E	Mercury	Pressure Gauge	-	Good Condition	Weiss Instruments	2	C	Confirmed	Manage in Place	
0	Room 049	Ozone Depleting Substances (ODS)	Refrigerator	-	Good Condition	Kelvinator	2	C	Confirmed	Manage in Place	Unknown Refrigerant
0	Room 045B	Ozone Depleting Substances (ODS)	Refrigerator	-	Good Condition	RCA	1	C	Confirmed	Manage in Place	Unknown Refrigerant

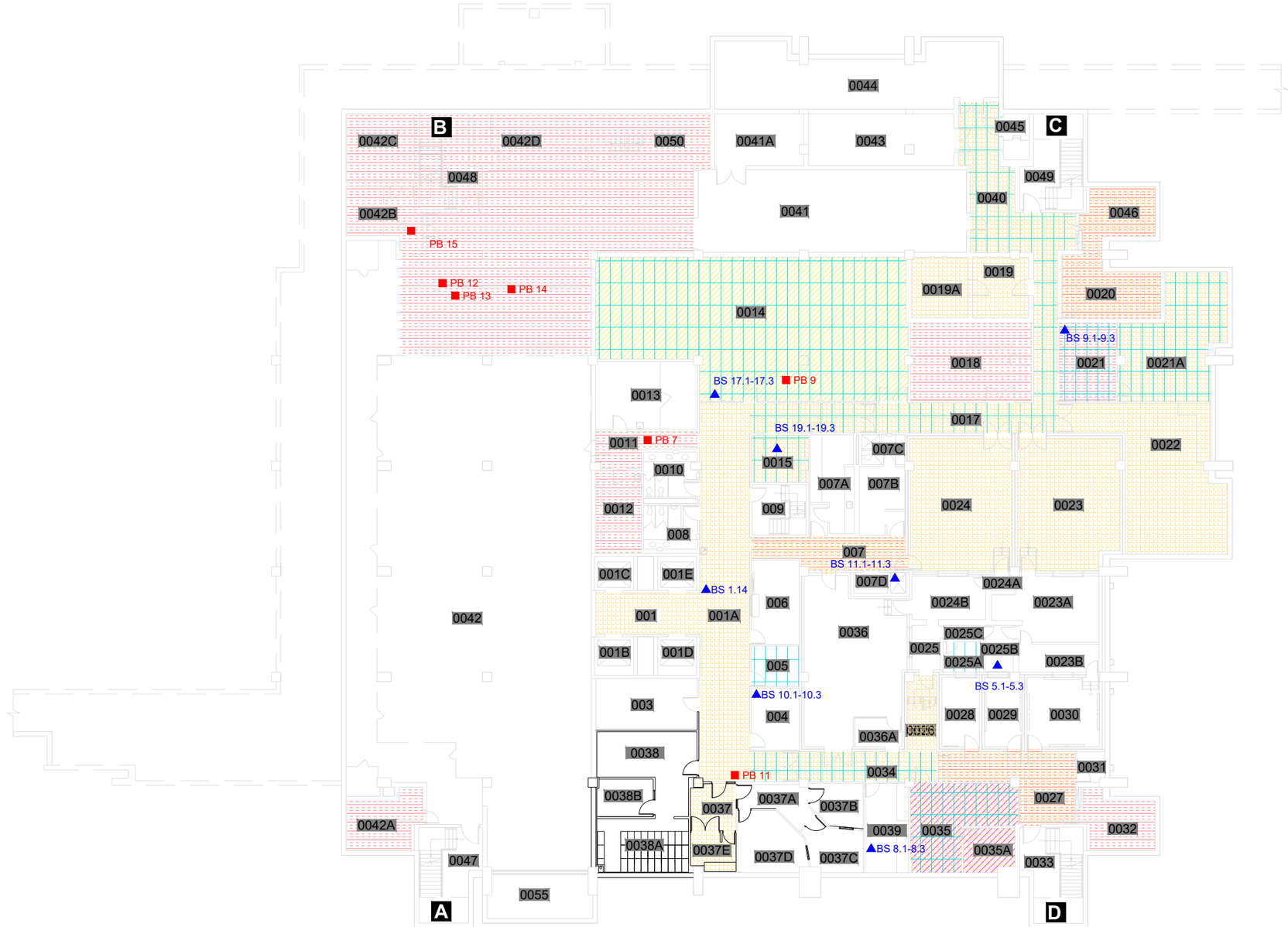
Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
0	Room 07	Mould/ Water Damage	Ceiling Tile	-	Poor Condition	-	2	C	Confirmed	Should be replaced as part of regular maintenace.	*Asbestos-containing ceiling tiles present in area. Removal should be conducted as a Type 1/2 Abatement operation.
0	Throughout Level	Lead	Door Paint	Beige	Good Condition	-	-	-	Confirmed	Manage in Place	
0	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Varies	-	-	Confirmed	Manage in Place	
0	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	
1	Throughout Level	Lead	Door Paint	Green	Good Condition	-	-	-	Confirmed	Manage in Place	
1	Throughout Level	Lead	Door Paint	Light Blue	Good Condition	-	-	-	Confirmed	Manage in Place	
1	Throughout Level	Lead	Railing Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place	
1	Room 100N	Ozone Depleting Substances (ODS)	Water Fountain	-	Good Condition	Elkay	1	C	Confirmed	Manage in Place	R134A
1	Room 160	Ozone Depleting Substances (ODS)	Water Fountain	-	Good Condition	Elkay	1	C	Confirmed	Manage in Place	R134A
1	Room 100Q	Ozone Depleting Substances (ODS)	Ice Maker	-	Good Condition	Scotsman	1	C	Confirmed	Manage in Place	*Second Cup
1	Room 100E	Mould/ Water Damage	Ceiling Tile	-	Poor Condition		6	C	Confirmed	Should be replaced as part of regular maintenace.	
1	Room 128A	Lead	Wall Paint	Red	Good Condition	-	-	-	Confirmed	Manage in Place	
1	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Varies	-	-	Confirmed	Manage in Place	
1	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	
2	Throughout Level	Lead	Door Paint	Light Blue	Good Condition	-	-	-	Confirmed	Manage in Place	

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
2	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Varies	-	-	Confirmed	Manage in Place	
2	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	
2	Throughout Level	Lead	Railing Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place	
2	Room 202B	Ozone Depleting Substances (ODS)	Water Fountain	-	Good Condition	Elkay	1	C	Confirmed	Manage in Place	R134A
2	Room 247	Ozone Depleting Substances (ODS)	Refrigerator	-	Good Condition	McClary	1	C	Confirmed	Manage in Place	Unknown Refrigerant
2	Room 218C	Radioactive Materials	Smoke Detector	-	Good Condition	Unknown	1	C	Confirmed	Manage in Place	
3	Throughout Level	Lead	Railing Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place	
3	Room 306	Lead	Battery Pack	-	Good Condition	Lumacell	1	C	Confirmed	Manage in Place	
3	Room 319	Lead	Battery Pack	-	Good Condition	Lumacell	1	C	Confirmed	Manage in Place	
3	Room 304	Lead	Battery Pack	-	Good Condition	Lumacell	1	C	Confirmed	Manage in Place	
3	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Varies	-	-	Confirmed	Manage in Place	
3	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	
3	Room 302	Ozone Depleting Substances (ODS)	Water Fountain	-	Good Condition	Elkay	1	C	Confirmed	Manage in Place	R134A
4	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Varies	-	-	Confirmed	Manage in Place	
4	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	
4	Throughout Level	Lead	Railing Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place	
4	Room 402	Ozone Depleting Substances (ODS)	Water Fountain	-	Good Condition	Elkay	1	C	Confirmed	Manage in Place	R134A
5	Throughout Level	Lead	Railing Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place	
5	Room 502	Ozone Depleting Substances (ODS)	Water Fountain	-	Good Condition	Elkay	1	C	Confirmed	Manage in Place	R134A

Floor/Level	Location	Type	Component	Colour	Condition	Manufacturer	Approximate Quantity	Unit	Suspected/ Confirmed	Recommended Action	Comments
5	Room 510	Mould/ Water Damage	Pipe Straight Insulation	-	Poor Condition		15		Confirmed	Must be removed following Level II mould remediation procedures, as per EACO Guidelines	
5	Room 510	Mould/ Water Damage	Parging Cement Elbows	-	Poor Condition		1		Confirmed	Must be removed following Level I mould remediation procedures, as per EACO Guidelines	*Asbestos-containing ceiling tiles present in area. Removal should be conducted as a Type 2 (Glovebag) Abatement operation.
5	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Varies	-	-	Confirmed	Manage in Place	
5	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	
6	Throughout Level	Mercury	Fluorescent Light Tubes	-	Good Condition	Varies	-	-	Confirmed	Manage in Place	
6	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	
6	Throughout Level	Lead	Railing Paint	Orange	Good Condition	-	-	-	Confirmed	Manage in Place	
6	Room 602	Ozone Depleting Substances (ODS)	Water Fountain	-	Good Condition	Elkay	1	C	Confirmed	Manage in Place	R134A
7	Throughout Level	Lead	Floor Paint	Grey	Poor Condition	-	50	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.	
7	Throughout Level	Silica	Concrete, Mortar, Etc.	-	Good Condition				Confirmed	Manage in Place	

APPENDIX G

Site Sampling & Location Plans



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- ▲ Asbestos BS-LeadSample
- ■ Lead Point Sample

Notes:

ACM plaster is present throughout

- ACM Ceiling/ Wall Tiles
- ACM Vinyl floor Tile (VFT)
- ACM Ceiling Texture Coat
- ACM Mechanical Insulation
- ACM Window Caulking
- ACM Vinyl Baseboard Mastic
- ACM Suspect Drywall

REV	DATE	DESCRIPTION	BY

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
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MORISSET HALL

BUILDING COMBINED

Dessin / Drawing:
LEVEL 00
BUILDING COMBINATION

Édifice/Bldg	Niveau/Level:
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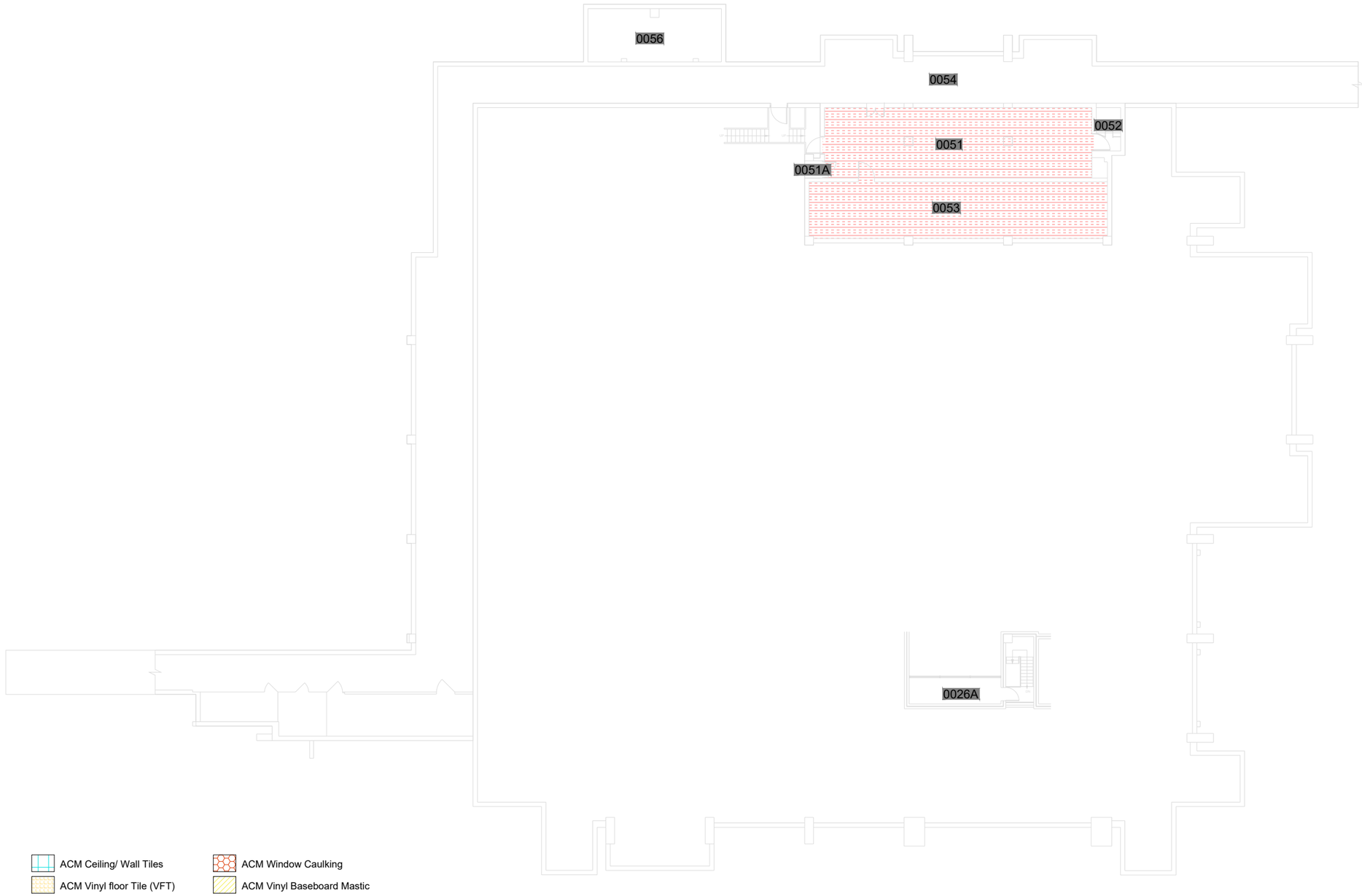

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- ▲ Asbestos BS-LeadSample
- ■ Lead Point Sample

Notes:

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Dessin / Drawing:
LEVEL 00.5
BUILDING COMBINATION

Édifice/Bldg			Niveau/Level:
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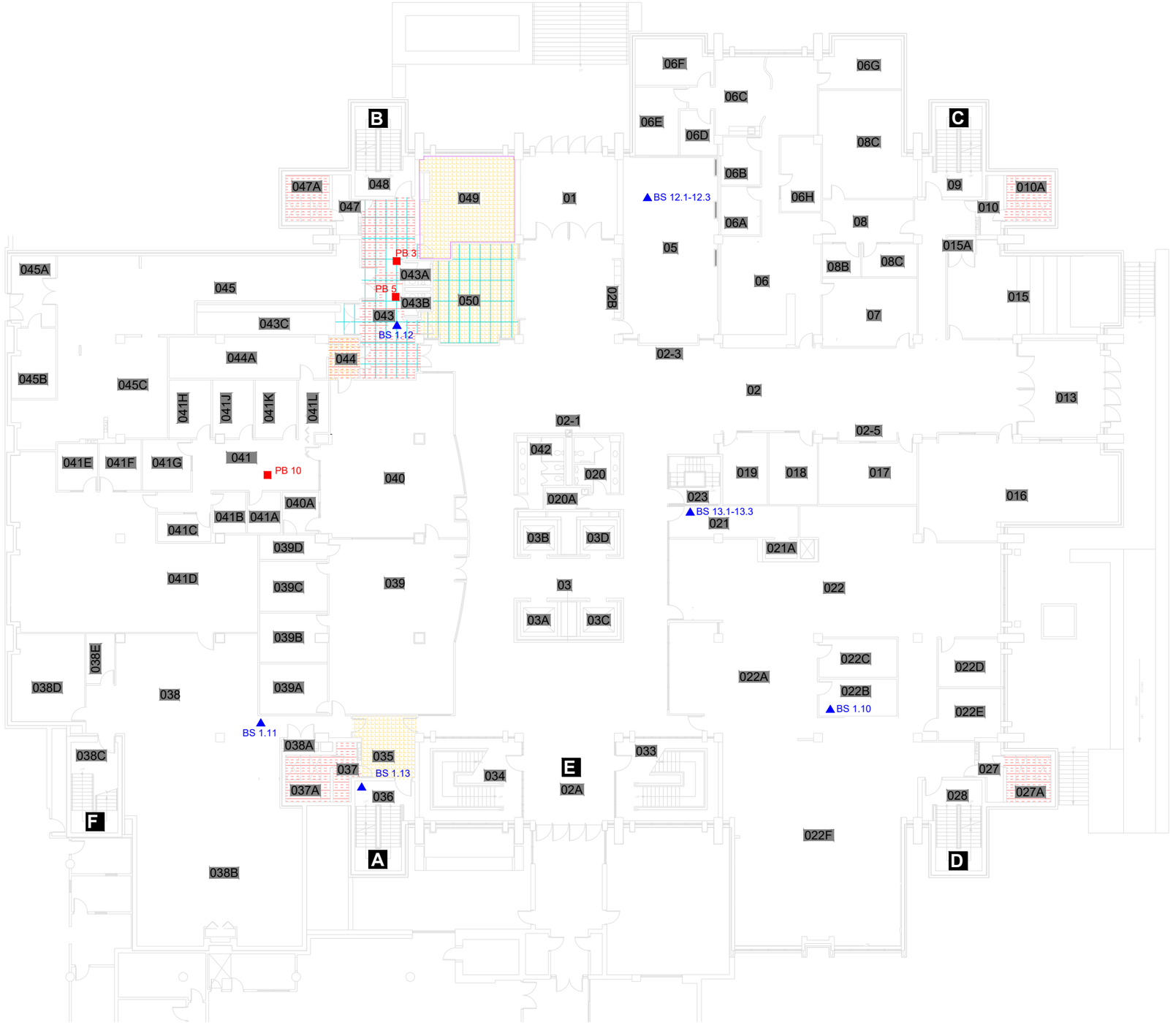

Legend:

- ▲ Asbestos BS-LeadSample
- ■ Lead Point Sample

Notes:

ACM plaster is present throughout

- ACM Ceiling/ Wall Tiles
- ACM Vinyl floor Tile (VFT)
- ACM Ceiling Texture Coat
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- ACM Window Caulking
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- ACM Suspect Drywall

REV	DATE	DESCRIPTION	BY

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Dessin / Drawing:
LEVEL 0
BUILDING COMBINATION

Édifice/Bldg			Niveau/Level:
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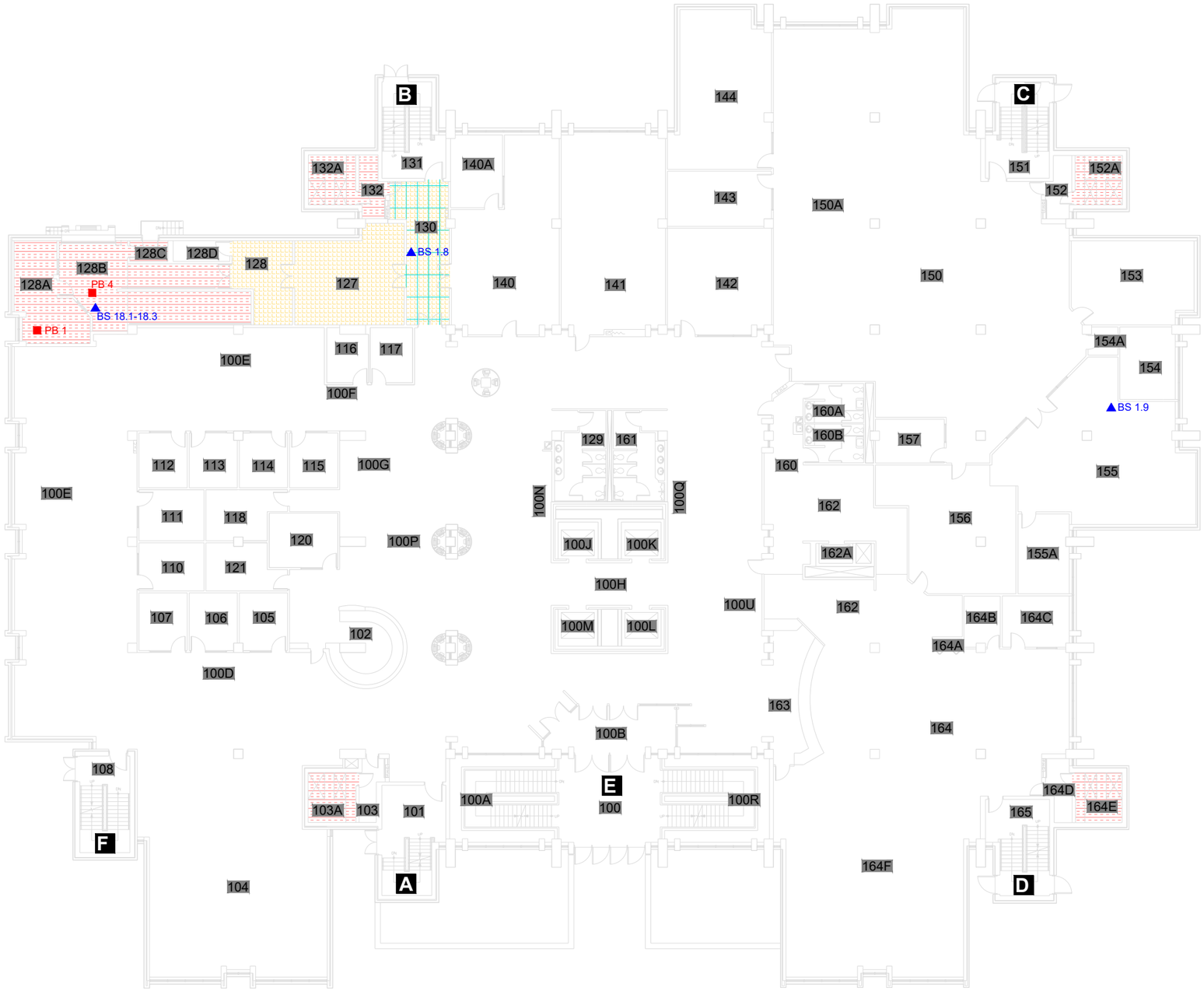
JB 08/06/2015



Legend:

- ▲ Asbestos BS-LeadSample
- ■ Lead Point Sample

Notes:

ACM plaster is present throughout

- ACM Ceiling/ Wall Tiles
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- ACM Vinyl Baseboard Mastic
- ACM Suspect Drywall

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Dessin / Drawing:
LEVEL I
BUILDING COMBINATION

Édifice/Bldg			Niveau/Level:
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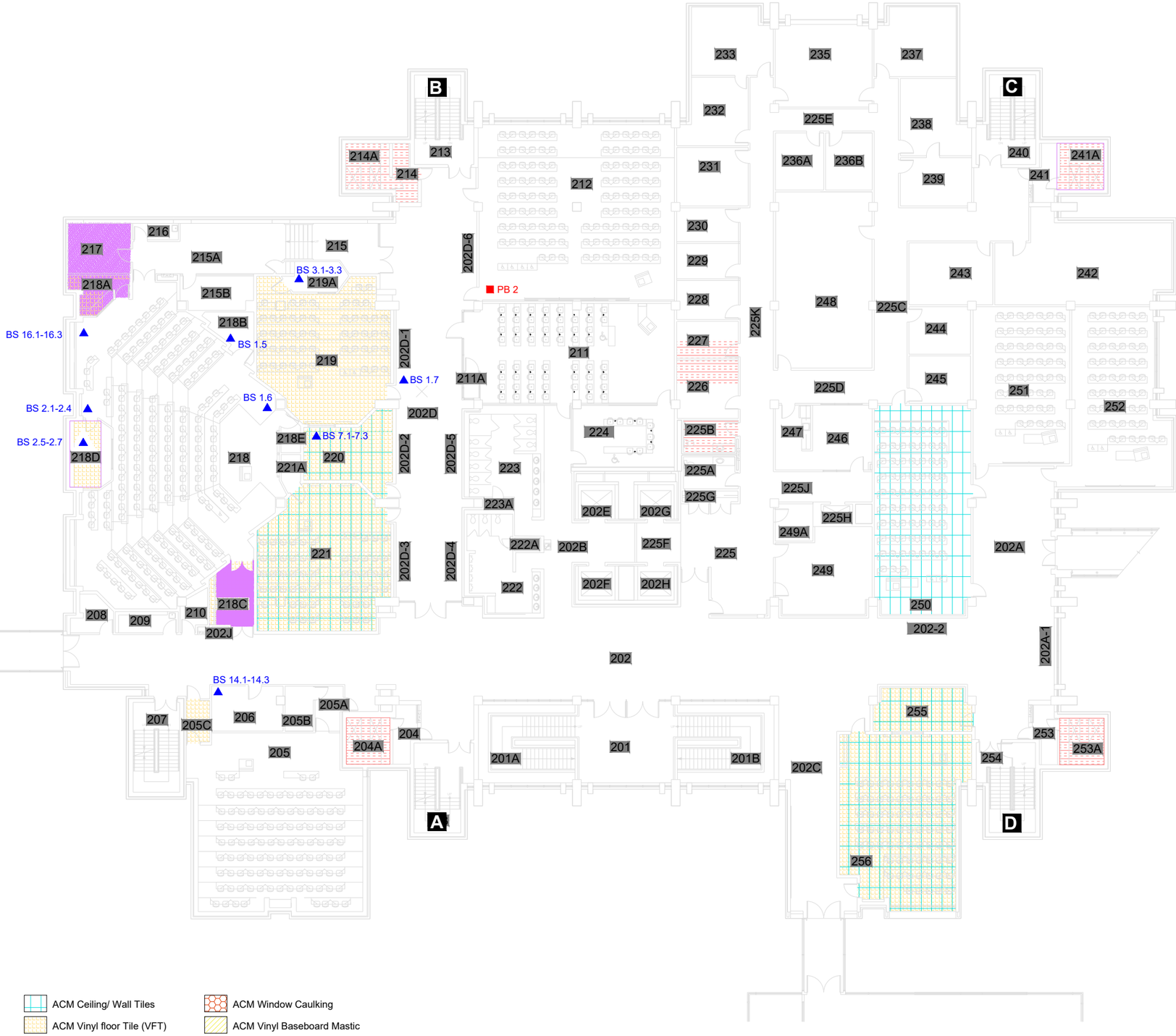
BUILDING COMBINED
JB
08/06/2015



Legend:

- ▲ Asbestos BS-LeadSample
- ■ Lead Point Sample

Notes:

ACM plaster is present throughout

- ACM Ceiling/ Wall Tiles
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- ACM Mechanical Insulation
- ACM Window Caulking
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- ACM Suspect Drywall

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Dessin / Drawing:
LEVEL 2
BUILDING COMBINATION

Édifice/Bldg			Niveau/Level:
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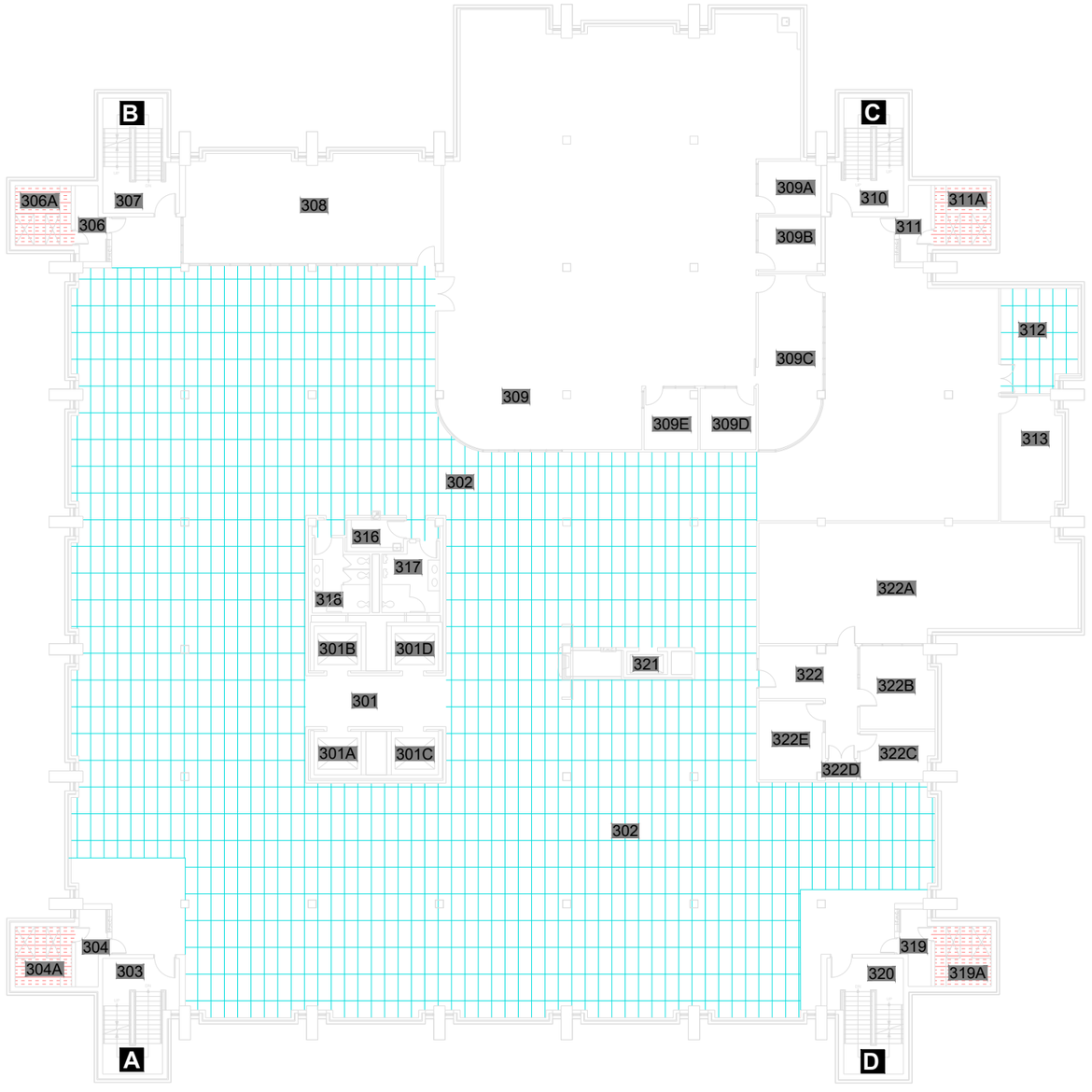
JB 08/06/2015



Legend:

- ▲ Asbestos BS-LeadSample
- ■ Lead Point Sample

Notes:

ACM plaster is present throughout

- ACM Ceiling/ Wall Tiles
- ACM Vinyl floor Tile (VFT)
- ACM Ceiling Texture Coat
- ACM Mechanical Insulation
- ACM Window Caulking
- ACM Vinyl Baseboard Mastic
- ACM Suspect Drywall

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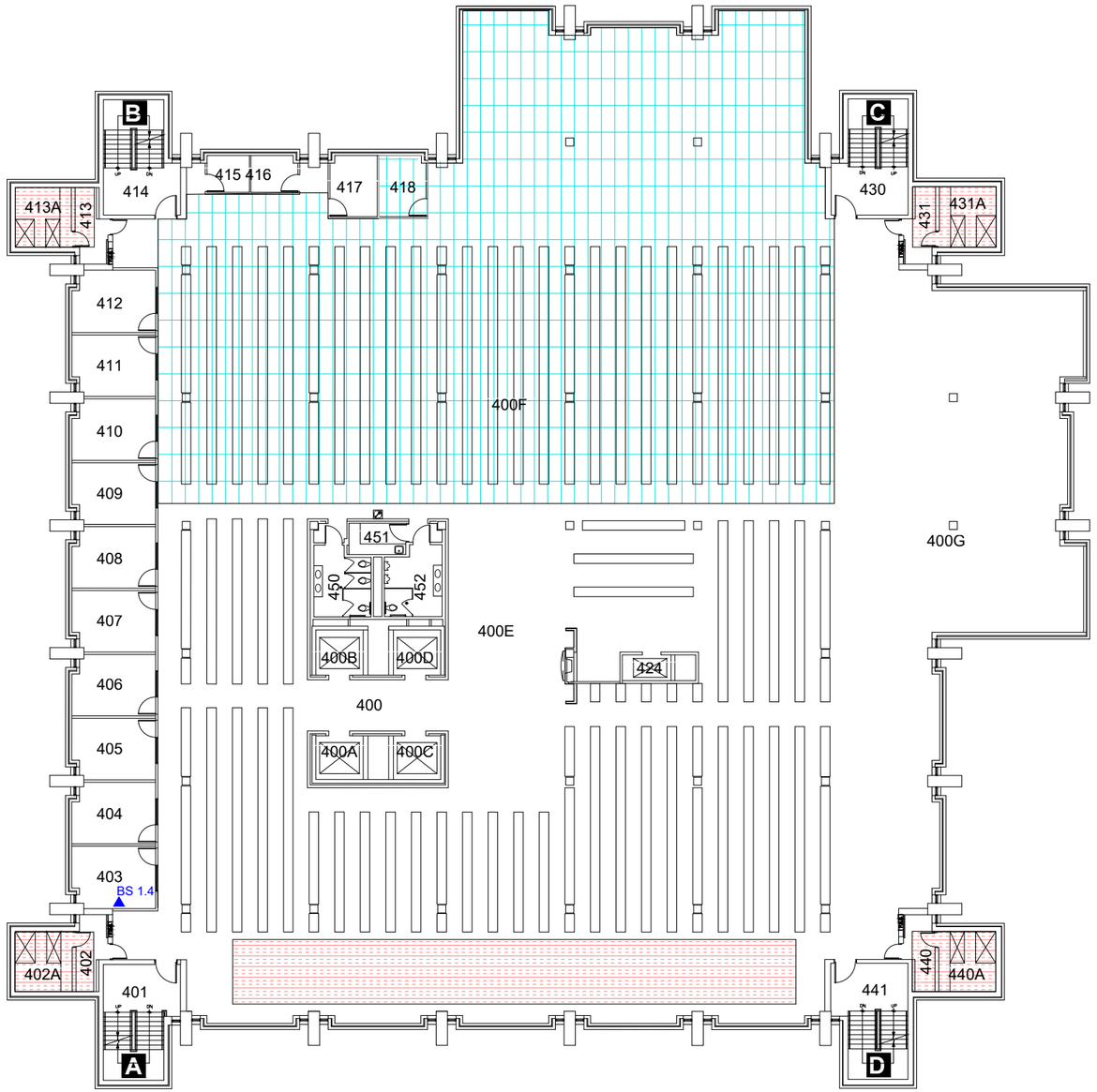
Dessin / Drawing:
LEVEL 3
BUILDING COMBINATION

Édifice/Bldg			Niveau/Level:
----	060	----	0 ----
----	----	----	Feuille/Sheet:
Échelle/Scale:	Revision:		A-3
1:300	1		of/de

BUILDING COMBINED
JB
08/08/2015



Legend:

- Asbestos BS-LeadSample
- Lead Point Sample

Notes:

ACM plaster is present throughout

- ACM Ceiling/ Wall Tiles
- ACM Vinyl floor Tile (VFT)
- ACM Ceiling Texture Coat
- ACM Mechanical Insulation
- ACM Window Caulking
- ACM Vinyl Baseboard Mastic
- ACM Suspect Drywall

REV	DATE	DESCRIPTION	BY

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MORISSET HALL

Dessin / Drawing:
LEVEL 4
BUILDING COMBINATION

BUILDING COMBINED

Édifice/Bldg			Niveau/Level:
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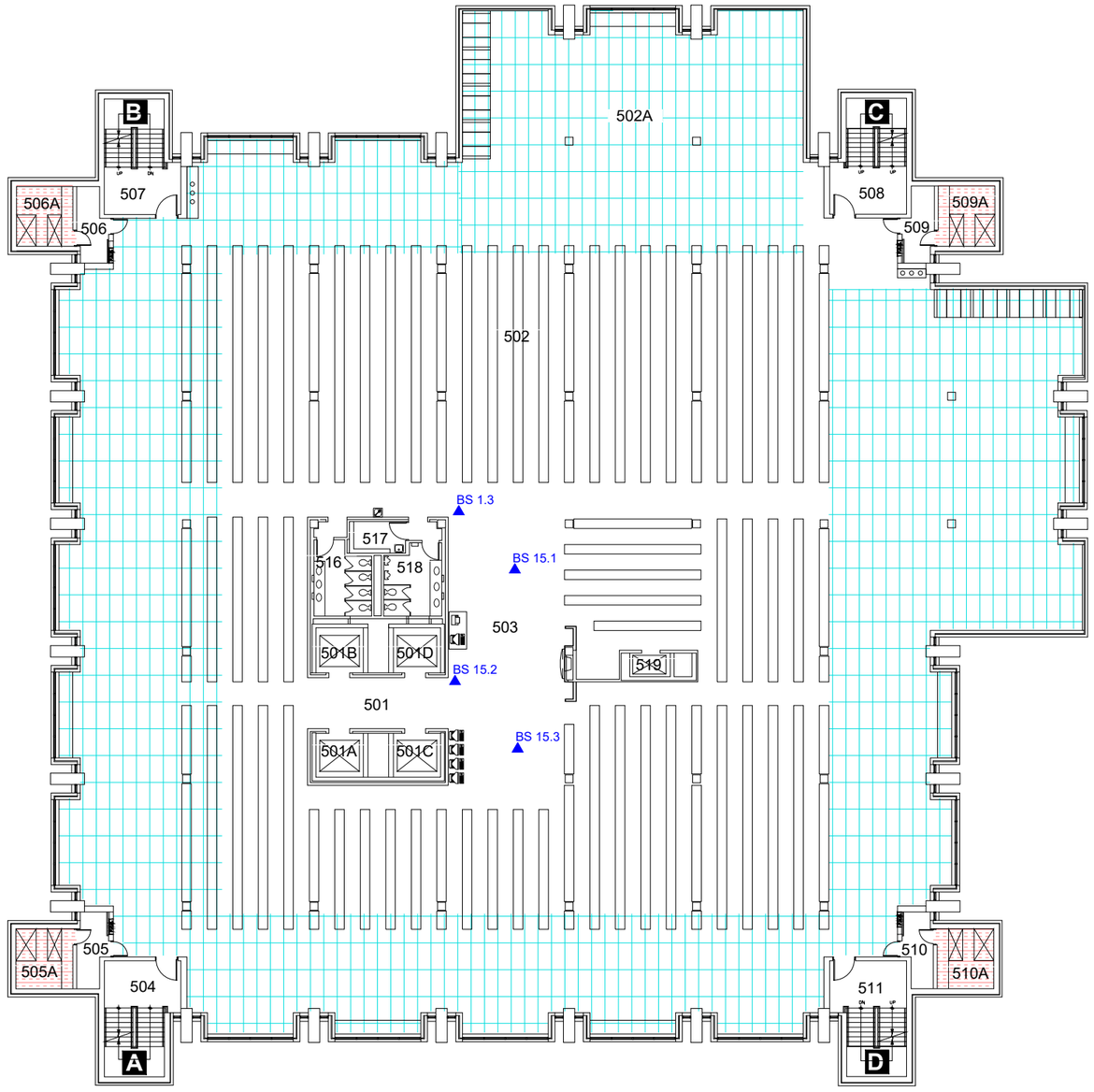
JB 08/09/2015



Legend:

- ▲ Asbestos BS-LeadSample
- ■ Lead Point Sample

Notes:

ACM plaster is present throughout

- ACM Ceiling/ Wall Tiles
- ACM Vinyl floor Tile (VFT)
- ACM Ceiling Texture Coat
- ACM Mechanical Insulation
- ACM Window Caulking
- ACM Vinyl Baseboard Mastic
- ACM Suspect Drywall

REV	DATE	DESCRIPTION	BY

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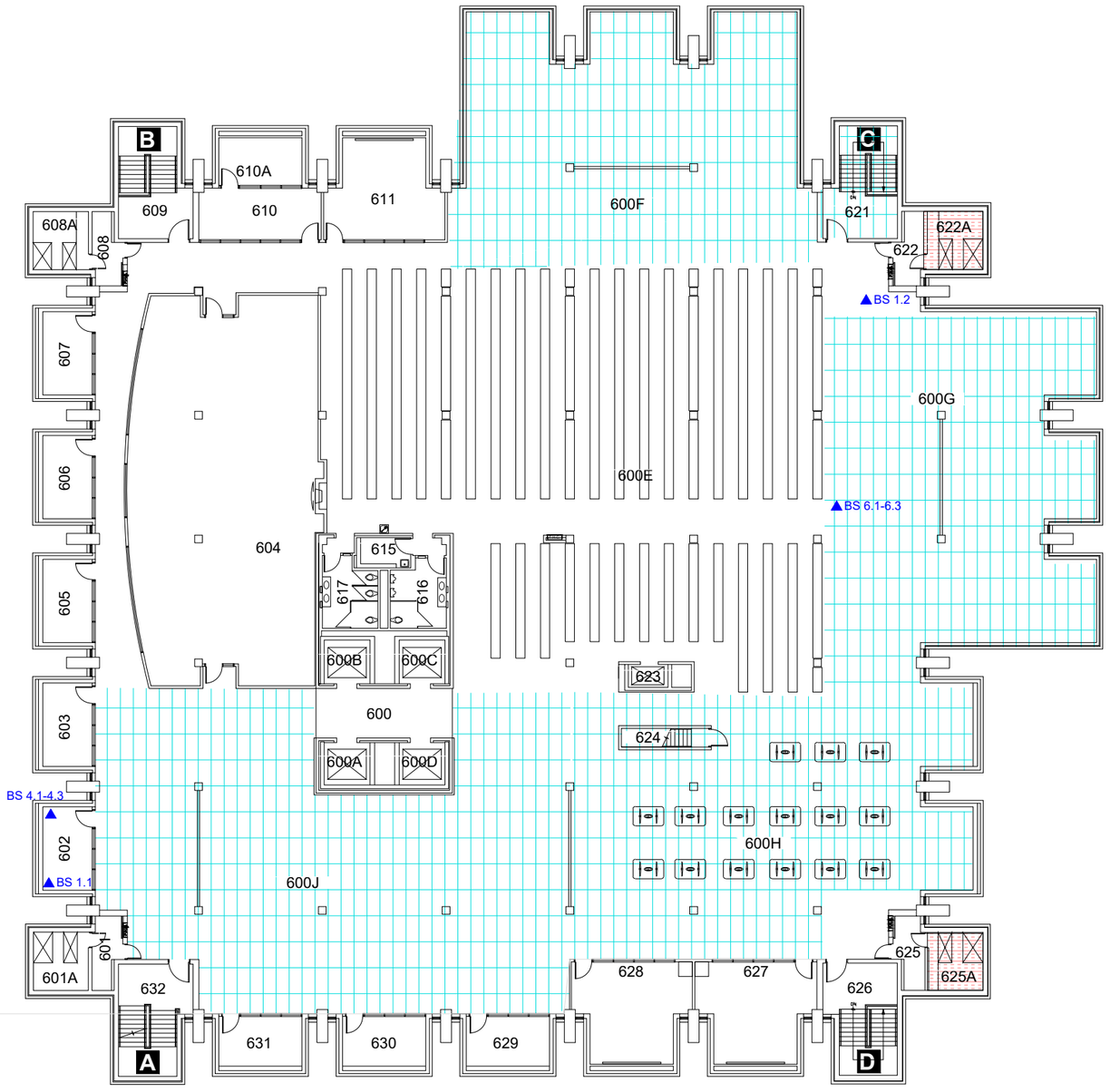
MORISSET HALL

Dessin / Drawing:
LEVEL 5
BUILDING COMBINATION

Édifice/Bldg			Niveau/Level:
----	060	----	0 ----
----	----	----	Feuille/Sheet:
Échelle/Scale: 1:300	Revision: 1		A-5 of/de

BUILDING COMBINED
JB
08/09/2015



Legend:

- ▲ Asbestos BS-LeadSample
- ■ Lead Point Sample

Notes:

ACM plaster is present throughout

- ACM Ceiling/ Wall Tiles
- ACM Vinyl floor Tile (VFT)
- ACM Ceiling Texture Coat
- ACM Mechanical Insulation
- ACM Window Caulking
- ACM Vinyl Baseboard Mastic
- ACM Suspect Drywall

REV	DATE	DESCRIPTION	BY

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

uOttawa
Immeubles
Facilities

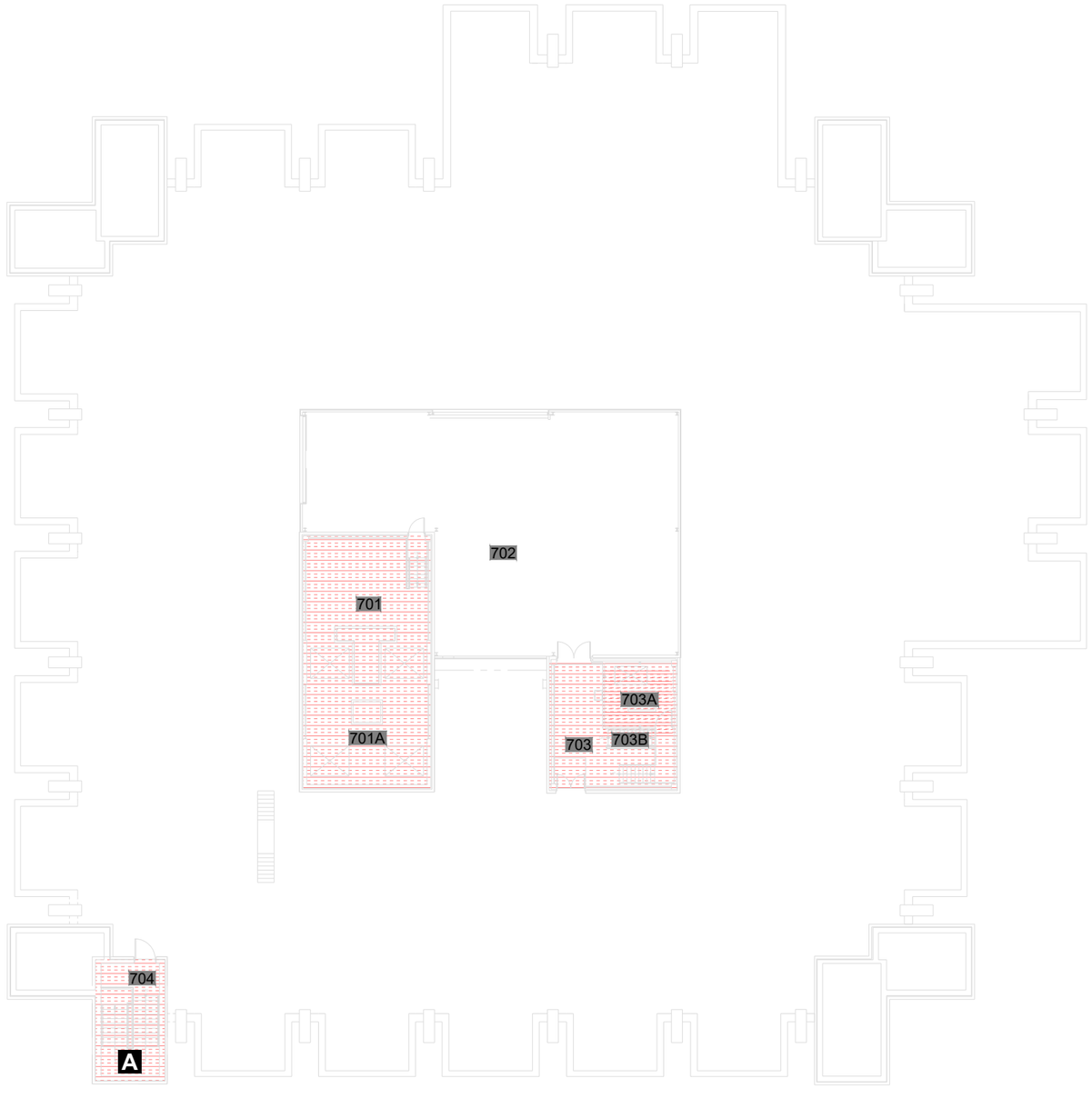
MORISSET HALL

BUILDING COMBINED

Dessin / Drawing:
LEVEL 6
BUILDING COMBINATION

Édifice/Bldg			Niveau/Level:
----	060	----	0 ----
----	----	----	Feuille/Sheet:
Échelle/Scale: 1:300	Revision: 1		A-6 of/de

JB 08/09/2015



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MORISSET HALL

BUILDING COMBINED

Dessin / Drawing:
LEVEL 7
BUILDING COMBINATION

Édifice/Bldg			Niveau/Level:
----	060	----	0 ----
----	----	----	Feuille/Sheet:
Échelle/Scale:	Revision:		A-7
1:300	1		of/de

JB 08/06/2015