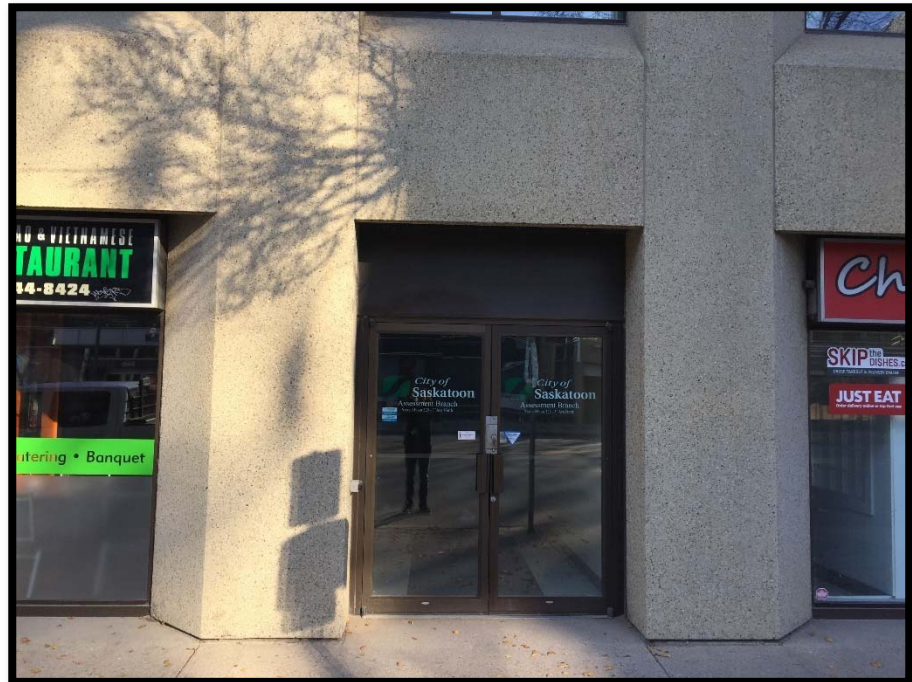




December 6, 2017

CITY OF SASKATOON

Asbestos-Containing Building Materials Assessment Report - Assessors Building



REPORT

Submitted to:

The City of Saskatoon
1101 Avenue P North
Saskatoon, SK S7L 7K6

Report Number: 1667963

Distribution:

One Copy: City of Saskatoon
One Copy: Golder Associates Ltd.





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1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by the City of Saskatoon (the Client) to conduct an asbestos-containing building materials assessment of the Assessors Building (the Site) located at 325 – 3rd Avenue North in Saskatoon, Saskatchewan. This assessment report details our findings, conclusions and recommendations for the Site. A walkthrough of the Site was conducted on September 6, 2017 and the assessment was conducted on October 14, 2017 by Kody Henderson, OHS Project Manager. Asbestos-containing building materials were identified within the Assessors Building during the assessment. Further information is provided in Section 3.0.

2.0 SCOPE OF WORK

In accordance with Tender 16-0844, Golder's scope of work included conducting an asbestos-containing building materials assessment of the Site to evaluate the quantities, locations, and conditions of asbestos-containing building materials.

Following the field work, Golder prepared this assessment report that includes laboratory analysis results, findings of the assessment, conclusions, and recommendations.

2.1 Asbestos-Containing Materials

The assessment involved a non-destructive inspection of the Site to assess the type and extent of suspect ACMs in the facility. The systems that were reviewed as part of the inspections included, but were not limited to:

- *Structural* - systems including: insulation between solid webbed joists, fireproofing, building envelope, and interior/exterior caulking around windows and doors;
- *Mechanical* - systems insulation including: hot water and steam system, condensate system, chilled water system, glycol system, domestic hot and cold water, emergency generator exhaust, boiler units, heat exchangers, and asbestos cement piping; and
- *Architectural* - systems including: texture coats, sheet flooring, vinyl floor tile, acoustical spray-applied materials, condensation control applications, ceiling tile, wall board, drywall joint compound, and asbestos sheet products.

Systematic sampling of suspect ACMs was conducted as part of the assessment. Samples were submitted under chain of custody to International Asbestos Testing Laboratory Inc. (IATL) and analyzed for asbestos type and percentage content using Polarized Light Microscopy (PLM) in accordance with EPA methodologies (EPA 600/R-93/116).

Further information related to the assessment and sample collection methods can be found in the Golder document *Golder Asbestos Assessment General Survey Plan and Protocol* provided to the Client.



3.0 RESULTS AND DISCUSSION

The Assessors Building consists of office spaces, washrooms, storage rooms, stairwells, and hallways and was constructed in 1983. During the assessment, the entire building was treated as one functional space.

- The Laboratory Certificate of Analysis report for the bulk asbestos samples is included in Appendix A.
- Photographs collected during the assessment are provided in Appendix B.
- A room by room spreadsheet outlining the locations, quantities, friability, and condition of identified asbestos-containing materials as well as additional information is provided in Appendix C.
- Floor plans outlining the sample locations and locations of identified asbestos-containing materials is provided in Appendix D.
- Please refer to Sections 4.0 and 6.0 of this report for a summary of the limitations encountered.

3.1 Asbestos-Containing Materials

A total of twenty-nine (29) samples of building materials were collected and tested for asbestos content during the assessment of the Assessors Building. One (1) of the samples was found to contain asbestos.

3.1.1 List of Identified Asbestos-Containing Materials

A list of the identified asbestos-containing materials is provided below.

- Black Firestop.

Further information on the identified asbestos-containing materials listed is provided below.

Black Firestop

One (1) sample of black firestop was collected during the assessment. The sample collected was found to contain 20% Chrysotile asbestos. Asbestos-containing black firestop (see Photograph 1 in Appendix B) was observed in the following locations:

- Exterior (approximately 1 ft²).

3.1.2 Non Asbestos-Containing Materials

The following materials were sampled during this assessment and were found to not contain asbestos or were observed to be non-suspect materials:

- Drywall joint compound;
- Grey window frame caulking;
- Red firestop;
- Grey, off-white, and black speckled vinyl sheet flooring;
- White sink undercoat;
- Black window caulking;
- Brown stair tread with beige streaks;



- 12"x12" beige floor tile with brown streaks;
- Grey floor levelling compound;
- Beige vinyl sheet flooring with brown and light green flecks;
- Cementitious structural steel packing;
- Grey building caulking;
- Black door caulking;
- Exterior Stucco;
- Exterior drywall joint compound;
- White building caulking;
- The 2'x4' ceiling tiles with widthwise fissures, the 2'x4' ceiling tiles with circular patterned fissures, and the 2'x4' ceiling tiles with small divots and pinholes were date coded to a time period in which asbestos use was not widespread;
- The ceiling deck and duct work throughout the ceiling space was observed to be uninsulated; and
- The walls were observed to be constructed of concrete block and drywall with non-asbestos-containing joint compound with ceilings constructed of non-asbestos-containing ceiling tiles and with various non-asbestos-containing flooring products as outlined in this report.

4.0 EXCLUDED AREAS AND MATERIALS

The following is a list of the areas and/or materials excluded during the assessment.

- The roof and associated components were not assessed by Golder during the assessment as per Tender 16-0844. If the roof and associated components are to be removed or impacted by future renovation or demolition activities, additional investigation and sampling of suspect materials may be required.
- The concrete block walls were not assessed by Golder during the assessment as per Tender 16-0844. If the concrete block walls are to be removed or impacted by future renovation or demolition activities, additional investigation and sampling of suspect materials may be required.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the visual assessment and the laboratory analytical results, the following project specific conclusions and recommendations are provided.

5.1 Asbestos-Containing Materials

Asbestos was positively identified within the black firestop on Site. Asbestos was not identified in the remaining samples collected and analyzed.

If the building is scheduled for renovations that will impact the identified or potential asbestos-containing materials, it must be removed. If additional suspect asbestos-containing building materials are encountered during renovation activities, additional sampling should be undertaken to evaluate asbestos content.



Removal work should be completed by workers that are adequately trained in the hazards and proper methods of working with asbestos. Throughout the abatement activities, appropriate air monitoring and inspections should be conducted by a competent person to document that contamination is contained and that ACM are disposed of appropriately. Ensure asbestos waste is disposed of in accordance with the requirements of the Government of Saskatchewan.

All quantities listed in the report are approximate and are based on the conditions at the time of the assessment. Prior to abatement work it is recommended that a competent person conduct a review of the site to quantify and obtain all measurements of all building materials detailed in this report for cost estimating purposes.

In anticipation of potential abatement, Golder's recommendations for the asbestos-containing materials identified during the assessment are outlined below.

Black Firestop

If scheduled for impact, asbestos-containing black firestop should be abated following low-risk abatement work procedures as outlined in the *Saskatchewan Asbestos Abatement Manual* (2017). Alternatively, as the black firestop was observed in good condition, and with a priority rating of 5 (please see the room by room spreadsheet provided in Appendix C for a description of the priority ratings), it can be managed in place if not scheduled for impact.

6.0 SURVEY LIMITATIONS

This report is based on data and information collected by Golder during the assessment conducted on October 14, 2017 and is based solely on site conditions encountered at the time of the assessment. Any use of this document or the findings, conclusions or recommendations provided in this report by any person other than the City of Saskatoon is at the sole risk of such user.

The conclusions and recommendations contained in this survey report are based upon professional opinions with regard to the subject matter. These opinions are in accordance with currently accepted environmental assessment standards and practices applicable to these locations and are subject to the following inherent limitations:

The data and findings presented in this report are valid as of the dates of the investigations. The passage of time, manifestation of latent conditions or occurrence of future events may warrant further exploration at the properties, analysis of the data, and re-evaluation of the findings, observations, and conclusions expressed in this report. No assurance is made regarding changes in conditions or practices subsequent to the time of the investigation. It was beyond the scope of this assessment to conduct a risk assessment and the potential health risks that may be associated with asbestos exposure for building occupants.

The data reported and the findings, observations and conclusions expressed in this report are limited by the Scope of Work. The Scope of Work was defined by Tender 16-0844 and the initial site walkthrough with the Client, the time and budgetary constraints imposed by the Client, and availability of access to the property.

Because of the limitations stated above, the findings, observations and conclusions expressed by Golder in this report are not, and must not be, considered an opinion concerning compliance of any past or present owner or operator of the site with any federal, provincial or local laws or regulations.



No warranty or guarantee, whether expressed or implied, is made with respect to the data or the reported findings, observations, and conclusions, which are based solely upon site conditions in existence at the time of investigation.

Golder's assessment reports present professional opinions and findings of a scientific and technical nature. While attempts were made to relate the data and findings to applicable environmental laws and regulations, the report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations or policies of federal, provincial, or local governmental agencies. Any use of the survey report constitutes acceptance of the limits of Golder's liability.

Golder's liability extends only to its client and not to other parties who may obtain this survey report. Issues raised by the report must be reviewed by appropriate legal counsel.

7.0 CLOSURE

We trust the information presented in this report meets your requirements. If you have any questions, please contact Kody Henderson at (780) 483-3499 or email at kody_henderson@golder.com. Thank you for the opportunity to be of service. We look forward to working with you again in the future.



Report Signature Page

GOLDER ASSOCIATES LTD.

Prepared by:

Reviewed by:

Kody Henderson, Dipl. Env. Sci., CRSP
OHS Project Manager

Andrew Grant, B.Sc., P.Eng., EP, CRSP
Associate, OHS Project Director

KH/AG/ba

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APPENDIX A

Laboratory Certificate of Analysis Report

CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6368245
Client No.: A-001
Analyst Observation: White Joint Compound
Client Description: Drywall Joint Compound
Location: Room 201
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368245(L2)
Client No.: A-001
Analyst Observation: Yellow Mastic
Client Description: Drywall Joint Compound
Location: Room 201
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: 1 Hair
Trace Cellulose
Percent Non-Fibrous Material: 99


Lab No.: 6368246
Client No.: A-002
Analyst Observation: Clear Caulk
Client Description: Grey Window Frame Caulking
Location: Room 205
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

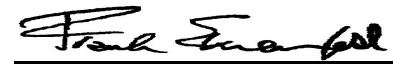
Lab No.: 6368247
Client No.: A-003
Analyst Observation: White Joint Compound
Client Description: Drywall Joint Compound
Location: Room 204
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368248
Client No.: A-004
Analyst Observation: White Joint Compound
Client Description: Drywall Joint Compound
Location: Room 229
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368248(L2)
Client No.: A-004
Analyst Observation: Yellow Mastic
Client Description: Drywall Joint Compound
Location: Room 229
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017
Date Analyzed: 10/26/2017
Signature: 
Analyst: Mark Stewart

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6368249
Client No.: A-005
Analyst Observation: Red Caulk
Client Description: Red Firestop
Location: Room 230
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: 10 Fibrous Glass
Percent Non-Fibrous Material: 90

Lab No.: 6368250
Client No.: A-006
Analyst Observation: Grey Vinyl Sheet Flooring
Client Description: Grey, Off-White and Black Speckled Vinyl Sheet Flooring
Location: Room 230
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368250(L2)
Client No.: A-006
Analyst Observation: Yellow Mastic
Client Description: Grey, Off-White and Black Speckled Vinyl Sheet Flooring
Location: Room 230
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: Trace Fibrous Glass
Percent Non-Fibrous Material: 100

Lab No.: 6368250(L3)
Client No.: A-006
Analyst Observation: White Leveling Compound
Client Description: Grey, Off-White and Black Speckled Vinyl Sheet Flooring
Location: Room 230
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: Trace Cellulose
Percent Non-Fibrous Material: 100

Lab No.: 6368251
Client No.: A-007
Analyst Observation: White Joint Compound
Client Description: Drywall Joint Compound
Location: Room 230
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368252
Client No.: A-008
Analyst Observation: White Mastic
Client Description: White Sink Undercoat
Location: Room 227
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017
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Analyst: Mark Stewart

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

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Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6368253 **Analyst Observation:** White Joint Compound **Location:** Room 224
Client No.: A-009 **Client Description:** Drywall Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 6368254 **Analyst Observation:** Black Caulk **Location:** Room 224
Client No.: A-010 **Client Description:** Black Window Caulking **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100


Lab No.: 6368255 **Analyst Observation:** White Joint Compound **Location:** Room 221
Client No.: A-011 **Client Description:** Drywall Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

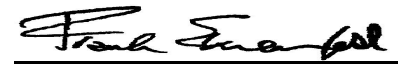
Lab No.: 6368255(L2) **Analyst Observation:** Yellow Mastic **Location:** Room 221
Client No.: A-011 **Client Description:** Drywall Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 6368256 **Analyst Observation:** White Joint Compound **Location:** Hallway 219
Client No.: A-012 **Client Description:** Drywall Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 6368256(L2) **Analyst Observation:** Yellow Mastic **Location:** Hallway 219
Client No.: A-012 **Client Description:** Drywall Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

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Client: Golder Associates Ltd
16820 107 Ave
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Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6368257
Client No.: A-013
Analyst Observation: Brown Stair Tread
Client Description: Brown Stair Tread With Beige Streaks
Location: Stairwell S2
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368258
Client No.: A-014
Analyst Observation: Tan Floor Tile; 12x12
Client Description: 12"x12" Beige Floor Tile With Brown Streaks
Location: Stairwell S2
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100


Lab No.: 6368259
Client No.: A-015
Analyst Observation: Grey/Tan Sheetrock
Client Description: Drywall Joint Compound
Location: Stairwell S2
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: 10 Cellulose
Percent Non-Fibrous Material: 90

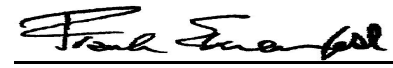
Lab No.: 6368260
Client No.: A-016
Analyst Observation: Grey Leveling Compound
Client Description: Grey Floor Leveling Compound
Location: Elevator
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: 5 Hair
Percent Non-Fibrous Material: 95

Lab No.: 6368260(L2)
Client No.: A-016
Analyst Observation: Yellow Mastic
Client Description: Grey Floor Leveling Compound
Location: Elevator
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368261
Client No.: A-017
Analyst Observation: Tan Vinyl Sheet Flooring
Client Description: Beige Vinyl Sheet Flooring With Brown And Lt Green Flecks
Location: Hallway 100
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: 50 Cellulose
5 Fibrous Glass
Percent Non-Fibrous Material: 45

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017
Date Analyzed: 10/26/2017
Signature: 
Analyst: Mark Stewart

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6368262
Client No.: A-018
Analyst Observation: White Joint Compound
Client Description: Drywall Joint Compound
Location: Hallway 100
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368262(L2)
Client No.: A-018
Analyst Observation: Yellow Mastic
Client Description: Drywall Joint Compound
Location: Hallway 100
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368263
Client No.: A-019
Analyst Observation: White Joint Compound
Client Description: Drywall Joint Compound
Location: Hallway 100
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368263(L2)
Client No.: A-019
Analyst Observation: Yellow Mastic
Client Description: Drywall Joint Compound
Location: Hallway 100
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368264
Client No.: A-020
Analyst Observation: Grey Cementitious
Client Description: Cementitious Structural Steel Packing
Location: Hallway 100
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Lab No.: 6368265
Client No.: A-021
Analyst Observation: Grey Caulk
Client Description: Grey Building Caulking
Location: Exterior
Facility:
Percent Asbestos: *None Detected*
Percent Non-Asbestos Fibrous Material: None Detected
Percent Non-Fibrous Material: 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017
Date Analyzed: 10/26/2017
Signature:
Analyst: Mark Stewart

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6368266 **Analyst Observation:** Grey Caulk **Location:** Exterior
Client No.: A-022 **Client Description:** Black Door Caulking **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 5 Fibrous Glass 95

Lab No.: 6368267 **Analyst Observation:** Grey Stucco **Location:** Exterior
Client No.: A-023 **Client Description:** Stucco **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100


Lab No.: 6368268 **Analyst Observation:** Grey Stucco **Location:** Exterior
Client No.: A-024 **Client Description:** Stucco **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

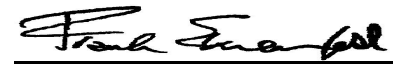
Lab No.: 6368269 **Analyst Observation:** Grey Stucco **Location:** Exterior
Client No.: A-025 **Client Description:** Stucco **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 6368270 **Analyst Observation:** White Joint Compound **Location:** Exterior
Client No.: A-026 **Client Description:** Drywall Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 6368271 **Analyst Observation:** White Joint Compound **Location:** Exterior
Client No.: A-027 **Client Description:** Drywall Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017
Date Analyzed: 10/26/2017
Signature: 
Analyst: Mark Stewart

Approved By: 
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Client: GOL572

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 6368272
Client No.: A-028

Analyst Observation: Grey Putty
Client Description: Black Firestop

Location: Exterior
Facility:

Percent Asbestos:
20 Chrysotile

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
80

Lab No.: 6368273
Client No.: A-029

Analyst Observation: White Caulk
Client Description: White Building Caulking

Location: Exterior
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
None Detected

Percent Non-Fibrous Material:
100

Analytical Method -US EPA 600, R93-116. Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/18/2017
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Analyst: Mark Stewart

Approved By:
Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Report Date: 10/26/2017
Report No.: 550051 - PLM
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Project No.: 1667963

Client: GOL572

Appendix to Analytical Report

Customer Contact:

Analysis: US EPA 600, R93-116

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com

iATL Office Manager: cdavis@iatl.com

iATL Account Representative: Pete Lesniak

Sample Login Notes: See Batch Sheet Attached

Sample Matrix: Bulk Building Materials

Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NY-DOH No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)>

CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Client: GOL572

Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at customerservice@iatl.com.

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional.

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% LOQ for most samples.
- 2) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.
- 3) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.
- 4) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.
- 5) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004

CERTIFICATE OF ANALYSIS

Client: Golder Associates Ltd
16820 107 Ave
Edmonton AB T5P 4C3

Client: GOL572

Report Date: 10/26/2017
Report No.: 550051 - PLM
Project: Assessors Bldg
Project No.: 1667963

Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.

LOQ, Limit of Quantitation estimates for mass and volume analyses.

*With advance notice and confirmation by the laboratory.

**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

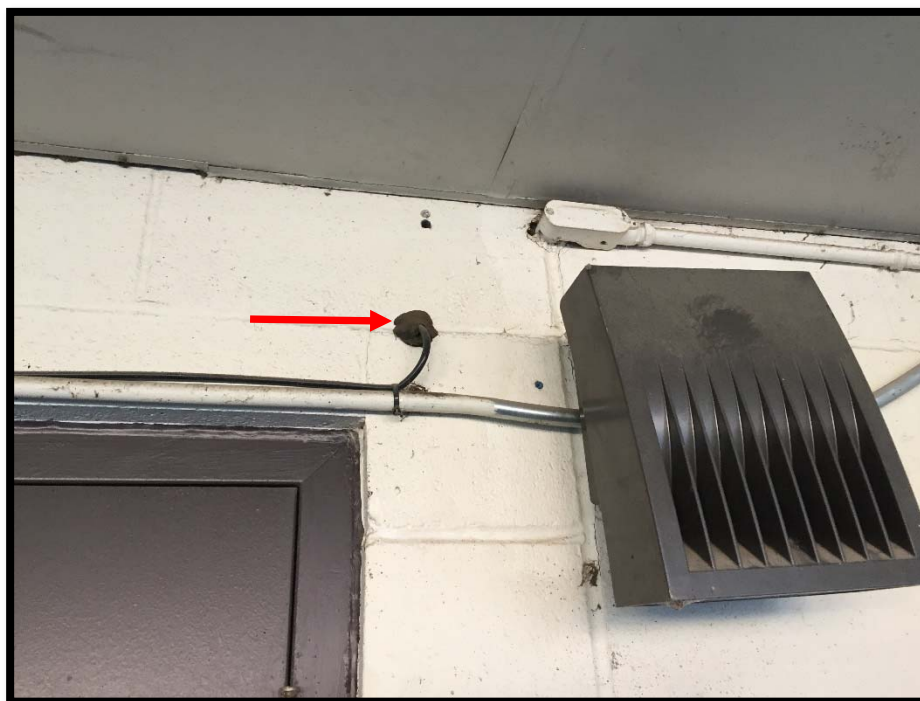


APPENDIX B

Site Photographs



APPENDIX B
Site Photographs



Photograph 1: Asbestos-Containing Black Firestop.

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APPENDIX C

Assessors Building Room by Room Spreadsheet

Appendix C
Assessors Building
ACM Inventory

Included/Excluded	Floor	Room #	Area Description	Elements	Subelements	Material Description	Accessibility	Suspect?	Sampled?	Asbestos Containing Material?	Condition	Field Notes	Sample Type	Sample ID	Sample Date	Asbestos Type	ACM Product	% of asbestos	Friable	Sprayed-on	Maintenance	Inspection	Priority	Potential for Disturbance	Recommended Action	Quantity	Photograph ID	Labelling Type	
Included	M	All	All	Doors	Regular Door	Non Suspect Door	High	No	No	No	Good	Non-suspect doors.																	
Included	M	All	All	Ceiling Deck	Ceiling Deck	Bare Ceiling Deck	High	No	No	No	Good																		
Included	M	All	All	Mechanical	Duct	Bare Duct Work in the Ceiling Space	High	No	No	No	Good	Bare duct work observed throughout the ceiling space of all areas assessed.																	
Included	M	All	All	Mechanical	Piping	Bare Piping in the Ceiling Space	High	No	No	No	Good	Bare piping observed throughout the ceiling space of all areas assessed.																	
Included	M	100	Hallway	Walls	Walls	Concrete Block	High	No	No	No	Good																		
Included	M	100	Hallway	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good		Bulk	A-018, A-019	14-Oct-17														
Included	M	100	Hallway	Floor	Floor	Beige Vinyl Sheet Flooring with Brown and Light Green Flecks	High	No	Yes	No	Good		Bulk	A-017	14-Oct-17														
Included	M	100	Hallway	Ceiling	Ceiling	2x4' Ceiling Tile with Widthwise Fissures	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	M	100	Hallway	Ceiling	Insulation	Cementitious Structural Steel Packing	High	No	Yes	No	Good		Bulk	A-020	14-Oct-17														
Included	S	201	Reception	Walls	Walls	Concrete Block	High	No	No	No	Good	Behind drywall.																	
Included	S	201	Reception	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good		Bulk	A-001	14-Oct-17														
Included	S	201	Reception	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	201	Reception	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	201	Reception	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	202	Hallway	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019															
Included	S	202	Hallway	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	202	Hallway	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	202	Hallway	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	203	Print Room	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019															
Included	S	203	Print Room	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	203	Print Room	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	203	Print Room	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	204	Boardroom	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good		Bulk	A-003	14-Oct-17														
Included	S	204	Boardroom	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	204	Boardroom	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	204	Boardroom	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	204	Boardroom	Windows	Caulking	Grey Window Frame Caulking	High	No	Yes	No	Good		Bulk	A-002	14-Oct-17														
Included	S	205	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019															
Included	S	205	Offices	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	205	Offices	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	205	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	205	Offices	Windows	Caulking	Grey Window Frame Caulking	High	No	Yes	No	Good			VS A-002															
Included	S	206	Office	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019															
Included	S	206	Office	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	206	Office	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	206	Office	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	206	Office	Windows	Caulking	Rubber Window Caulking	High	No	No	No	Good																		
Included	S	207	Hallway	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	207	Hallway	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	207	Hallway	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	208	Office	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019															
Included	S	208	Office	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	208	Office	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	208	Office	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	209	Office	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	209	Office	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	209	Office	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	210	Office	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019															
Included	S	210	Office	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	210	Office	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	210	Office	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	211	Meeting Room	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019															
Included	S	211	Meeting Room	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	211	Meeting Room	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	211	Meeting Room	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	
Included	S	212	Office	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																		
Included	S	212	Office	Floor	Floor	Carpet	High	No	No	No	Good																		
Included	S	212	Office	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																	

Appendix C
Assessors Building
ACM Inventory

Included/Excluded	Floor	Room #	Area Description	Elements	Subelements	Material Description	Accessibility	Suspect?	Sampled?	Asbestos Containing Material?	Condition	Field Notes	Sample Type	Sample ID	Sample Date	Asbestos Type	ACM Product	% of asbestos	Friable	Sprayed-on	Maintenance	Inspection	Priority	Potential for Disturbance	Recommended Action	Quantity	Photograph ID	Labelling Type
Included	S	213	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	213	Offices	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	213	Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	213	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	214	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	214	Offices	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	214	Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	214	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	215	Print Area	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	215	Print Area	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	215	Print Area	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	216	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	216	Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	216	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	216	Offices	Windows	Caulking	Black Window Caulking	High	No	Yes	No	Good			VS A-022														
Included	S	217	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	217	Offices	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	217	Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	217	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	218	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	218	Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	218	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	218	Offices	Windows	Caulking	Black Window Caulking	High	No	Yes	No	Good			VS A-010														
Included	S	219	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good																	
Included	S	219	Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	219	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	219	Offices	Windows	Caulking	Black Window Caulking	High	No	Yes	No	Good			VS A-010														
Included	S	220	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	220	Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	220	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	220	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Circular Patterned Fissures	High	No	No	No	Good																	
Included	S	220	Offices	Windows	Caulking	Black Window Caulking	High	No	Yes	No	Good			VS A-010														
Included	S	221	Office	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	221	Office	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	221	Office	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	221	Office	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	222	Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	222	Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	222	Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	222	Offices	Windows	Caulking	Black Window Caulking	High	No	Yes	No	Good			VS A-010														
Included	S	223	Hallway	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	223	Hallway	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	223	Hallway	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	223	Hallway	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	224	Office	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good																	
Included	S	224	Office	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	224	Office	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	224	Office	Ceiling	Ceiling	2x4' Ceiling Tile with Circular Patterned Fissures	High	No	No	No	Good																	
Included	S	224	Office	Windows	Caulking	Black Window Caulking	High	No	Yes	No	Good			Bulk A-010	14-Oct-17													

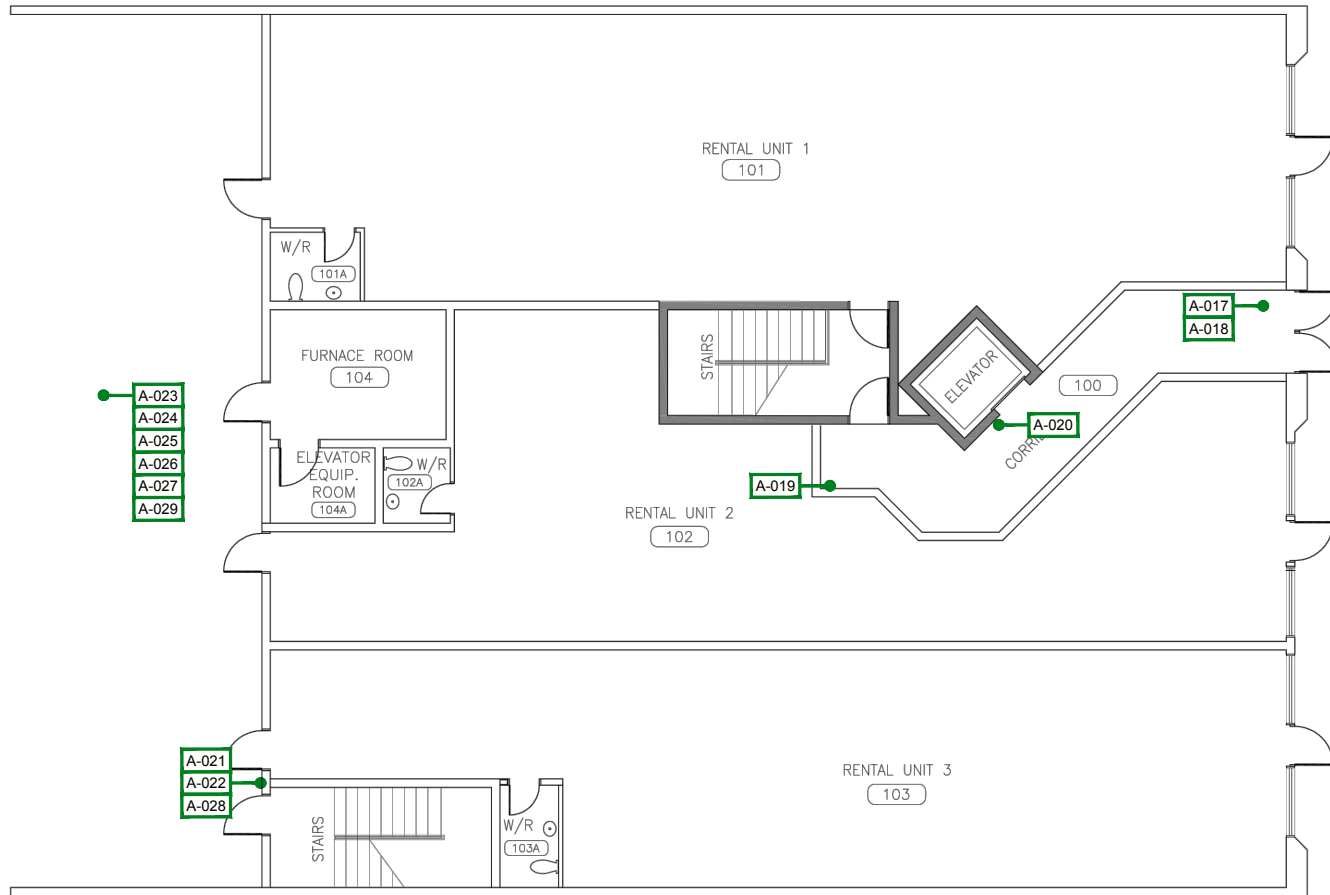
Appendix C
Assessors Building
ACM Inventory

Included/Excluded	Floor	Room #	Area Description	Elements	Subelements	Material Description	Accessibility	Suspect?	Sampled?	Asbestos Containing Material?	Condition	Field Notes	Sample Type	Sample ID	Sample Date	Asbestos Type	ACM Product	% of asbestos	Friable	Sprayed-on	Maintenance	Inspection	Priority	Potential for Disturbance	Recommended Action	Quantity	Photograph ID	Labelling Type
Included	S	225	Hallway and Offices	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	225	Hallway and Offices	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	225	Hallway and Offices	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	225	Hallway and Offices	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	226	Hallway	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	226	Hallway	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	226	Hallway	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	226	Hallway	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	227	Lunch Room	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	227	Lunch Room	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	S	227	Lunch Room	Floor	Floor	Grey, Off-White, and Black Speckled Vinyl Sheet Flooring	High	No	Yes	No	Good																	
Included	S	227	Lunch Room	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	227	Lunch Room	Plumbing	Sink	White Sink Undercoat	High	No	Yes	No	Good		Bulk	A-008	14-Oct-17													
Included	S	227	Lunch Room	Mechanical	Piping	PVC Drain Lines	High	No	No	No	Good																	
Included	S	228	Washroom	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good			VS A-001, A-003, A-004, A-007, A-011, A-012, A-015, A-018, A-019														
Included	S	228	Washroom	Floor	Floor	Grey, Off-White, and Black Speckled Vinyl Sheet Flooring	High	No	Yes	No	Good																	
Included	S	228	Washroom	Ceiling	Ceiling	2x4' Ceiling Tile with Circular Patterned Fissures	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	228	Washroom	Firestop	Firestop	Red Firestop	High	No	Yes	No	Good																	
Included	S	229	Hallway	Walls	Walls	Pre-Fabricated Drywall	High	No	No	No	Good																	
Included	M&S	229	Hallway	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good		Bulk	A-004	14-Oct-17													
Included	S	229	Hallway	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	229	Hallway	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	230	Washroom	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good		Bulk	A-007	14-Oct-17													
Included	S	230	Washroom	Floor	Floor	Grey, Off-White, and Black Speckled Vinyl Sheet Flooring	High	No	Yes	No	Good		Bulk	A-006	14-Oct-17													
Included	S	230	Washroom	Ceiling	Ceiling	2x4' Ceiling Tile with Circular Patterned Fissures	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	S	230	Washroom	Firestop	Firestop	Red Firestop	High	No	Yes	No	Good		Bulk	A-005	14-Oct-17													
Included	S	231	Janitor Room	Walls	Walls	Concrete Block	High	No	No	No	Good																	
Included	S	231	Janitor Room	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	S	231	Janitor Room	Ceiling	Ceiling	Metal Deck	High	No	No	No	Good																	
Included	M&S	S-1	Stairwell	Walls	Walls	Concrete Block	High	No	No	No	Good																	
Included	M&S	S-1	Stairwell	Floor	Floor	12"x12" Beige Floor Tile with Brown Streaks	High	No	Yes	No	Good			VS A-014														
Included	M&S	S-1	Stairwell	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	M&S	S-1	Stairwell	Floor	Floor	Brown Stair Tread with Beige Streaks	High	No	Yes	No	Good			VS A-013														
Included	M&S	S-1	Stairwell	Floor	Floor	Beige Vinyl Sheet Flooring with Brown and Light Green Flecks	High	No	Yes	No	Good			VS A-017														
Included	M&S	S-1	Stairwell	Ceiling	Ceiling	2x4' Ceiling Tile with Circular Patterned Fissures	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	M&S	S-1	Stairwell	Ceiling	Ceiling	2x4' Ceiling Tile with Widthwise Fissures	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread.																
Included	M&S	S-2	Stairwell	Walls	Walls	Concrete Block	High	No	No	No	Good		Bulk	A-015	14-Oct-17													
Included	M&S	S-2	Stairwell	Walls	Walls	Drywall Joint Compound	High	No	Yes	No	Good		Bulk	A-014	14-Oct-17													
Included	M&S	S-2	Stairwell	Floor	Floor	12"x12" Beige Floor Tile with Brown Streaks	High	No	Yes	No	Good																	
Included	M&S	S-2	Stairwell	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	M&S	S-2	Stairwell	Floor	Floor	Brown Stair Tread with Beige Streaks	High	No	Yes	No	Good		Bulk	A-013	14-Oct-17													
Included	M&S	S-2	Stairwell	Ceiling	Ceiling	2x4' Ceiling Tile with Small Divots and Pinholes	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread. Loose ceiling tiles are also being stored in the stairwell.																
Included	M&S	S-2	Stairwell	Ceiling	Ceiling	2x4' Ceiling Tile with Widthwise Fissures	High	No	No	No	Good	Date coded to a time period in which asbestos use was not widespread. Loose ceiling tiles are also being stored in the stairwell.																
Included	E	E-1	Elevator	Walls	Walls	Vinyl Covered Wood	High	No	No	No	Good																	
Included	E	E-1	Elevator	Floor	Floor	Carpet	High	No	No	No	Good																	
Included	E	E-1	Elevator	Floor	Floor	Grey Floor Levelling Compound	High	No	Yes	No	Good		Bulk	A-016	14-Oct-17													
Included	E	E-1	Elevator	Ceiling	Ceiling	Metal	High	No	No	No	Good																	
Included	E	Exterior	Exterior	Walls	Walls	Concrete	High	No	No	No	Good																	
Included	E	Exterior	Exterior	Walls	Walls	Stucco	High	No	Yes	No	Good		Bulk	A-023, A-024, A-025	14-Oct-17													
Included	E	Exterior	Exterior	Overhang	Overhang	Drywall Joint Compound	High	No	Yes	No	Good		Bulk	A-026, A-027	14-Oct-17													
Included	E	Exterior	Exterior	Walls	Caulking	Grey Building Caulking	High	No	Yes	No	Good		Bulk	A-021	14-Oct-17													
Included	E	Exterior	Exterior	Walls	Doors	Black Door Caulking	High	No	Yes	No	Good		Bulk	A-022	14-Oct-17													
Included	E	Exterior	Exterior	Walls	Firestop	Black Firestop	High	Yes	Yes	Yes	Good		Bulk	A-028	14-Oct-17	Chrysotile	Black Firestop	20.00%	No	No	No	Annually	5	Moderate	Manage in place	1 ft ²	Photograph 1	Door Jamb
Included	E	Exterior	Exterior	Walls	Caulking	White Building Caulking	High	No	Yes	No	Good		Bulk	A-029	14-Oct-17													
Excluded			Exterior	Roof	Exterior Roof							Not assessed due to scope of work.																



APPENDIX D

Floor Plans



LEGEND
 ● — # ASBESTOS SAMPLE LOCATION

NOTE(S)
 1. ASBESTOS IS A CARCINOGEN. DO NOT BREATHE ASBESTOS DUST.
 2. ASBESTOS-CONTAINING BLACK FIRESTOP IS LOCATED ON THE EXTERIOR OF THE BUILDING.

REFERENCE(S)
 PLAN OBTAINED FROM INFRASTRUCTURE SERVICES DEPARTMENT CITY OF SASKATOON. DATED: 09/02/2017

CLIENT
 CITY OF SASKATOON

CONSULTANT



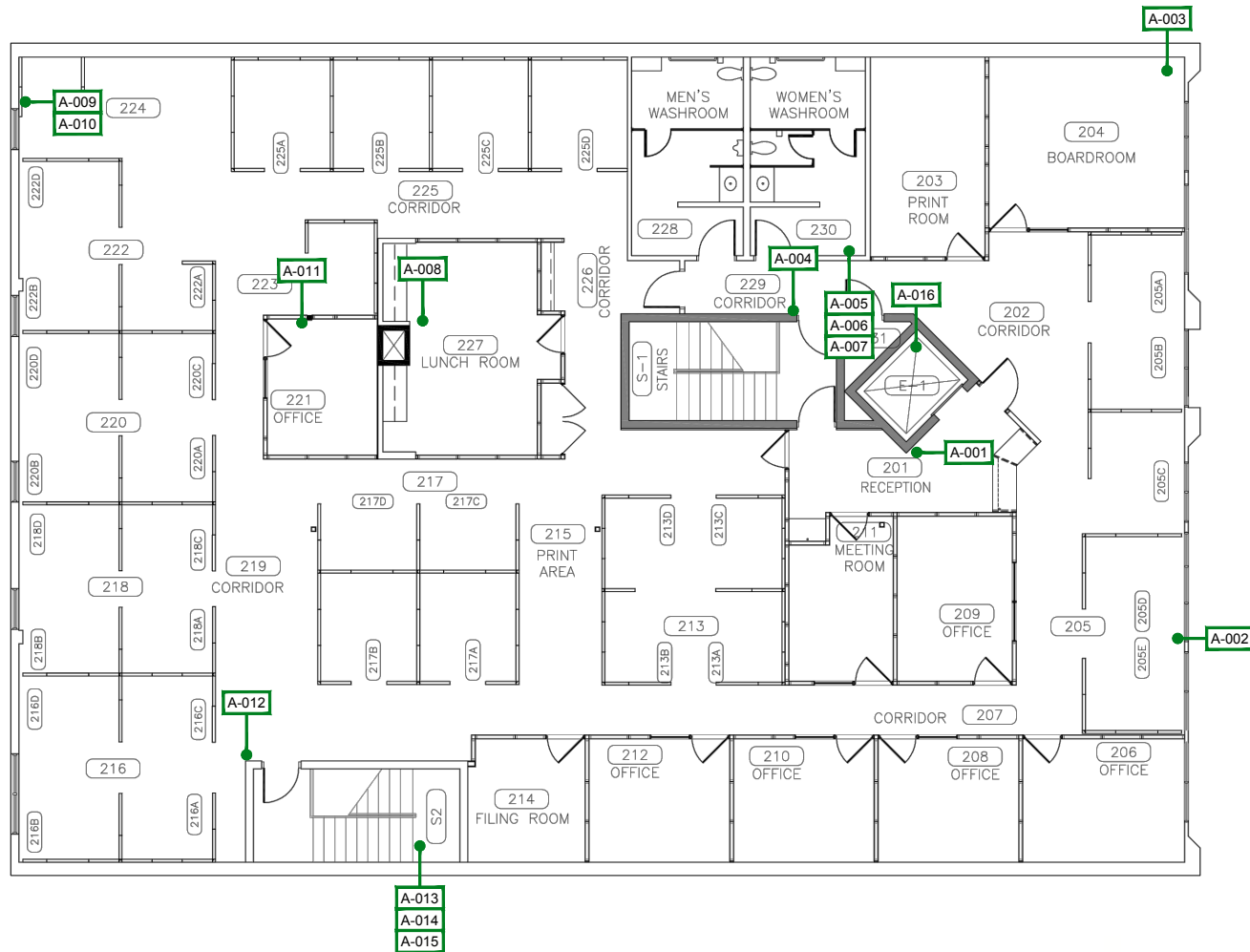
YYYY-MM-DD 2017-12-05
 DESIGNED KH
 PREPARED VI
 REVIEWED KH
 APPROVED AG

PROJECT
 ASBESTOS ASSESSMENT
 ASSESSORS BUILDING
 325 - 3 AVENUE NORTH

TITLE
MAIN FLOOR

PROJECT NO. 1667963 CONTROL 1000-HM-0001 REV. 0 FIGURE 1

SCHEMATIC ONLY, NOT TO SCALE



LEGEND
 # ASBESTOS SAMPLE LOCATION

SCHEMATIC ONLY, NOT TO SCALE

NOTE(S)
 1. ASBESTOS IS A CARCINOGEN. DO NOT BREATHE ASBESTOS DUST.
 2. ASBESTOS-CONTAINING BLACK FIRESTOP IS LOCATED ON THE EXTERIOR OF THE BUILDING.

REFERENCE(S)
 PLAN OBTAINED FROM INFRASTRUCTURE SERVICES DEPARTMENT CITY OF SASKATOON. DATED: 09/28/2017

CLIENT
 CITY OF SASKATOON

CONSULTANT



YYYY-MM-DD 2017-12-05
 DESIGNED KH
 PREPARED VI
 REVIEWED KH
 APPROVED AG

PROJECT
 ASBESTOS ASSESSMENT
 ASSESSORS BUILDING
 325 - 3 AVENUE NORTH

TITLE
SECOND FLOOR

PROJECT NO. 1667963 CONTROL 1000-HM-0005

REV. 0

FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A 26 mm

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

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