

REPORT

Hazardous Building Materials Assessment, Property DNE1 formerly EV1, Calgary Housing Company

750 5 Street NE, Calgary, Alberta

Assessment Completed: August 18 and September 13, 2021

Submitted to:

Calgary Housing Company (CHC)

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Executive Summary

Golder Associates Ltd. (Golder) was retained by the Calgary Housing Company (CHC) to conduct hazardous building materials assessments of various CHC properties throughout Calgary, Alberta. Golder understands that the current assessments were requested in order to generate a baseline inventory of potential hazardous building materials throughout the various properties.

This report documents the results of the assessment conducted at property DNE1, formerly EV1, located at 750 5 Street NE in Calgary, Alberta. The initial assessment of the common areas was conducted on August 18, 2021, additional bulk samples were collected on September 13, 2021, both assessments were completed by Cory Gray, Occupational Hygiene Technologist under the direction of Scott Bishop and Kara Snelling, Project Managers and Fred Louth, Project Director.

SCOPE OF WORK

Golder conducted a baseline assessment to compile an inventory of hazardous building materials including asbestos-containing materials (ACM), lead-containing paint, polychlorinated biphenyls (PCB) in fluorescent light ballasts, mercury in thermostats, mercury-vapour in fluorescent light tubes or bulbs, ozone-depleting substances (ODS) in items or systems such as refrigerators and air conditioning Units, radioactive materials in smoke detectors, suspect fungal-contamination and miscellaneous chemicals.

The assessment included the common areas and sixteen units (the Units) from the apartment complex in order to achieve “representative sampling”. The Units selected for this assessment were selected by a CHC representative to be included as part of the assessment and included the following:

- Unit 1608;
- Unit 1603;
- Unit 1511;
- Unit 1405;
- Unit 1214;
- Unit 1102;
- Unit 1004;
- Unit 910;
- Unit 708;
- Unit 612;
- Unit 607;
- Unit 502;
- Unit 411;
- Unit 405; and
- Unit 307.

It is important to note that in addition to the units above, Unit 805 was selected for this assessment. However, the occupant refused access at the time of the assessment, as such it was removed from the list of the Units to be assessed. The assessment methodology, applicable regulations and guidelines and assessment limitations are provided in Appendices A to C.

CONCLUSIONS AND RECOMMENDATIONS

Asbestos-Containing Materials

Based on the sample results and visual observations, asbestos was identified in the following materials within the DNE1 (EV1) property:

- tar over Fiberglass Insulation;
- black Tar Mastic;
- 12" x 12" white with blue streaks patterned vinyl floor tile;
- 2" x 2" beige tile patterned vinyl sheet floor; and
- brown acoustic sink insulation.

The identified asbestos-containing materials were observed to be in good condition at the time of the assessment. The asbestos-containing materials should be maintained in good condition to minimize potential exposure to the building occupants. Periodic inspections of the identified asbestos-containing materials should be completed to monitor for any changes in building conditions.

Sampling was conducted in fifteen of the units in the DNE1 (EV1) building in an effort to complete a representative assessment. Due to the potential for renovations or different construction eras within the Units, consideration should be given to completing area specific sampling prior to renovations to potentially delineate between older and newer materials. Prior to conducting renovation or maintenance activities in the Units that were not assessed, assessment for ACMs should be completed.

Prior to renovation or demolition activities, ACM that may be impacted must be removed. Asbestos removal should be completed by workers certified by Alberta OHS. Throughout the abatement activities, appropriate air monitoring and inspections should be conducted by qualified personnel to document that the ACM are removed and disposed of appropriately. It is recommended that a proper scope of work and asbestos removal specifications be written to scope the complete and proper removal of the identified ACM.

If during renovation or demolition activities suspect ACM not previously assessed is encountered, work should be stopped immediately, and sampling of the material should be conducted to confirm the presence of asbestos.

Lead-Containing Materials

Based on the sample results and visual observations, lead was identified in the following paints:

- grey paint on concrete floors; and
- taupe paint on metal doors.

Lead-containing surfaces with any amounts of lead that will be impacted through renovation or demolition activities in a manner likely to cause some level of airborne lead-containing dust or fumes, (i.e., manual demolition, welding, torch cutting, grinding, sanding, or sandblasting) should be controlled through the

development and implementation of an Exposure Control Plan. The exposure control plan should include safe work procedures to address the lead exposure hazard during demolition activities. The safe work procedures should include procedures to minimize dust during demolition, procedures for proper containment, collection, clean-up and disposal of debris to prevent contamination in other areas, the use of proper cleaning tools, selection and use of proper personal protective equipment, and other applicable procedures.

The lead-containing paint was observed to be in good condition, at the time of the assessment. If the condition of the paints degrades, they should be abated following methods and requirements outlined in the Alberta OHS *Lead at the Work Site* bulletin. The lead-containing paint waste generated from the abatement activities should be analyzed for lead leachability by toxicity characteristic leaching procedure (TCLP) prior to disposal to ensure transportation and disposal of lead-containing waste materials is conducted in accordance with the requirements of AEP and the Federal *Transportation of Dangerous Goods Act* and Regulations, current to the date of the work. The AEP Waste Control Regulation prescribes the disposal pathways for lead-containing waste. Non-metal building materials (bricks, wood, concrete, cinderblock etc.) coated with lead-containing paint should not be recycled for re-use.

Lead-acid batteries were observed in the emergency lighting system throughout the building during the assessment. Prior to or during renovation or demolition activities, the lead-acid batteries must be collected for recycling. Lead-acid batteries cannot be landfilled in Alberta and therefore must be recycled upon decommissioning at a licensed recycling facility.

Other Hazardous Building Materials

Item	Hazardous Material	Comments
Fluorescent light ballasts	PCBs	Observed within the Mechanical Rooms and Common Areas
Thermostats	Mercury-filled capsules	Observed within the Units and Common Areas
Fluorescent light tubes	Mercury-vapour	Observed within the Mechanical Rooms and Common Areas
Compact Fluorescent Light Bulb	Mercury-vapour	Not observed
Smoke detectors	Radioactive materials	Observed within the Units, Mechanical Rooms and Common Areas
Fungal Contamination	Fungal Contamination	Observed in the Rooftop Mechanical Room and Sixteenth Floor Hallway
Miscellaneous chemicals	Miscellaneous chemicals	Observed within the Units

Fluorescent light fixture ballasts which are to be disposed of should be sorted on-site by qualified personnel based on date of manufacture and inspected to evaluate for PCB-containing ballast. Safe work procedures should be followed when handling suspected PCB-containing ballasts. Any fixtures with ashing should be treated as PCB-containing as well. PCB-containing fixtures must be identified, barrelled appropriately and stockpiled on-site. Following removal of all fixtures, the barrelled PCB-containing light ballasts must be appropriately labelled, manifested and transported to an approved destruction and disposal facility in accordance with regulations specified by Environment Canada.

Thermostats containing mercury-filled capsules and fluorescent light tubes containing mercury-vapour were observed during the assessment. Mercury in thermostat capsules and mercury-vapour in fluorescent light tubes

pose no risk to workers or occupants provided the capsules and tubes remain intact and undisturbed. It is recommended that at the time of removal, the capsules and tubes be kept separate from all other waste to prevent damage. These materials should be recycled or disposed of in accordance with regulations specified by AEP.

Refrigerators in the Units were determined to contain R-134a refrigerant, which is not considered to be an ozone-depleting substance. However, prior to disposal, the refrigerant should be drained by qualified personnel.

Smoke detectors suspected of containing radioactive materials were observed during the assessment. Radioactive materials within the smoke detectors pose no risk to workers or occupants provided the materials remain intact and undisturbed. It is recommended that at the time of renovation or demolition, all smoke detectors should be kept separate from all other waste to prevent damage. These materials may be recycled by qualified personnel or may be disposed of in accordance with regulations specified by Alberta Environment and Parks.

Fungal contamination was identified during the assessment. Fungal remediation should be conducted following low-risk procedures as outlined in the *Best Practices: Mould at the Worksite* (July 2009).

Miscellaneous household cleaning chemicals were observed in the Units during the assessment. Prior to renovation or demolition activities, these miscellaneous chemicals should be removed from the area for appropriate packaging and disposal.

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1.0 INTRODUCTION

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2.0 SCOPE OF WORK

Golder conducted a baseline assessment to compile an inventory of hazardous building materials including asbestos-containing materials (ACM), lead-containing paint, polychlorinated biphenyls (PCB) in fluorescent light ballasts, mercury in thermostats, mercury-vapour in fluorescent light tubes or bulbs, ozone-depleting substances (ODS) in items or systems such as refrigerators and air conditioning Units, radioactive materials in smoke detectors, suspect fungal-contamination and miscellaneous chemicals.

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- Unit 405; and
- Unit 307.

It is important to note that in addition to the units above, Unit 805 was selected for this assessment. However, the occupant refused access at the time of the assessment, as such it was removed from the list of the Units to be assessed. The assessment methodology, applicable regulations and guidelines and assessment limitations are provided in Appendices A to C.

3.0 SITE DESCRIPTION

Table 1: Building Material Overview

Item	Details	Comments
Building Construction	Circa 1982	N/A
Building Use	Apartments	One Hundred and Sixty-Three Units
Number of Floors/Levels	Sixteen floors	The First, Second and Third floors are partially or fully devoted to common and commercial areas. Additionally, there are two below grade parkade levels and one rooftop Mechanical Room. Commercial areas were not included in the assessment.
Square Footage	Approximately 155,4000 ft ²	N/A
Structure	Reinforced Concrete	N/A
Exterior Cladding	Stucco and brick façade	Reportedly, a large portion of the exterior façade was replaced in 2009
HVAC	Heating is provided by a boiler system in the rooftop Mechanical Room, a forced-air furnace in the Main Floor Mechanical Room, and by exterior wall mounted baseboard style heaters in each unit.	Ducting was observed to be either uninsulated or insulated with fiberglass insulation. Piping was observed to be insulated by a mixture of fiberglass, PVC, and cementitious pipe fitting insulation. Fiberglass insulation is not suspected to contain asbestos.
Roof	Torched-down flat roof	Silicone based caulking observed on the roof (not suspected to contain asbestos).
Flooring	Carpeting, vinyl sheet flooring, vinyl floor tiles, ceramic floor tiles, laminate, and concrete throughout.	N/A
Interior Walls	Drywall and Concrete.	N/A
Exterior Walls	Drywall and Concrete.	N/A
Ceiling	Drywall and stipple coat covered drywall.	
Lighting	A combination of compact fluorescent and incandescent light bulbs observed throughout the Units, and a combination of fluorescent light tubes and incandescent light bulbs observed in the common areas and Mechanical Rooms.	Compact fluorescent light bulbs and fluorescent light tubes contain mercury-vapour.

4.0 RESULTS AND DISCUSSION

The laboratory reports are provided in Appendix D. Room number identifiers are provided on the floor plans provided in Appendix E. Additional information regarding the materials sampled, photographs and other identified hazardous building materials are provided in a spreadsheet in Appendix F. An estimated abatement budget to

remove the identified hazardous building materials from the building (using extrapolated quantities) is provided in Appendix G. The bulk report following the September 2021 bulk sampling is provided in Appendix H.

4.1 Asbestos-Containing Materials

Sixty-two bulk samples of suspect ACM were collected by Golder during the assessment and sent to the laboratory for analysis. The laboratory analyzed a total of sixty-five layers. Asbestos was identified in ten of the sample layers analyzed. The analytical results are provided in Table 2: Asbestos Analysis Results.

Table 2: Asbestos Analysis Results

Sample Number	Sample Description	Sample Location	Asbestos Detected No/Yes: Type ^(a)
DNE1-A-01A	Drywall Joint Compound	Boiler Room	None Detected
DNE1-A-01B	Drywall Joint Compound	16th Floor Corridor	None Detected
DNE1-A-01C	Drywall Joint Compound	Unit 1608	None Detected
DNE1-A-01D	Drywall Joint Compound	Unit 1511	None Detected
DNE1-A-01E	Drywall Joint Compound	Unit 1214	None Detected
DNE1-A-01F	Drywall Joint Compound	3rd Floor, Laundry Room	None Detected
DNE1-A-01G	Drywall Joint Compound	3rd Floor, Meeting Room	None Detected
DNE1-A-02A	Mechanical Insulation - 3" Pipe Fitting	Boiler Room	None Detected
DNE1-A-02B	Mechanical Insulation - 3" Pipe Fitting	Boiler Room	None Detected
DNE1-A-02C	Mechanical Insulation - 3" Pipe Fitting	Boiler Room	None Detected
DNE1-A-03A	Mechanical Insulation - 5" Pipe Fitting	Boiler Room	None Detected
DNE1-A-03B	Mechanical Insulation - 5" Pipe Fitting	Boiler Room	None Detected
DNE1-A-03C	Mechanical Insulation - 5" Pipe Fitting	Boiler Room	None Detected
DNE1-A-04A	Tar over Fiberglass Insulation	Rooftop	5% Chrysotile
DNE1-A-04B	Tar over Fiberglass Insulation	Rooftop	None Detected
DNE1-A-04C	Tar over Fiberglass Insulation	Rooftop	10% Chrysotile
DNE1-A-05A	Duct Joint Mastic - Light Grey	Rooftop	None Detected
DNE1-A-06A	Tar Mastic - Black	Rooftop	5% Chrysotile
DNE1-A-06B	Tar Mastic - Black	Rooftop	5% Chrysotile
DNE1-A-06C	Tar Mastic - Black	Rooftop	5% Chrysotile
DNE1-A-07A	Texture Coat	16th Floor Corridor	None Detected
DNE1-A-07B	Texture Coat	15th Floor Corridor	None Detected
DNE1-A-07C	Texture Coat	14th Floor Corridor	None Detected
DNE1-A-08A	Ceiling Tile - 2' x 4' Multidirectional Fissures with Pinholes	16th Floor Corridor	None Detected
DNE1-A-09A	Ceiling Tile - 2' x 4' Sparse Multidirectional Fissures with Pinholes	17th Floor Corridor	None Detected
DNE1-A-10A	Firestop - Reddish Brown	16th Floor Corridor, Electrical Room	None Detected
DNE1-A-11A	Ceiling Stipple Coat	16th Floor Corridor, Garbage Room	None Detected
DNE1-A-11B	Ceiling Stipple Coat	Unit 1608	None Detected
DNE1-A-11C	Ceiling Stipple Coat	Unit 1603	None Detected
DNE1-A-11D	Ceiling Stipple Coat	15th Floor Corridor	None Detected

Table 2: Asbestos Analysis Results

Sample Number	Sample Description	Sample Location	Asbestos Detected No/Yes: Type ^(a)
DNE1-A-11E	Ceiling Stipple Coat	14th Floor Corridor	None Detected
DNE1-A-11F	Ceiling Stipple Coat	Unit 1214	None Detected
DNE1-A-11G	Ceiling Stipple Coat	3rd Floor, Laundry Room	None Detected
DNE1-A-12A	Vinyl Sheet Floor - 9" x 9" Beige Tile Pattern	Unit 1603	None Detected
DNE1-A-12B	Vinyl Sheet Floor - 9" x 9" Beige Tile Pattern	Unit 1214	None Detected
DNE1-A-12C	Vinyl Sheet Floor - 9" x 9" Beige Tile Pattern	Unit 607	None Detected
DNE1-A-13A	Vinyl Floor Tile - 12" x 12" White with Blue Streaks - Floor Tile	Unit 1603	5% Chrysotile
	Vinyl Floor Tile - 12" x 12" White with Blue Streaks - Mastic	Unit 1603	None Detected
DNE1-A-13B	Vinyl Floor Tile - 12" x 12" White with Blue Streaks	Unit 1511	5% Chrysotile
DNE1-A-13C	Vinyl Floor Tile - 12" x 12" White with Blue Streaks - Floor Tile	Unit 1214	5% Chrysotile
	Vinyl Floor Tile - 12" x 12" White with Blue Streaks - Mastic	Unit 1214	None Detected
DNE1-A-14A	Vinyl Sheet Floor - 2" x 2" Beige Tile Pattern	Unit 1511	20% Chrysotile
DNE1-A-15A	Vinyl Sheet Floor - 6" x 6" Beige Tile Pattern	Unit 910	None Detected
DNE1-A-16A	Window Glazing - Black	3rd Floor, Patio, Exterior	None Detected
DNE1-A-16B	Window Glazing - Black	3rd Floor, Patio, Exterior	None Detected
DNE1-A-16C	Window Glazing - Black	3rd Floor, Patio, Exterior	None Detected
DNE1-A-17A	Window Glazing - Grey	3rd Floor, Meeting Room	None Detected
DNE1-A-17B	Window Glazing - Grey	3rd Floor, Meeting Room	None Detected
DNE1-A-17C	Window Glazing - Grey	3rd Floor, Meeting Room	None Detected
DNE1-A-18A	Vinyl Floor Tile - 12" x 12" White with Beige Flecks	3rd Floor, Meeting Room Washroom	None Detected
DNE1-A-18B	Vinyl Floor Tile - 12" x 12" White with Beige Flecks	3rd Floor, Meeting Room Washroom	None Detected
DNE1-A-18C	Vinyl Floor Tile - 12" x 12" White with Beige Flecks - Floor Tile	3rd Floor, Meeting Room Washroom	None Detected
	Vinyl Floor Tile - 12" x 12" White with Beige Flecks - Mastic	3rd Floor, Meeting Room Washroom	None Detected
DNE1-A-19A	Spray-Applied Insulation	Parkade	None Detected
DNE1-A-19B	Spray-Applied Insulation	Parkade	None Detected
DNE1-A-19C	Spray-Applied Insulation	Parkade	None Detected
DNE1-A-20A	Duct Joint Mastic - Brown	Main Floor, Garbage Room	None Detected
DNE1-A-21A	Duct Joint Mastic - Green	Main Floor, Garbage Room	None Detected
DNE1-A-22A	Grey Caulking	Main Floor, Garbage Room	None Detected
DNE1-A-23A	Brick Mortar	Main Floor, Exterior, West Side	None Detected
DNE1-A-23B	Brick Mortar	Main Floor, Exterior, West Side	None Detected
DNE1-A-23C	Brick Mortar	Main Floor, Exterior, West Side	None Detected

Table 2: Asbestos Analysis Results

Sample Number	Sample Description	Sample Location	Asbestos Detected No/Yes: Type ^(a)
DNE1-A-24A	Acoustic Sink Insulation	Unit 1214	5% Chrysotile
DNE1-A-25A	Grey Cementitious Pipe Insulation	16th Floor Corridor	None Detected
DNE1-A-25B	Grey Cementitious Pipe Insulation	16th Floor Corridor	None Detected

a) Samples were analyzed using Bulk Asbestos Analysis by EPA 600/R-93/116.

Asbestos was not detected in pipe fitting insulation samples during the assessment (Sample Groups DNE1-A-02 and DNE1-A-03). However, due to potential renovations and pipe fitting insulation being hidden behind wall and ceiling cavities, pipe fitting insulation should be sampled and analyzed for asbestos content when encountered. Pipe fitting insulation is expected to be present within wall and ceiling cavities and pipe chases throughout the building.

Due to the non-intrusive nature of the assessment, Golder did not assess below new laminate flooring to assess for the presence of hazardous building materials (e.g., older vinyl sheet flooring or floor tile). There is potential for additional asbestos-containing materials to be present below new flooring.

4.2 Lead-Containing Materials

Six bulk samples of paint suspected to be lead-containing were collected and submitted for analysis. Two of the samples were determined to have lead concentrations above the Surface Coatings Materials Regulations, SOR/2010-224, criteria of **90 mg/kg** and are considered to be lead-containing. Lead-containing analytical results are provided in Table 3: Paint Analysis Results.

Table 3: Paint Analysis Results

Sample Number	Sample Location	Sample Colour and Substrate	Lead Concentration (mg/kg)	Lead-Containing Paint ^(a) (Yes/No)	Condition of Material
DNE1-L-01	Boiler Room	White Paint on Drywall	<5	No	Good
DNE1-L-02	Boiler Room	Grey on Concrete	888	Yes	Good
DNE1-L-03	Boiler Room	Taupe on Metal	1,360	Yes	Good
DNE1-L-04	16th Floor Corridor, Garbage Room	Beige on Drywall	<5	No	Good
DNE1-L-05	3rd Floor, Patio	Black on Metal	<5	No	Good
DNE1-L-06	Parkade	White on Concrete	14	No	Good

a) Based on Surface Coatings Materials Regulations, SOR/2010-224 classification of 90 mg/kg.

Batteries within the emergency lighting system were observed within the hallways and stairwells throughout the building during the assessment.

4.3 Polychlorinated Biphenyls

The lighting systems throughout the Units were observed to be incandescent light fixtures, which are not suspected to house PCB-containing ballasts.

Approximately 185 fluorescent light fixtures (with T-12 style light tubes) suspected to house PCB-containing ballasts were observed in the mechanical rooms and common areas at the time of the assessment. As the lights were in operation, Golder was not able to safely inspect the light fixtures to assess the ballast code information. Additionally, fluorescent light fixtures using the newer style T-8 fluorescent light tubes were observed throughout the building. Fluorescent light fixtures using the newer T-8 style light tubes are not suspected of housing PCB-containing light ballasts.

4.4 Other Hazardous Building Materials

Thermostats containing mercury-filled capsules were observed in most of the Units as well as the Main Floor and Third Floor common areas at the time of the assessment. Additional thermostats were observed to be mechanical or digital in design and do not use mercury capsules.

Lighting systems throughout the Units were mostly observed to be incandescent light fixtures, and the incandescent light bulbs are not suspected to contain mercury-vapour.

Approximately 650 fluorescent light tubes suspected to contain mercury-vapour were observed in the mechanical rooms and common areas during the assessment.

Refrigerators in the Units were observed to have labels indicating the presence of R-134a refrigerant, which is not considered to be an ozone-depleting substance.

Smoke detectors suspected of containing radioactive materials were observed in the Units, mechanical rooms, and common areas during the assessment.

During the assessment, Golder observed suspect fungal contamination in the rooftop Mechanical Room and in the Sixteenth Floor Corridor. Two bulk samples of suspect fungal contaminated material were collected and submitted to the laboratory for analysis. The bulk fungal sample results are provided in Table 4: Bulk Fungal Sample Results.

Table 4: Bulk Fungal Sample Results

Sample Number	Sample Substrate and Location	Fungal Spore Identified	Relative Spore Concentration
DNE1-F-01	Canvass Boiler Insulation, Rooftop Mechanical Room	<i>Cladosporium</i> spores ascospores basidiospores pigmented mycelial fragments	Moderate ^(a) Low ^(b) Trace ^(c) Trace
DNE1-F-02	Ceiling Tile, 16 th Floor Corridor	<i>Stachybotrys</i> spores pigmented mycelial fragments <i>Stachybotrys</i> spp.	High ^(d) Moderate Trace

a) Moderate = 11 – 100 propagules noted per mm² of slide surface.

b) Low = <10 propagules noted per mm² of slide surface.

c) Trace = 2 propagules or less on entire slide.

d) High = > than 101 propagules noted per mm² of slide surface.

The results of the bulk sample, DNE1-F-01 collected from the rooftop Mechanical Room identified the presence of fungal isolates, including *Cladosporium* spores and pigmented mycelial fragments, likely related to historical water damage. The results of bulk sample DNE1-F-02 collected from the Sixteenth Floor Corridor identified a high

presence of fungal isolates, including *Stachybotrys* spores, commonly associated with water-damaged building materials in indoor environments.

Miscellaneous household cleaning chemicals were observed in the Units during the assessment.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Asbestos-Containing Materials

Based on the sample results and visual observations, asbestos was identified in the following materials within the DNE1 (EV1) property:

- tar over Fiberglass Insulation;
- black Tar Mastic;
- 12" x 12" white with blue streaks patterned vinyl floor tile;
- 2" x 2" beige tile patterned vinyl sheet floor; and
- brown acoustic sink insulation.

The identified asbestos-containing materials were observed to be in good condition at the time of the assessment. The asbestos-containing materials should be maintained in good condition to minimize potential exposure to the building occupants. Periodic inspections of the identified asbestos-containing materials should be completed to monitor for any changes in building conditions.

Sampling was conducted in fifteen of the units in the DNE1 (EV1) building in an effort to complete a representative assessment. Due to the potential for renovations or different construction eras within the Units, consideration should be given to completing area specific sampling prior to renovations to potentially delineate between older and newer materials. Prior to conducting renovation or maintenance activities in the Units that were not assessed, assessment for ACMs should be completed.

Prior to renovation or demolition activities, ACM that may be impacted must be removed. Asbestos removal should be completed by workers certified by Alberta OHS. Throughout the abatement activities, appropriate air monitoring and inspections should be conducted by qualified personnel to document that the ACM are removed and disposed of appropriately. It is recommended that a proper scope of work and asbestos removal specifications be written to scope the complete and proper removal of the identified ACM.

If during renovation or demolition activities suspect ACM not previously assessed is encountered, work should be stopped immediately, and sampling of the material should be conducted to confirm the presence of asbestos.

5.2 Lead-Containing Materials

Based on the sample results and visual observations, lead was identified in the following paints:

- grey paint on concrete floors; and
- taupe paint on metal doors.

Lead-containing surfaces with any amounts of lead that will be impacted through renovation or demolition activities in a manner likely to cause some level of airborne lead-containing dust or fumes, (i.e., manual demolition, welding, torch cutting, grinding, sanding, or sandblasting) should be controlled through the

development and implementation of an Exposure Control Plan. The exposure control plan should include safe work procedures to address the lead exposure hazard during demolition activities. The safe work procedures should include procedures to minimize dust during demolition, procedures for proper containment, collection, clean-up and disposal of debris to prevent contamination in other areas, the use of proper cleaning tools, selection and use of proper personal protective equipment, and other applicable procedures.

The lead-containing paint was observed to be in good condition, at the time of the assessment. If the condition of the paints degrades, they should be abated following methods and requirements outlined in the Alberta OHS *Lead at the Work Site* bulletin. The lead-containing paint waste generated from the abatement activities should be analyzed for lead leachability by toxicity characteristic leaching procedure (TCLP) prior to disposal to ensure transportation and disposal of lead-containing waste materials is conducted in accordance with the requirements of AEP and the Federal *Transportation of Dangerous Goods Act* and Regulations, current to the date of the work. The AEP Waste Control Regulation prescribes the disposal pathways for lead-containing waste. Non-metal building materials (bricks, wood, concrete, cinderblock etc.) coated with lead-containing paint should not be recycled for re-use.

Lead-acid batteries were observed in the emergency lighting system throughout the building during the assessment. Prior to or during renovation or demolition activities, the lead-acid batteries must be collected for recycling. Lead-acid batteries cannot be landfilled in Alberta and therefore must be recycled upon decommissioning at a licensed recycling facility.

5.3 Polychlorinated Biphenyls

Fluorescent light fixtures (with T-12 style light tubes) suspected to house PCB-containing ballasts were observed at the time of the assessment. As the lights were in operation, Golder was not able to safely inspect the light fixtures to assess the ballast code information.

Fluorescent light fixture ballasts which are to be disposed of should be sorted on-site by qualified personnel based on date of manufacture and inspected to evaluate for PCB-containing ballast. Safe work procedures should be followed when handling suspected PCB-containing ballasts. Any fixtures with ashing should be treated as PCB-containing as well. PCB-containing fixtures must be identified, barrelled appropriately, and stockpiled on-site. Following removal of all fixtures, the barrelled PCB-containing light ballasts must be appropriately labelled, manifested and transported to an approved destruction and disposal facility in accordance with regulations specified by Environment Canada.

5.4 Other Hazardous Building Materials

Thermostats containing mercury-filled capsules and fluorescent light tubes containing mercury-vapour were observed during the assessment. Mercury in thermostat capsules and mercury-vapour in fluorescent light tubes pose no risk to workers or occupants provided the capsules and tubes remain intact and undisturbed. It is recommended that at the time of removal, the capsules and tubes be kept separate from all other waste to prevent damage. These materials should be recycled or disposed of in accordance with regulations specified by AEP.

Refrigerators in the Units were determined to contain R-134a refrigerant, which is not considered to be an ozone-depleting substance. However, prior to disposal, the refrigerant should be drained by qualified personnel.

Smoke detectors suspected of containing radioactive materials were observed during the assessment. Radioactive materials within the smoke detectors pose no risk to workers or occupants provided the materials

remain intact and undisturbed. It is recommended that at the time of renovation or demolition, all smoke detectors should be kept separate from all other waste to prevent damage. These materials may be recycled by qualified personnel or may be disposed of in accordance with regulations specified by Alberta Environment and Parks.

Fungal contamination was identified during the assessment. Fungal remediation should be conducted following low-risk procedures as outlined in the *Best Practices: Mould at the Worksite* (July 2009).

Miscellaneous household cleaning chemicals were observed in the Units during the assessment. Prior to renovation or demolition activities, these miscellaneous chemicals should be removed from the area for appropriate packaging and disposal.

6.0 CLOSURE

We trust the information presented in this report meets your requirements. If you have any questions or require additional information, please contact the undersigned at (403) 299-5600. Thank you for the opportunity to be of service. We look forward to working with you again in the future.

Signature Page

Golder Associates Ltd.



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OHS Project Manager



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APPENDIX A

Methodologies

Site work was generally completed in accordance with standards outlined by Alberta OHS. The assessment included an area-by-area assessment for suspect hazardous building materials.

Asbestos-Containing Materials

An assessment for the potential ACM in the building included the evaluation of the building systems. The systems reviewed included, but not limited to:

- Mechanical: Building mechanical systems such as the heating, ventilating and air conditioning (HVAC) systems were inspected for the presence of ACM.
- Structural: The method of construction was determined, including interior room areas, mezzanines and roofing support systems. Fireproofing, fire-stop and other materials installed as a part of the structure were reviewed.
- Architectural: The presence of ACM was assessed in building materials and finishes such as floor and ceiling tiles, texture coats, asbestos sheet materials, wall joint compound, condensation control applications, spray-applied acoustical materials, and spray-applied insulation on areas of the structure.

The quantity of samples collected was in general accordance with the guidelines in the *Alberta Asbestos Abatement Manual* (August 2019), and was adjusted based on the amount of suspect homogenous materials observed onsite. A homogenous material is defined as a material that is uniform in color and texture and includes the materials throughout its full extent, even if its occurrence is not contiguous or physically connected. Where analysis of a sample confirmed that a bulk material sample was asbestos-containing, then the entire homogenous material from which the sample was collected was considered an asbestos-containing material.

The *Alberta Asbestos Abatement Manual* (August 2019), recommends a specific number of samples to be collected from suspect ACM depending on the amount present on-site. As part of this project, certain building materials were observed to be installed in limited quantities throughout renovation work area, making the collection of multiple samples from these materials impractical.

Detailed notes were taken with each sample including type of material and sample location. All sample locations have a unique reference number and a digital photograph was taken of each sampling location. Materials suspected of containing asbestos were sampled and submitted for analysis to EMSL Canada Inc., a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory. The asbestos samples were analyzed for asbestos type and percentage content using polarized light microscopy and dispersion staining techniques in accordance with EPA methodologies (EPA 600/R-93/116).

Gaskets were not assessed as sampling would cause damage that may compromise the integrity of the systems. Golder did not sample materials where the sampling would have affected the operation of equipment (e.g., wiring). Golder did not sample the interior of operational equipment.

The sampling was performed in a manner to limit “routine” survey damage and disturbance to existing materials. Some repairs may be necessary, particularly related to the sampling of materials such as, but not limited to, drywall, ceiling tiles, floor tiles, and exterior finishes. Our procedures included sampling in unobtrusive locations as possible (e.g., closets, corner of ceiling tiles). It is assumed that repairs are the responsibility of the client.

Lead Containing Materials

Visual identification and sampling of suspected lead-containing paint was completed as part of the assessment. Accessible painted surfaces were tested for the presence of lead-containing paint. Testing for lead content was conducted by collecting a bulk sample of the paint finish and placing the material into a sealable bag. The samples were sent to Paracel Laboratories Ltd. and analyzed for lead content using Inductively Coupled Plasma-Optical Emission Spectrometry (ICP-OES). For the purpose of this report, paints analyzed with lead content greater than the Surface Coatings Materials Regulations, SOR/2010-224, criteria of 90 mg/kg are considered to be lead-containing.

Polychlorinated Biphenyls

Fluorescent light fixtures were inspected to determine if they have the older style T-12 light tubes. If the T-12 light tubes were observed, those ballasts were assumed to be PCB-containing. The high-efficiency light fixtures with the newer T-10, T-8 and T-5 style light tubes were assumed to have non-PCB containing ballasts. Transformer fluids were not assessed as part of this project.

Other Hazardous Building Materials

The building was visually assessed for the presence of mercury in thermostats, mercury in fluorescent light tubes, ODS in items or systems such as refrigerators and air conditioning units, radioactive materials in smoke detectors, suspect fungal-contamination, and miscellaneous chemicals.

APPENDIX B

Regulations and Guidelines

Alberta Health and Safety Regulations

The regulations, codes and guidelines relevant to hazardous building materials include the Alberta Occupational Health and Safety Code (AR 191/2021), the Alberta Occupational Health & Safety (OHS), *Alberta Asbestos Abatement Manual* (August 2019) and the Alberta Environmental Protection and Enhancement Act and Waste Control Regulation.

Part 4 and Schedule 1, Table 2 in the Alberta *OHS Code* (AR 191/2021) defines occupational exposure limits (OELs) for a variety of airborne contaminants. The OEL for a particular contaminant represents conditions to which it is believed that nearly all workers may be exposed, day after day, without suffering from adverse health effects. An eight-hour OEL refers to the average concentration of a substance over an 8-hour period.

Sections 28 through 38 in Part 4 of the Alberta *OHS Code* (AR 191/2021), outline the requirements related to asbestos in facilities. Sections 31 to 35 specifically outline the limitations on the use of asbestos in buildings. The requirements of Sections 31 through 35 are summarized below:

- if asbestos fibres may be released in a building, all necessary steps to correct this unsafe condition must be taken;
- asbestos products that have the potential for releasing fibres may not be installed;
- all materials containing Crocidolite are banned from use;
- spray-applied asbestos products are banned from use;
- asbestos products, in general, must not be in a form or location where they could release airborne fibres and allow them to enter a ventilation system;
- buildings to be demolished are to have all materials with the potential of releasing asbestos fibres removed; and
- all materials with the potential of releasing asbestos fibres that may be impacted by a renovation must be either encapsulated, enclosed or removed.

Alberta OHS does not define lead-containing paint (LCP), nor does it specify any safe levels of lead in paint. The Alberta OHS Code, Part 4 – Chemical Hazards, Biological Hazards and Harmful Substances, stipulates the requirements for worker exposure to harmful substances. A code of practice (Section 26) is required if lead is present in a quantity of 10 kilograms or greater at a concentration at 0.1% by weight or more. These sections of the regulation apply to any workplace where a worker is or may be exposed to potentially hazardous levels of inorganic lead. The code also states that workers may not be exposed to levels of airborne lead above the OEL. Exposure monitoring, personal protective equipment, training, housekeeping and other requirements are also specified in the regulations.

For the purposes of compliance with the Alberta regulations, if there is a detectable level of lead in paint the OHS Code applies. In general, the OHS Code requires conducting an initial exposure assessment (air sampling) to determine if employees are exposed to lead. It applies to all workplace and construction activities that entail alteration, repair, demolition, renovation, removal, or salvage of structures or materials that contain lead.

Alberta Asbestos Abatement Manual

The *Alberta Asbestos Abatement Manual* (August 2019) is a guide published by Alberta OHS that is used for determining compliance with the OHS Code in the Province of Alberta. It covers basic information on asbestos, its health hazards, requirements for worker protection, safe work practices and the basic principles to follow for the safe abatement of ACMs. The *Alberta Asbestos Abatement Manual* defines an asbestos-containing material (ACM) as a product or material that contains asbestos in any quantity or percentage of asbestos. For the purposes of this report, if detectable levels of asbestos are identified through laboratory testing, the sampled material is considered an asbestos-containing material.

Alberta *Environmental Protection and Enhancement Act*

The Alberta *Environmental Protection and Enhancement Act* (AEPEA) is a law which was passed to protect and enhance the environment. As such, the *Act* and the regulations under the *Act* are enforceable by law. The *Act* places the onus on the owner; employer and employee to ensure no adverse effects are experienced in the environment.

The key waste regulation under the EPEA relating to hazardous building materials is the Waste Control Regulation (WCR), and Alberta's hazardous waste and hazardous recyclables management programs. The WCR provides guidance for the proper handling, storage, transportation, treatment, recycling and disposal of hazardous wastes in the province. The regulation also outlines the materials and criteria to be used to characterize waste as hazardous.

Although asbestos is not considered to be a hazardous waste, Alberta Environment and Parks (AEP) has published guidelines for the disposal of asbestos waste. Within the guidelines, criteria have been established for the handling, transportation and disposal of asbestos waste. Also within the guidelines, the types of landfills that can accept asbestos waste are outlined.

The Waste Control Regulation (Alberta Regulation 129/1996 with amendments up to and including Alberta Regulation 259/2021) refers to the Alberta User Guide for Waste Managers, which outlines the materials and criteria to be used to characterize waste as hazardous. Lead and PCBs have established criteria which define whether or not these materials are hazardous waste.

In accordance with Section 12.1 of the Waste Control Regulation, PCB-containing equipment is defined as any equipment, machinery or similar manufactured items, including a capacitor, and an electrical transformer, that contains a PCB liquid or solid. This definition includes fluorescent light ballasts which contain PCBs in the capacitor. Following removal of all fixtures, the barrelled PCB-containing light ballasts must be appropriately labelled, manifested and transported to an approved destruction and disposal facility in accordance with regulations specified by AEP.

Elemental mercury used in switches and mercury vapour used in fluorescent lamps can be recycled as outlined under Part 1 – Hazardous Waste and Part 2 - Hazardous Recyclables of the Waste Control Regulation. Within Part 1, the conditions, requirements and operating conditions for recycling facilities are outlined.

Other Guidelines

Alberta OHS published a Bulletin in November of 2013¹ that refers to the *Canada Consumer Product Safety Act, Surface Coating Materials Regulations* (SOR/2016-193) for the total allowable amount of lead in paint. The regulation stipulates that the total amount of lead may not exceed 90 mg/kg (ppm or about 0.009%) in surface coatings. For the purposes of this assessment, lead-containing is defined as a bulk sample of paint that has been found to exceed 90 mg/kg as analyzed by a laboratory.

Lead-containing paint is a potential concern both as a source of direct exposure (inhalation or ingestion of dust or paint chips), and as a contributor to lead in interior dust and exterior soil. A risk assessment of potential occupational exposure to lead must consider not only the presence of lead (any amount) but also the activity or impact of activity on the paints containing lead.

The guideline addresses this issue by establishing three tiers of trigger tasks where employees conducting these activities are assumed to potentially exceed the exposure limits and must be protected accordingly. There are also requirements under the Environmental Protection and Enhancement Act to prevent the release of lead into the environment.

The PCB Regulation, SOR/2008-273 was published to improve the protection of Canada's environment and the health of Canadians by minimizing the risks posed by the use, storage and release of polychlorinated biphenyls (PCBs) and also outlines the handling, storage and disposal of PCBs and PCB-containing equipment. The Regulation defines PCB-contaminated material as any material containing more than 50 parts per million (ppm) or 50 milligrams per kilogram (mg/kg) of PCBs. PCB content of ballasts can be evaluated through referencing the Environment Canada Report EPS 2/CC/2 (revised) August 1991, *Identification of Lamp Ballasts Containing PCBs*.

In 1994, the federal government filed the Ozone-Depleting Substances Regulations to amend controls on production and consumption of chlorofluorocarbons (CFC), halons, tetrachloride and methyl-chloroform. The Federal Halocarbon Regulations, 2003 (SOR/2003-289), was filed to ensure uniformity with respect to the release, recovery and recycling of ODS and their halocarbon alternatives in refrigeration and air conditioning. The Canadian Environmental Protection Act (1999), Ozone-Depleting Substances Regulations, (SOR/2016-137), controls the import, manufacture, use, sale, and export of ODS. The regulation also requires that permits be obtained to import or export used, recovered, recycled, and reclaimed ODS.

Radioactive material found in smoke detectors is regulated under the Nuclear Safety and Control Act (amended July 2013). Americium can be found in smoke detectors and is used to detect the presence of smoke or heat. The Nuclear Substances and Radiation Devices Regulation (SOR 2000-207) defines the disposal requirements of smoke detectors that contain a nuclear substance.

In July 2009, Alberta Occupational Health and Safety (OHS) published a document, *Best Practices – Mould at the Work Site*, to address mould at work sites. This document describes principles to determine the appropriate procedures to address fungi or fungal-contaminated materials. The document also presents basic information on mould, health hazards, requirements for worker protection, safe work procedures, management of mould, inspection criteria and applicable legislation.

¹ Lead in the Workplace, CH071 – Chemical Hazards.

The introduction of the *Best Practices* document corresponds to changes in the Alberta OHS Code. The OHS Code now has specific requirements regarding mould in the work place. Based on guidelines produced by Health Canada, the Canadian Construction Association and other government industry organizations, the OHS Code, along with the *Alberta OHS Act and Regulations*, now states that the presence of mould in the indoor environment is an unacceptable condition and requires implementation of appropriate controls. Once mould is suspected in the work place, an assessment should be completed to determine the cause of mould growth, followed by correcting the cause (e.g., water infiltration) of the mould growth and finally removing mould-contaminated materials following established principles and procedures.

APPENDIX C

Assessment Limitations

This report has been prepared for the use of the Calgary Housing Company. Golder Associates Ltd. has no obligation, contractually or otherwise, to any third persons using or relying upon this report for any reason and therefore takes no responsibility for damage suffered by any third party as a result of actions taken or decisions made on the basis of information or conclusions of this report.

This report is based on data and information collected in association with the site inspections conducted by Golder Associates Ltd. as described herein and is based solely on site conditions encountered at the time of the site visits on August 18, 2021 and September 13, 2021. Conditions may vary beyond the locations tested, and may vary over time.

Limited quantities of certain suspect ACM's were observed throughout the building. As such, Golder only collected one or two samples of each of these materials.

As the building was occupied at the time of the assessment, only approximately 10% of units were accessed. Out of the 10%, some tenants were present during the assessment; therefore, sampling was limited to the units where the tenants were not present. There are no assurances made regarding building materials in the other units or areas of the building that were not accessed.

No assurance is made regarding changes in conditions or practices subsequent to the time of the inspections. It was beyond the scope of this assessment to conduct a risk assessment with respect to any discovered microbial contamination and the potential health risks that may be associated with fungal exposure for building occupants.

Because of the limitations stated above, the findings, observations and conclusions expressed by Golder Associates Ltd. in this report are not, and should 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.

Golder Associates Ltd. will not be responsible for any real or perceived decrease in a property value, its saleability or ability to gain financing through the reporting of information in this report.

Golder Associates Ltd.'s observations and/or any readings obtained will represent observed and/or measured conditions only at the date and time observed and/or measured.

Golder Associates Ltd.'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, regulations, or industry standards, 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 assessment report constitutes acceptance of the limits of Golder Associates Ltd.'s liability.

APPENDIX D

Laboratory Reports



EMSL Canada Inc.

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EMSL Canada Order: 652107123

Customer ID: 55EHPL50

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Project ID:

Attention: Kara Snelling

Golder Associates, Ltd.

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Phone: (403) 299-5600

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Received Date: 08/23/2021 4:05 PM

Analysis Date: 08/30/2021

Collected Date:

Project: 18-100842

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DNE1-A-01A 652107123-0001	BOILER ROOM - DRYWALL JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-01B 652107123-0002	16TH FLOOR CORRIDOR - DRYWALL JOINT COMPOUND	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-01C 652107123-0003	UNIT 1608 - DRYWALL JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-01D 652107123-0004	UNIT 1511 - DRYWALL JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-01E 652107123-0005	UNIT 1214 - DRYWALL JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-01F 652107123-0006	3RD FLOOR, LAUNDRY ROOM - DRYWALL JOINT COMPOUND	White Non-Fibrous Homogeneous		10% Perlite 90% Non-fibrous (Other)	None Detected
DNE1-A-01G 652107123-0007	3RD FLOOR, MEETING ROOM - DRYWALL JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-02A 652107123-0008	BOILER ROOM - MECHANICAL INSULATION- 3" PIPE FITTING	Beige Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
DNE1-A-02B 652107123-0009	BOILER ROOM - MECHANICAL INSULATION- 3" PIPE FITTING	Beige Fibrous Homogeneous	50% Min. Wool	50% Non-fibrous (Other)	None Detected
DNE1-A-02C 652107123-0010	BOILER ROOM - MECHANICAL INSULATION- 3" PIPE FITTING	Beige Fibrous Homogeneous	5% Cellulose 50% Min. Wool	45% Non-fibrous (Other)	None Detected
DNE1-A-03A 652107123-0011	BOILER ROOM - MECHANICAL INSULATION- 5" PIPE FITTING	Beige Fibrous Homogeneous	10% Cellulose 10% Min. Wool	80% Non-fibrous (Other)	None Detected
DNE1-A-03B 652107123-0012	BOILER ROOM - MECHANICAL INSULATION- 5" PIPE FITTING	Beige Fibrous Homogeneous	10% Cellulose 10% Min. Wool	80% Non-fibrous (Other)	None Detected
DNE1-A-03C 652107123-0013	BOILER ROOM - MECHANICAL INSULATION- 5" PIPE FITTING	Beige Fibrous Homogeneous	10% Cellulose 10% Min. Wool	80% Non-fibrous (Other)	None Detected

Initial report from: 08/30/2021 18:54:59



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EMSL Canada Order: 652107123

Customer ID: 55EHPL50

Customer PO:

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DNE1-A-04A 652107123-0014	ROOFTOP - TAR OVER FIBERGLASS INSULATION	Black/Silver Non-Fibrous Homogeneous	5% Cellulose	90% Non-fibrous (Other)	5% Chrysotile
DNE1-A-04B 652107123-0015	ROOFTOP - TAR OVER FIBERGLASS INSULATION	Black/Silver Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
DNE1-A-04C 652107123-0016	ROOFTOP - TAR OVER FIBERGLASS INSULATION	Black Non-Fibrous Homogeneous		5% Mica 85% Non-fibrous (Other)	10% Chrysotile
DNE1-A-05A 652107123-0017	ROOFTOP - DUCT JOINT MASTIC LIGHT GREY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-06A 652107123-0018	ROOFTOP - TAR MASTIC- BLACK	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
DNE1-A-06B 652107123-0019	ROOFTOP - TAR MASTIC- BLACK	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
DNE1-A-06C 652107123-0020	ROOFTOP - TAR MASTIC- BLACK	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
DNE1-A-07A 652107123-0021	16TH FLOOR CORRIDOR - TEXTURE COAT	White Non-Fibrous Homogeneous		30% Perlite 70% Non-fibrous (Other)	None Detected
DNE1-A-07B 652107123-0022	15TH FLOOR CORRIDOR - TEXTURE COAT	White Non-Fibrous Homogeneous		30% Perlite 70% Non-fibrous (Other)	None Detected
DNE1-A-07C 652107123-0023	14TH FLOOR CORRIDOR - TEXTURE COAT	White Non-Fibrous Homogeneous		30% Perlite 70% Non-fibrous (Other)	None Detected
DNE1-A-08A 652107123-0024	16TH FLOOR CORRIDOR - CEILING TILE- 2' X 4' MULTIDIRECTIONAL FISSURES WITH PINHOLES	White/Beige Fibrous Homogeneous	40% Cellulose 20% Min. Wool	30% Perlite 10% Non-fibrous (Other)	None Detected
DNE1-A-09A 652107123-0025	17TH FLOOR CORRIDOR - FIRESTOP- REDDISH BROWN	White/Beige Fibrous Homogeneous	50% Cellulose 2% Min. Wool	40% Perlite 8% Non-fibrous (Other)	None Detected
DNE1-A-10A 652107123-0026	16TH FLOOR CORRIDOR, ELECTRICAL ROOM - CEILING TILE- 2' X 4' MULTIDIRECTIONAL FISSURES WITH PINHOLES	Brown/Red Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
DNE1-A-11A 652107123-0027	16TH FLOOR CORRIDOR, GARBAGE ROOM - CEILING STIPPLE COAT	White Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
DNE1-A-11B 652107123-0028	UNIT 1608 - CEILING STIPPLE COAT	White Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
DNE1-A-11C 652107123-0029	UNIT 1603 - CEILING STIPPLE COAT	White Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected

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EMSL Canada Order: 652107123

Customer ID: 55EHPL50

Customer PO:

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DNE1-A-11D 652107123-0030	15TH FLOOR CORRIDOR - CEILING STIPPLE COAT	White Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
DNE1-A-11E 652107123-0031	14TH FLOOR CORRIDOR - CEILING STIPPLE COAT	White Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
DNE1-A-11F 652107123-0032	UNIT 1214 - CEILING STIPPLE COAT	White Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
DNE1-A-11G 652107123-0033	3RD FLOOR, LAUNDRY ROOM - CEILING STIPPLE COAT	White Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
DNE1-A-12A 652107123-0034	UNIT 1603 - VINYL SHEET FLOOR- 9" X 9" BEIGE TILE PATTERN <i>Thin layer of mastic included in analysis.</i>	Black/Yellow/Beige Fibrous Homogeneous	20% Cellulose 2% Glass	78% Non-fibrous (Other)	None Detected
DNE1-A-12B 652107123-0035	UNIT 1214 - VINYL SHEET FLOOR- 9" X 9" BEIGE TILE PATTERN <i>Thin layer of mastic/leveler included in analysis.</i>	Gray/Yellow/Beige Fibrous Homogeneous	20% Cellulose 2% Glass	<1% Quartz 78% Non-fibrous (Other)	None Detected
DNE1-A-12C 652107123-0036	UNIT 607 - VINYL SHEET FLOOR- 9" X 9" BEIGE TILE PATTERN <i>Thin layer of mastic/leveler included in analysis.</i>	Gray/Yellow/Beige Fibrous Homogeneous	20% Cellulose 2% Glass	<1% Quartz 78% Non-fibrous (Other)	None Detected
DNE1-A-13A - Vinyl Floor Tile 652107123-0037	UNIT 1603 - VINYL FLOOR TILE- 12" X 12" WHITE WITH BLUE STREAKS	White/Blue Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
DNE1-A-13A - Mastic 652107123-0037A	UNIT 1603 - VINYL FLOOR TILE- 12" X 12" WHITE WITH BLUE STREAKS	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-13B 652107123-0038	UNIT 1511 - VINYL FLOOR TILE- 12" X 12" WHITE WITH BLUE STREAKS	White/Blue Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
DNE1-A-13C - Vinyl Floor Tile 652107123-0039	UNIT 1214 - VINYL FLOOR TILE- 12" X 12" WHITE WITH BLUE STREAKS	White/Blue Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
DNE1-A-13C - Mastic 652107123-0039A	UNIT 1214 - VINYL FLOOR TILE- 12" X 12" WHITE WITH BLUE STREAKS	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-14A 652107123-0040	UNIT 1511 - VINYL SHEET FLOOR- 2" X 2" BEIGE TILE PATTERN	Beige Fibrous Homogeneous	5% Cellulose	75% Non-fibrous (Other)	20% Chrysotile
DNE1-A-15A 652107123-0041	UNIT 910 - VINYL SHEET FLOOR- 6" X 6" BEIGE TILE PATTERN <i>Thin layer of mastic included in analysis.</i>	Yellow/Beige Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DNE1-A-16A 652107123-0042	3RD FLOOR, PATIO EXTERIOR - WINDOW GLAZING- BLACK	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-16B 652107123-0043	3RD FLOOR, PATIO EXTERIOR - WINDOW GLAZING- BLACK	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-16C 652107123-0044	3RD FLOOR, PATIO EXTERIOR - WINDOW GLAZING- BLACK	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-17A 652107123-0045	3RD FLOOR MEETING ROOM - WINDOW GLAZING- GREY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-17B 652107123-0046	3RD FLOOR MEETING ROOM - WINDOW GLAZING- GREY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-17C 652107123-0047	3RD FLOOR MEETING ROOM - WINDOW GLAZING- GREY	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-18A 652107123-0048	3RD FLOOR MEETING ROOM WASHROOM - VINYL FLOOR TILE- 12" X 12" WHITE WITH BEIGE FLECKS	White/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-18B 652107123-0049	3RD FLOOR MEETING ROOM WASHROOM - VINYL FLOOR TILE- 12" X 12" WHITE WITH BEIGE FLECKS	White/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-18C - Vinyl Floor Tile 652107123-0050	3RD FLOOR MEETING ROOM WASHROOM - VINYL FLOOR TILE- 12" X 12" WHITE WITH BEIGE FLECKS	White/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-18C - Mastic 652107123-0050A	3RD FLOOR MEETING ROOM WASHROOM - VINYL FLOOR TILE- 12" X 12" WHITE WITH BEIGE FLECKS	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-19A 652107123-0051	PARKADE - SPRAY-APPLIED INSULATION	Gray Fibrous Homogeneous	80% Min. Wool	20% Non-fibrous (Other)	None Detected
DNE1-A-19B 652107123-0052	PARKADE - SPRAY-APPLIED INSULATION	Gray Fibrous Homogeneous	80% Min. Wool	20% Non-fibrous (Other)	None Detected
DNE1-A-19C 652107123-0053	PARKADE - SPRAY-APPLIED INSULATION	Gray Fibrous Homogeneous	80% Min. Wool	20% Non-fibrous (Other)	None Detected

Initial report from: 08/30/2021 18:54:59



EMSL Canada Inc.

2333 18th Avenue NE, Unit 48 Calgary, AB T2E 8T6

Tel/Fax: (403) 879-1149 / (403) 879-1152

<http://www.EMSL.com> / CalgaryLab@EMSL.com

EMSL Canada Order: 652107123

Customer ID: 55EHPL50

Customer PO:

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DNE1-A-20A 652107123-0054	MAIN FLOOR, GARBAGE ROOM - DUCT JOINT MASTIC - BROWN	Brown Non-Fibrous Homogeneous	10% Wollastonite	90% Non-fibrous (Other)	None Detected
DNE1-A-21A 652107123-0055	MAIN FLOOR, GARBAGE ROOM - DUCT JOINT MASTIC - GREEN	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-22A 652107123-0056	MAIN FLOOR, GARBAGE ROOM - GREY CAULKING	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
DNE1-A-23A 652107123-0057	MAIN FLOOR, EXTERIOR, WEST SIDE - BRICK MORTAR	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
DNE1-A-23B 652107123-0058	MAIN FLOOR, EXTERIOR, WEST SIDE - BRICK MORTAR	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
DNE1-A-23C 652107123-0059	MAIN FLOOR, EXTERIOR, WEST SIDE - BRICK MORTAR	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
DNE1-A-24A 652107123-0060	UNIT 1214 - ACOUSTIC SINK INSULATION	Gold Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile

Analyst(s)

Kendra Anderson (29)

Leanne Roy (34)

Jefferson Salvador, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Canada Inc. Calgary, AB NVLAP Lab Code 500100-0

Initial report from: 08/30/2021 18:54:59



EMSL Canada Inc.

2333 18th Avenue NE, Unit 48 Calgary, AB T2E 8T6

Tel/Fax: (403) 879-1149 / (403) 879-1152

<http://www.EMSL.com> / CalgaryLab@EMSL.com

EMSL Canada Order: 652107751

Customer ID: 55EHPL50

Customer PO:

Project ID:

Attention: Kara Snelling

Golder Associates, Ltd.

Suite 120, 8610 - 36 Street NE

Calgary, AB T3J 2E1

Phone: (403) 299-5600

Fax: (403) 299-5606

Received Date: 09/16/2021 10:10 AM

Analysis Date: 09/16/2021

Collected Date: 09/16/2021

Project: 18100842.9069

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DBE1-A-25A 652107751-0001	GREY CEMENTITIOUS PIPE INSULATION	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
DNE1-A-25B 652107751-0002	GREY CEMENTITIOUS PIPE INSULATION	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected

Analyst(s)

Kurt Carlson (2)

Jefferson Salvador, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Canada Inc. Calgary, AB NVLAP Lab Code 500100-0

Initial report from: 09/17/2021 11:46:03

Certificate of Analysis

Golder Associates Ltd. (Calgary)

#120, 6815 8 St NE
Calgary, AB T2E 7H7
Attn: Kara Snelling

Client PO:
Project: 18-100842
Custody:

Report Date: 27-Aug-2021
Order Date: 23-Aug-2021

Order #: 2135168

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

Paracel ID	Client ID
2135168-01	DNE1-L-01 / White on Drywall
2135168-02	DNE1-L-02 / Grey on Concrete
2135168-03	DNE1-L-03 / Taupe on Metal
2135168-04	DNE1-L-04 / Beige on Drywall
2135168-05	DNE1-L-05 / Black on Metal
2135168-06	DNE1-L-06 / White on Concrete

Approved By:



Milan Ralitsch, PhD
Senior Technical Manager

Any use of these results implies your agreement that our total liability in connection with this work, however arising shall be limited to the amount paid by you for this work, and that our employees or agents shall not under circumstances be liable to you in connection with this work

Certificate of Analysis

Client: Golder Associates Ltd. (Calgary)

Client PO:

Report Date: 27-Aug-2021

Order Date: 23-Aug-2021

Project Description: 18-100842

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-MS	EPA 6020 - Digestion - ICP-MS	26-Aug-21	26-Aug-21

Qualifier Notes:

None

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

Report Date: 27-Aug-2021

Client: Golder Associates Ltd. (Calgary)

Order Date: 23-Aug-2021

Client PO:

Project Description: 18-100842

Sample Results

Lead				Matrix: Paint
				Sample Date: 18-Aug-21
Paracel ID	Client ID	Units	MDL	Result
2135168-01	DNE1-L-01 / White on Drywall	ug/g	5	<5
2135168-02	DNE1-L-02 / Grey on Concrete	ug/g	5	888
2135168-03	DNE1-L-03 / Taupe on Metal	ug/g	5	1360
2135168-04	DNE1-L-04 / Beige on Drywall	ug/g	5	<5
2135168-05	DNE1-L-05 / Black on Metal	ug/g	5	<5
2135168-06	DNE1-L-06 / White on Concrete	ug/g	5	14

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	ND	5	ug/g						
Matrix Duplicate									
Lead	602	5	ug/g	888			38.40	50	
Matrix Spike									
Lead	1860	5	ug/g	888	77.9	70-130			



2135168



Office
19 St. Laurent Blvd.
Ontario K1G 4J8
D-749-1947
celeparacellabs.com

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Page 1 of 1

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www.paracellabs.com

Client Name: Golder Associates Ltd.	Project Reference: 18-100842	TAT: ☒ Regular ☐ 3 Day ☐ 2 Day ☐ 1 Day Date Required: _____
Contact Name: Kara Snelling and Cory Gray	Quote #	
Address: 102, 2535 - 3 Avenue SE, Calgary, AB	PO #	
Telephone: (403) 299-5600	Email Address: Kara_Snelling@golder.com AND Cory_Gray@golder.com	

Criteria: ☐ O. Reg. 153 (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)

Required Analyses

Parcel Order Number:

2135168

Sample ID/Location Name		Matrix	Air Volume	# of Containers	Sample Taken		Lead												
					Date	Time													
1	DNE1-L-01 / White on Drywall	P		1	Aug 18, 21		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	DNE1-L-02 / Grey on Concrete	P		1	Aug 18, 21		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3	DNE1-L-03 / Taupe on Metal	P		1	Aug 18, 21		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4	DNE1-L-04 / Beige on Drywall	P		1	Aug 18, 21		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5	DNE1-L-05 / Black on Metal	P		1	Aug 18, 21		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6	DNE1-L-06 / White on Concrete	P		1	Aug 18, 21		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments:

Method of Delivery:

Drop Box

Relinquished By (Sign): <i>Cory Gray</i>	Received by Driver/Depot: A LANIZO	Received at Lab: <i>Am</i>	Verified By: A LANIZO
Relinquished By (Print): Cory Gray	Date/Time: AUG 23/21 @ 1630	Date/Time: 25/8/21 8:50	Date/Time: AUG 24/21 @ 075
Date/Time: Aug 23, 21 / 13:15	Temperature: _____ °C	Temperature: _____ °C	pH Verified [] By: _____

Certificate of Analysis

Golder Associates Ltd. (Calgary)

#120, 6815 8 St NE
Calgary, AB T2E 7H7
Attn: Kara Snelling

Client PO:
Project: 18-100842
Custody:

Report Date: 27-Aug-2021
Order Date: 23-Aug-2021

Order #: 2135161

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

Paracel ID	Client ID
2135161-01	DNE1-F-01 / Boiler Room Insulation
2135161-02	DNE1-F-02 / 16th Floor Ceiling Tile

Approved By:



Harling Sierra
Senior Analyst

Certificate of Analysis
Client: Golder Associates Ltd. (Calgary)
Client PO:

Report Date: 27-Aug-2021

Order Date: 23-Aug-2021

Project Description: 18-100842
Microscopic - Bulk

Sample I.D.	Sample Date	Background Debris**	Propagule Summary	Relative Amount*
2135161-01	18-Aug-21	Moderate	Client Sample Name: DNE1-F-01 / Boiler Room Insulation <i>Cladosporium</i> spores ascospores basidiospores pigmented mycelial fragments	Moderate Low Trace Trace
2135161-02	18-Aug-21	Moderate	Client Sample Name: DNE1-F-02 / 16th Floor Ceiling Tile <i>Stachybotrys</i> spores pigmented mycelial fragments <i>Stachybotrys</i> spp.	High Moderate Trace

***Relative Amount:**

Trace = 2 propagules or less on entire slide

 Low = < than 10 propagules noted per mm² of slide surface

 Moderate = 11-100 propagules noted per mm² of slide surface

 High = > than 101 propagules noted per mm² of slide surface

****Background Debris - Definitions:**

Low = occupying < 10% of microscopic field

Moderate = 11-30% of microscopic field

High = > 31% of microscopic field

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	Analysis Date
Microscopic Fungal - Bulk	In House - Microscopic Bulk	Calgary	26-Aug-21

Calgary Lab: 1423 45 Ave NE, Unit F Calgary, Alberta, T2E 2P3

Qualifier Notes

None

Work Order Revisions / Comments

Information on common indoor/outdoor fungi may be found on our website at the link below; however, interpretation of the results is the responsibility of the client.

[Paracel Species Ecology List](#)
Report Notes:

ND - No fungal propagules detected, below limit of detection (LOD).

NA - Not applicable; calculations cannot be performed on non-numerical data.

2135161



ice
St. Laurent Blvd.
Ontario K1G 4J8
749-1947
@paracellabs.com

Chain of Custody
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Page 1 of 1

Client Name: Golder Associates Ltd.	Project Reference: 18-100842	Turnaround Time: ☐ Immediate ☐ 1 Day ☐ 4 Hour ☐ 2 Day ☐ 8 Hour ☐ 3 Day ☒ Regular
Contact Name: Kara Snelling and Cory Gray	Quote #:	
Address: 120, 8610 - 36 Street NE, Calgary, Alberta	PO #:	
Telephone: 403-299-5600	Email Address: Kara_Snelling@golder.com AND Cory_Gray@golder.com	
		Date Required: _____

ASBESTOS & MOLD ANALYSIS

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

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

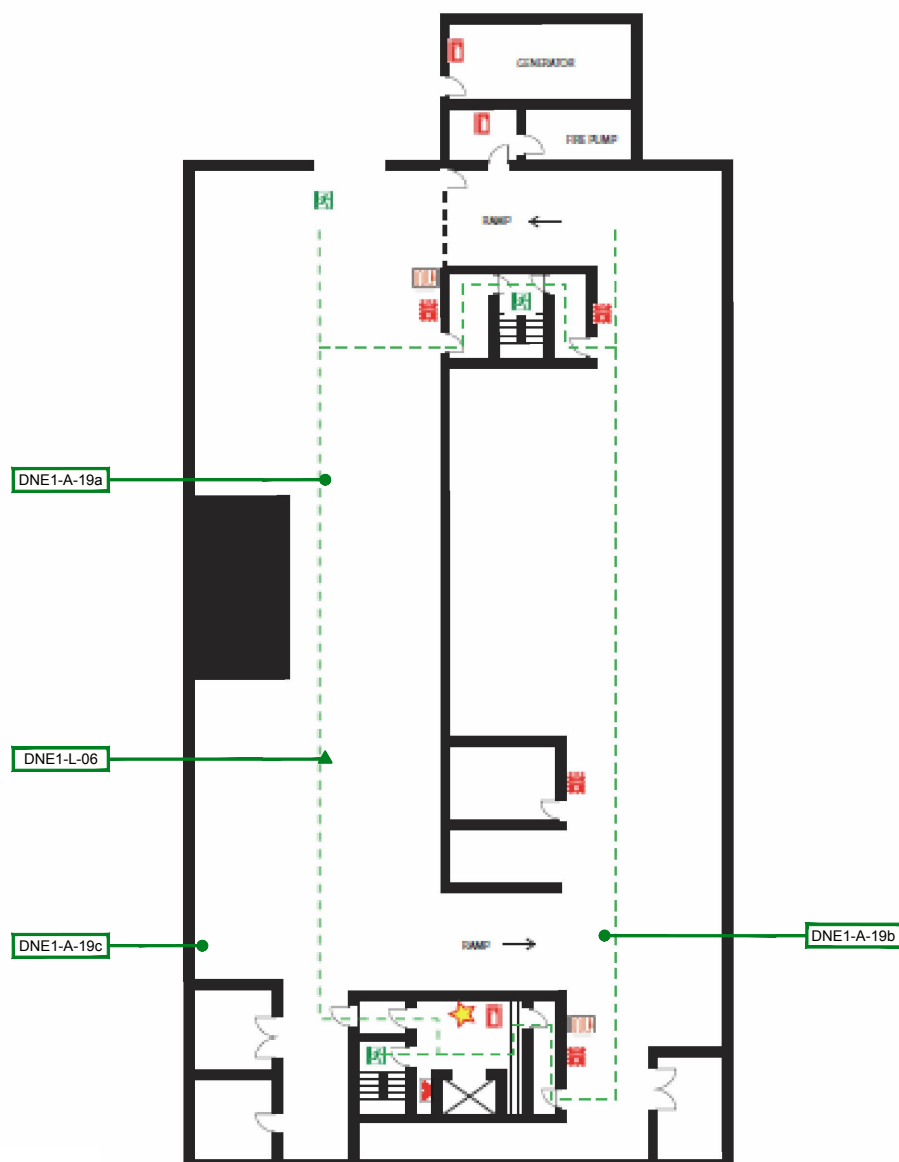
Parcel Order Number:		Sampling Date	Air Volume (L)	Analysis Required	Asbestos - Bulk	
Sample ID					Identify Distinct Building Materials to Be Analyzed (if not specified, all materials identified will be analyzed) *	Positive Stop?
1	DNE1-F-01 / Boiler Room Insulation	Aug 18/ 21	N/A	Fungal		☐
2	DNE1-F-02 / 16th Floor Ceiling Tile	Aug 18/ 21	N/A	Fungal		☐
3						☐
4						☐
5						☐
6						☐
7						☐
8						☐
9						☐
10						☐
11						☐
12						☐

* If left blank, all distinct materials identified in the samples will be analyzed and reported separately as per EPA 600/R-93/116. Additional charges will apply.

Comments:		Method of Delivery: Drop Box	
Relinquished By (Sign):	Received at Depot:	Received at Lab: A LANUZO	Verified By: A LANUZO
Relinquished By (Print): Cory Gray		Date/Time: AUG 23/21 @ 1630	Date/Time: AUG 24/21 @ 0736
Date/Time: Aug 23, 2021 / 13:15	Date/Time:		

APPENDIX E

Floor Plans with Sample Locations



	DNE1-A-#	POSITIVE ASBESTOS SAMPLE LOCATION
	DNE1-A-#	NEGATIVE ASBESTOS SAMPLE LOCATION
	DNE1-L-#	POSITIVE LEAD-PAINT SAMPLE LOCATION
	DNE1-L-#	NEGATIVE LEAD-PAINT SAMPLE LOCATION

SCHEMATIC ONLY, NOT TO SCALE

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

PARKADE PLAN

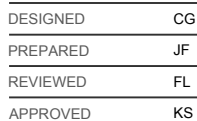
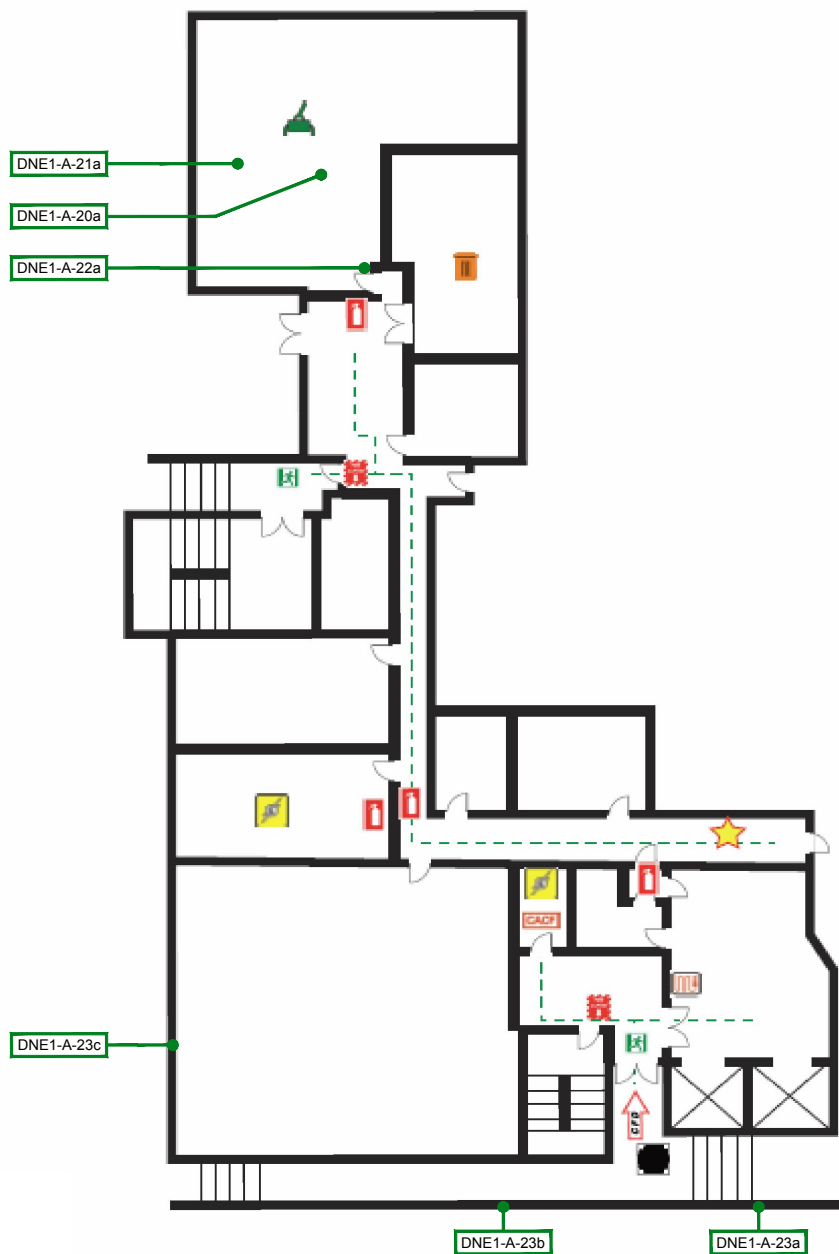


FIGURE
1



LEGEND

- DNE1-A-# POSITIVE ASBESTOS SAMPLE LOCATION
- DNE1-A-# NEGATIVE ASBESTOS SAMPLE LOCATION
- ▲ DNE1-L-# POSITIVE LEAD-PAINT SAMPLE LOCATION
- ▲ DNE1-L-# NEGATIVE LEAD-PAINT SAMPLE LOCATION

1. PDF OBTAINED FROM THE CLIENT.

SCHEMATIC ONLY, NOT TO SCALE

CLIENT
CALGARY HOUSING COMPANY

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

CONSULTANT

YYYY-MM-DD 2022-01-28

DESIGNED CG

PREPARED JF

REVIEWED FL

APPROVED KS



GOLDER
MEMBER OF WSP

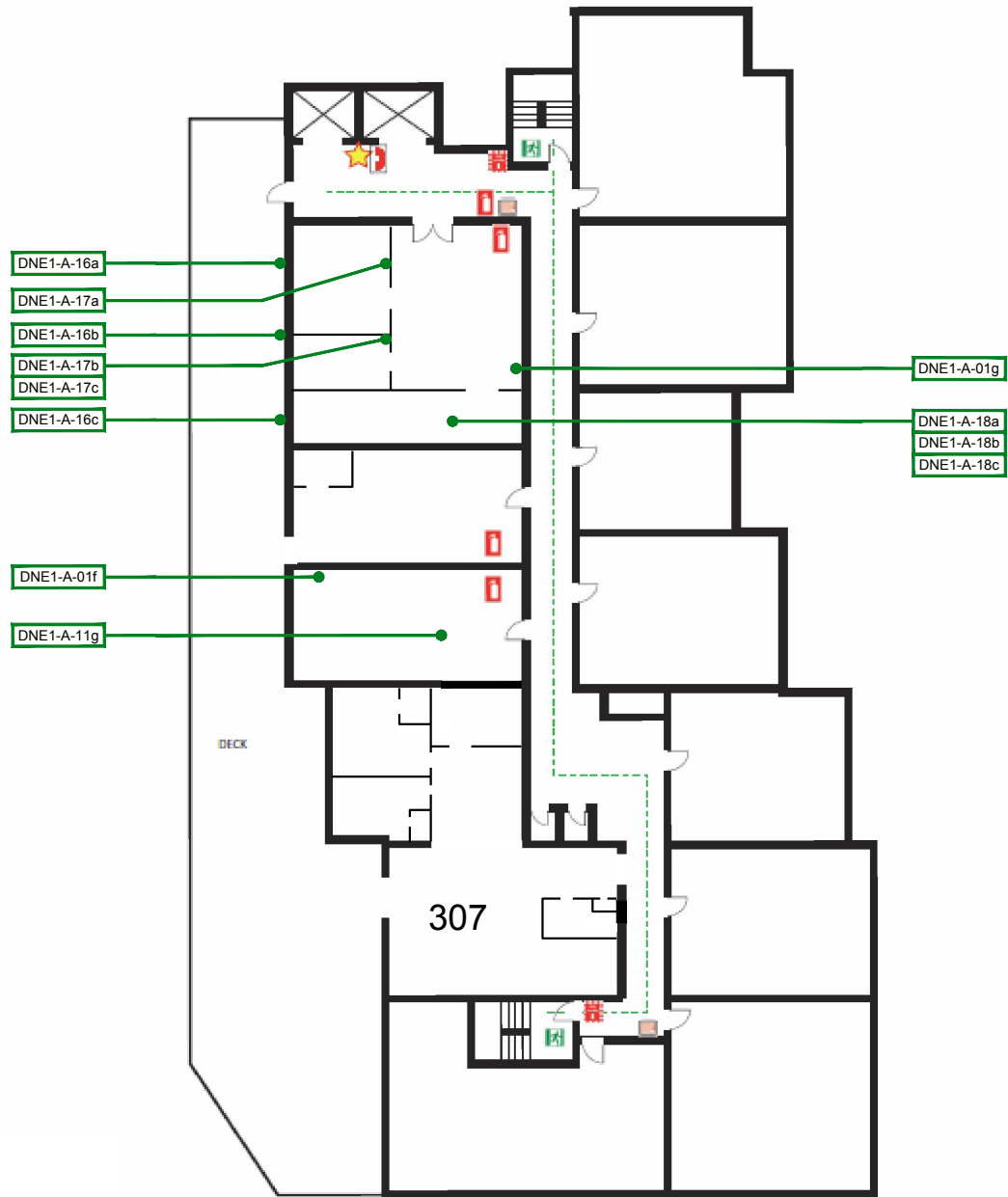
TITLE
MAIN FLOOR PLAN

PROJECT NO.
18100842

CONTROL
9069-HM-0002

REV.
0

FIGURE
2



LEGEND

- DNE1-A-# POSITIVE ASBESTOS SAMPLE LOCATION
- DNE1-A-# NEGATIVE ASBESTOS SAMPLE LOCATION
- ▲ DNE1-L-# POSITIVE LEAD-PAINT SAMPLE LOCATION
- ▲ DNE1-L-# NEGATIVE LEAD-PAINT SAMPLE LOCATION

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CLIENT
CALGARY HOUSING COMPANY

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

CONSULTANT

YYYY-MM-DD 2022-01-28

DESIGNED CG

PREPARED JF

REVIEWED FL

APPROVED KS



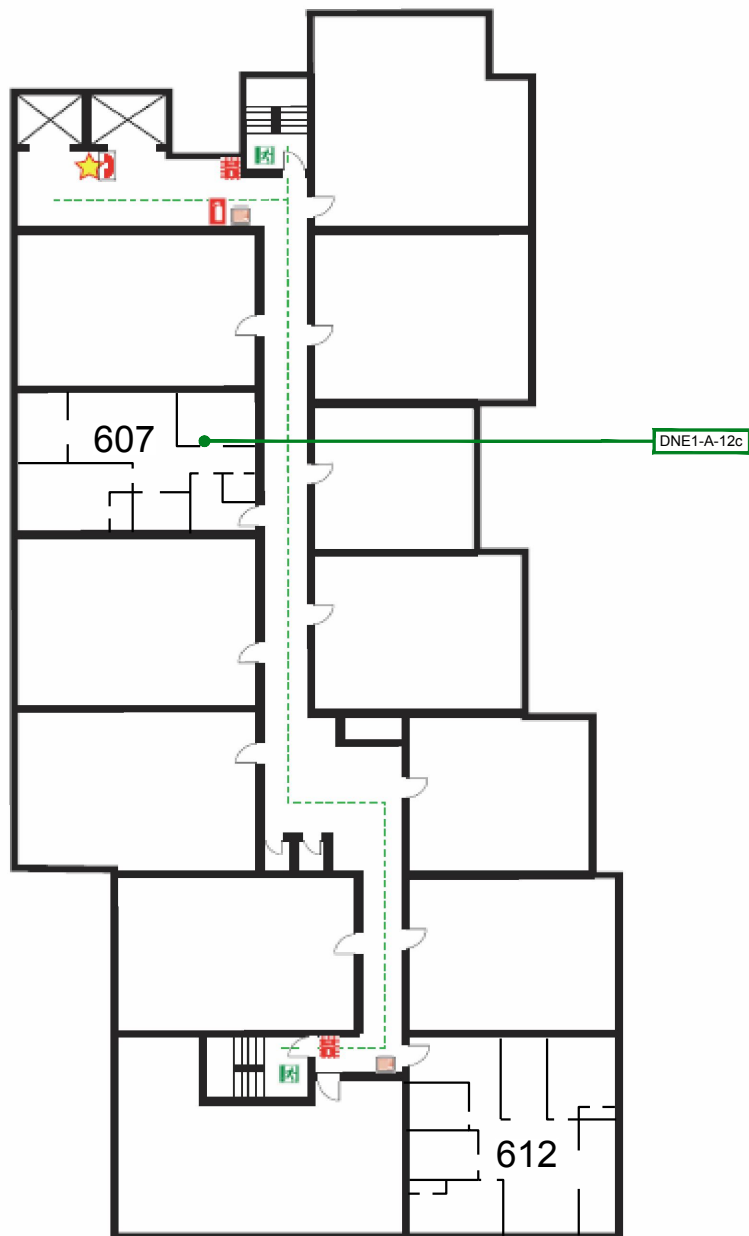
TITLE
THIRD FLOOR PLAN

PROJECT NO.
18100842

CONTROL
9069-HM-0003

REV.
0

FIGURE
3



	DNE1-A-#	POSITIVE ASBESTOS SAMPLE LOCATION
	DNE1-A-#	NEGATIVE ASBESTOS SAMPLE LOCATION
	DNE1-L-#	POSITIVE LEAD-PAINT SAMPLE LOCATION
	DNE1-L-#	NEGATIVE LEAD-PAINT SAMPLE LOCATION

SCHEMATIC ONLY, NOT TO SCALE

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

SIXTH FLOOR PLAN

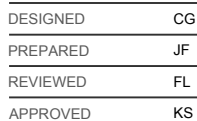
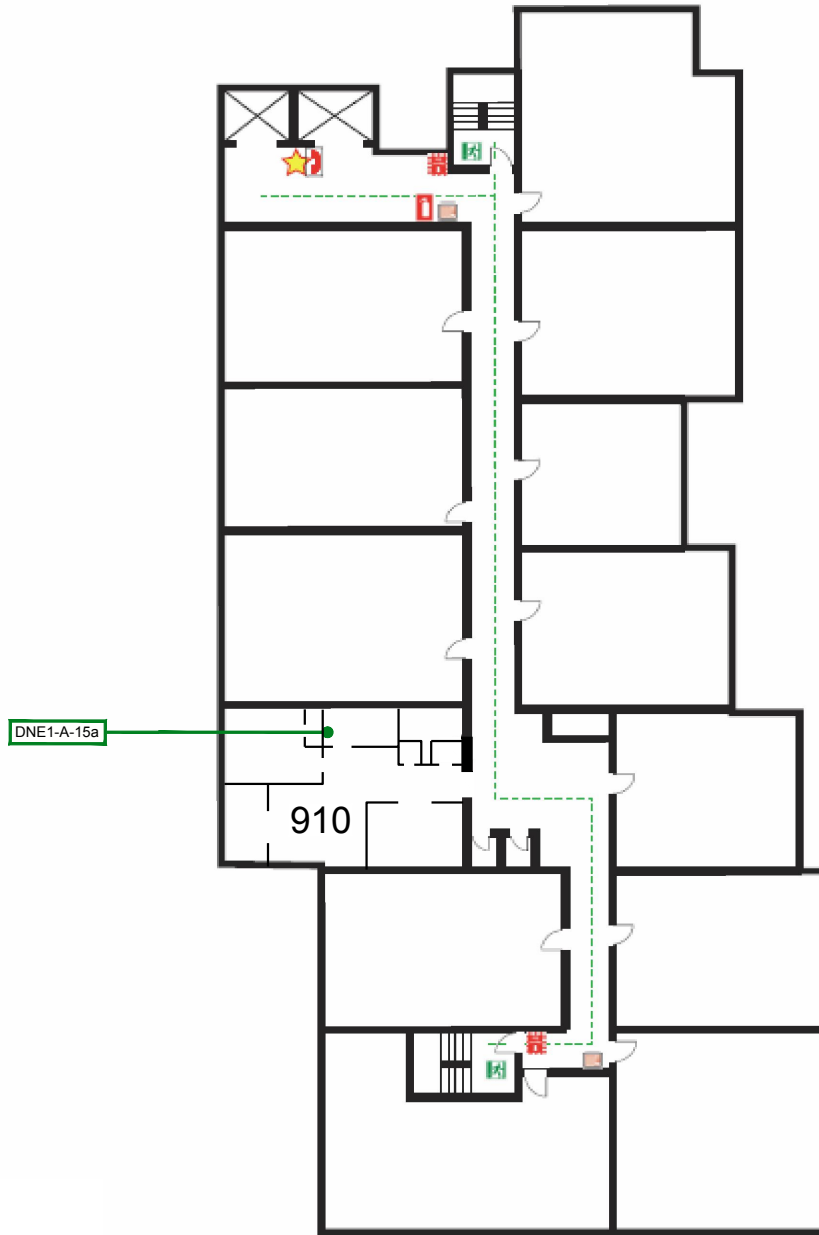


FIGURE
4



LEGEND

- DNE1-A-# POSITIVE ASBESTOS SAMPLE LOCATION
- DNE1-A-# NEGATIVE ASBESTOS SAMPLE LOCATION
- ▲ DNE1-L-# POSITIVE LEAD-PAINT SAMPLE LOCATION
- ▲ DNE1-L-# NEGATIVE LEAD-PAINT SAMPLE LOCATION

1. PDF OBTAINED FROM THE CLIENT.

SCHEMATIC ONLY, NOT TO SCALE

CLIENT
CALGARY HOUSING COMPANY

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

CONSULTANT

YYYY-MM-DD 2022-01-28

DESIGNED CG

PREPARED JF

REVIEWED FL

APPROVED KS

TITLE
NINTH FLOOR PLAN

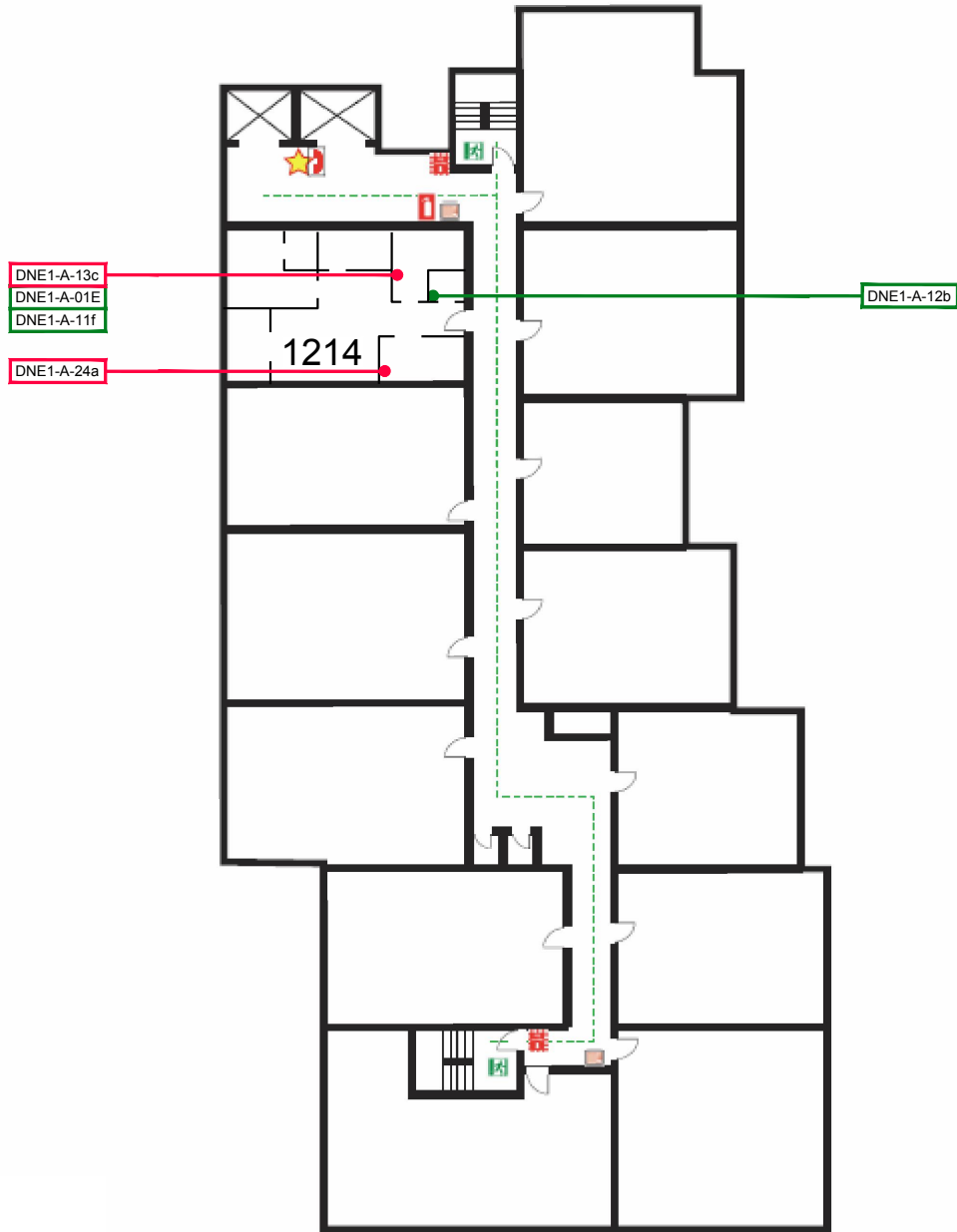
PROJECT NO.
18100842

CONTROL
9069-HM-0005

REV.
0

FIGURE
5





LEGEND

- DNE1-A-# POSITIVE ASBESTOS SAMPLE LOCATION
- DNE1-A-# NEGATIVE ASBESTOS SAMPLE LOCATION
- ▲ DNE1-L-# POSITIVE LEAD-PAINT SAMPLE LOCATION
- ▲ DNE1-L-# NEGATIVE LEAD-PAINT SAMPLE LOCATION

1. PDF OBTAINED FROM THE CLIENT.

SCHEMATIC ONLY, NOT TO SCALE

CLIENT
CALGARY HOUSING COMPANY

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

CONSULTANT

YYYY-MM-DD 2022-01-28

DESIGNED CG

PREPARED JF

REVIEWED FL

APPROVED KS



TITLE
TWELFTH FLOOR PLAN

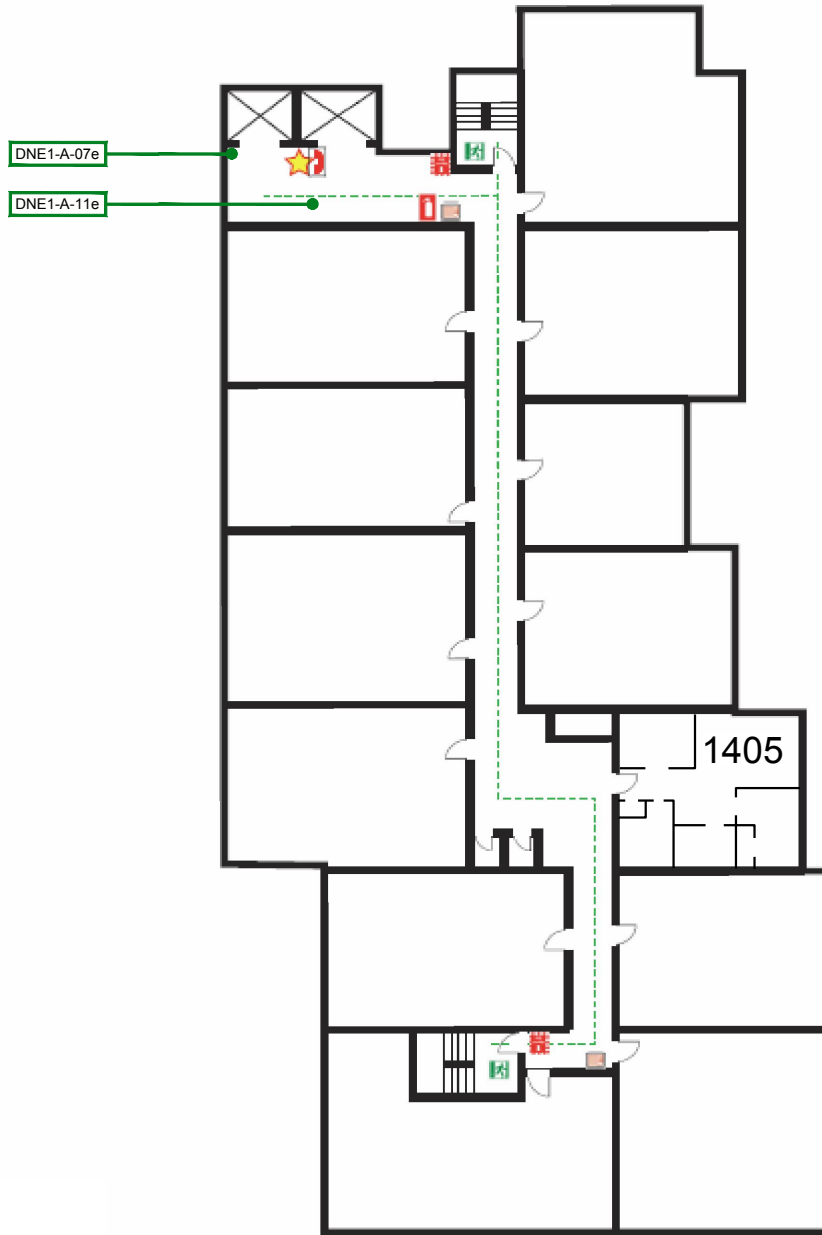
PROJECT NO.
18100842

CONTROL
9069-HM-0006

REV.
0

FIGURE
6

Last Edited By: slebedeff Date: 2022-01-28 Time: 9:59:09 AM | Printed By: Slebedeff Date: 2022-01-28 Time: 10:14:49 AM
Path: \\golder-gds\CALM\CAD\CalgaryHousingCompany\HazardousMaterialsInventory\AB_Calgary_750-5StreetNE99_PROJECTS\1810084202_PRODUCTION\9069HM-0007.dwg



LEGEND

- DNE1-A-# POSITIVE ASBESTOS SAMPLE LOCATION
- DNE1-A-# NEGATIVE ASBESTOS SAMPLE LOCATION
- ▲ DNE1-L-# POSITIVE LEAD-PAINT SAMPLE LOCATION
- ▲ DNE1-L-# NEGATIVE LEAD-PAINT SAMPLE LOCATION

1. PDF OBTAINED FROM THE CLIENT.

SCHEMATIC ONLY, NOT TO SCALE

CLIENT
CALGARY HOUSING COMPANY

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

CONSULTANT

YYYY-MM-DD 2022-01-28

DESIGNED CG

PREPARED JF

REVIEWED FL

APPROVED KS



TITLE
FOURTEENTH FLOOR PLAN

PROJECT NO.
18100842

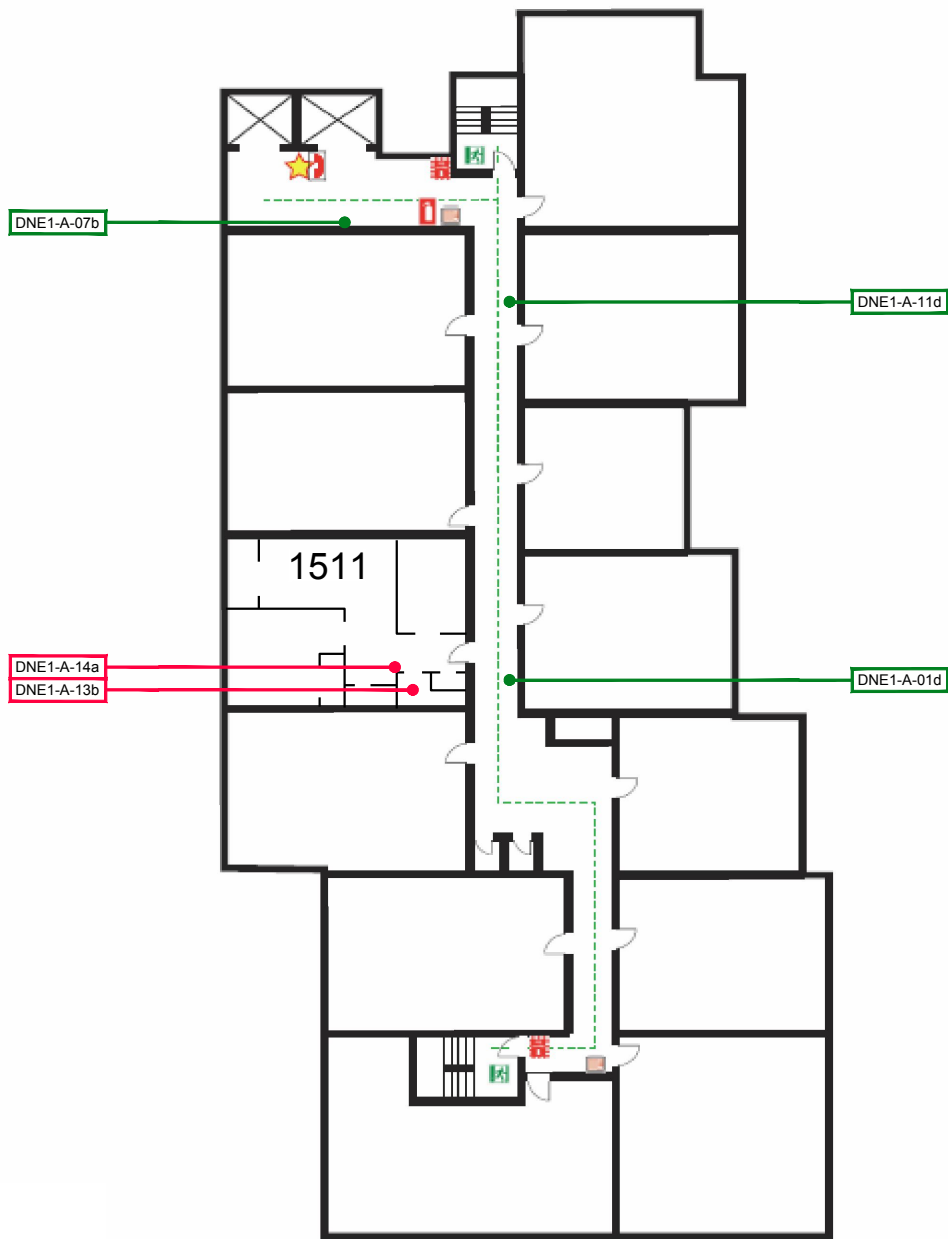
CONTROL
9069-HM-0007

REV.
0

FIGURE
7

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

25 mm



LEGEND

- DNE1-A-# POSITIVE ASBESTOS SAMPLE LOCATION
- DNE1-A-# NEGATIVE ASBESTOS SAMPLE LOCATION
- ▲ DNE1-L-# POSITIVE LEAD-PAINT SAMPLE LOCATION
- ▲ DNE1-L-# NEGATIVE LEAD-PAINT SAMPLE LOCATION

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PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

CONSULTANT

YYYY-MM-DD 2022-01-28

DESIGNED CG

PREPARED JF

REVIEWED FL

APPROVED KS



GOLDER
MEMBER OF WSP

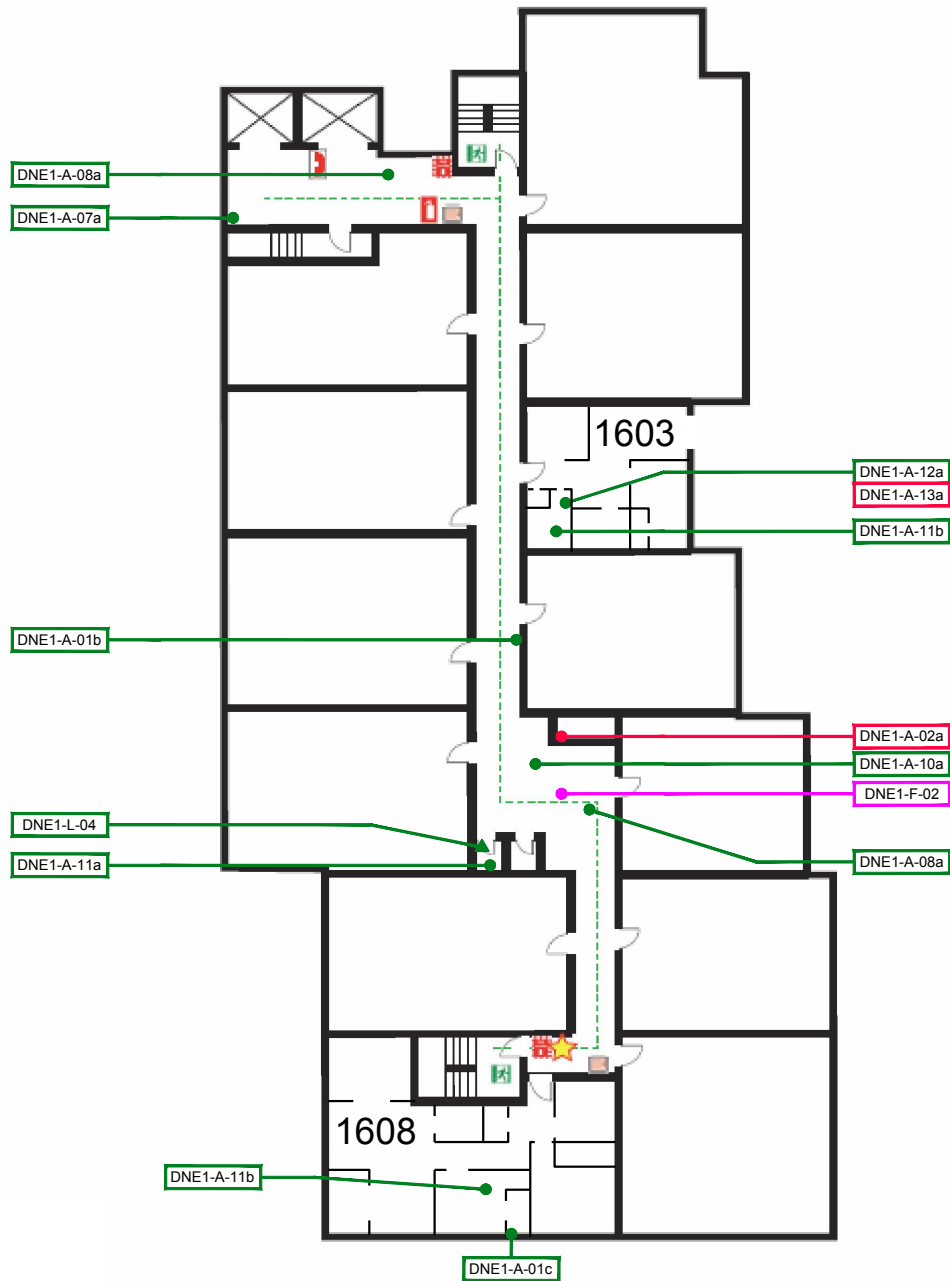
TITLE
FIFTEENTH FLOOR PLAN

PROJECT NO.
18100842

CONTROL
9069-HM-0008

REV.
0

FIGURE
8



LEGEND

- **DNE1-A-#** POSITIVE ASBESTOS SAMPLE LOCATION
- **DNE1-A-#** NEGATIVE ASBESTOS SAMPLE LOCATION
- ▲ **DNE1-L-#** POSITIVE LEAD-PAINT SAMPLE LOCATION
- ▲ **DNE1-L-#** NEGATIVE LEAD-PAINT SAMPLE LOCATION
- **DNE1-F-#** POSITIVE FUNGAL SAMPLE LOCATION

1. PDF OBTAINED FROM THE CLIENT.

SCHEMATIC ONLY, NOT TO SCALE

CLIENT
CALGARY HOUSING COMPANY

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

CONSULTANT

YYYY-MM-DD 2022-01-28

DESIGNED CG

PREPARED JF

REVIEWED FL

APPROVED KS



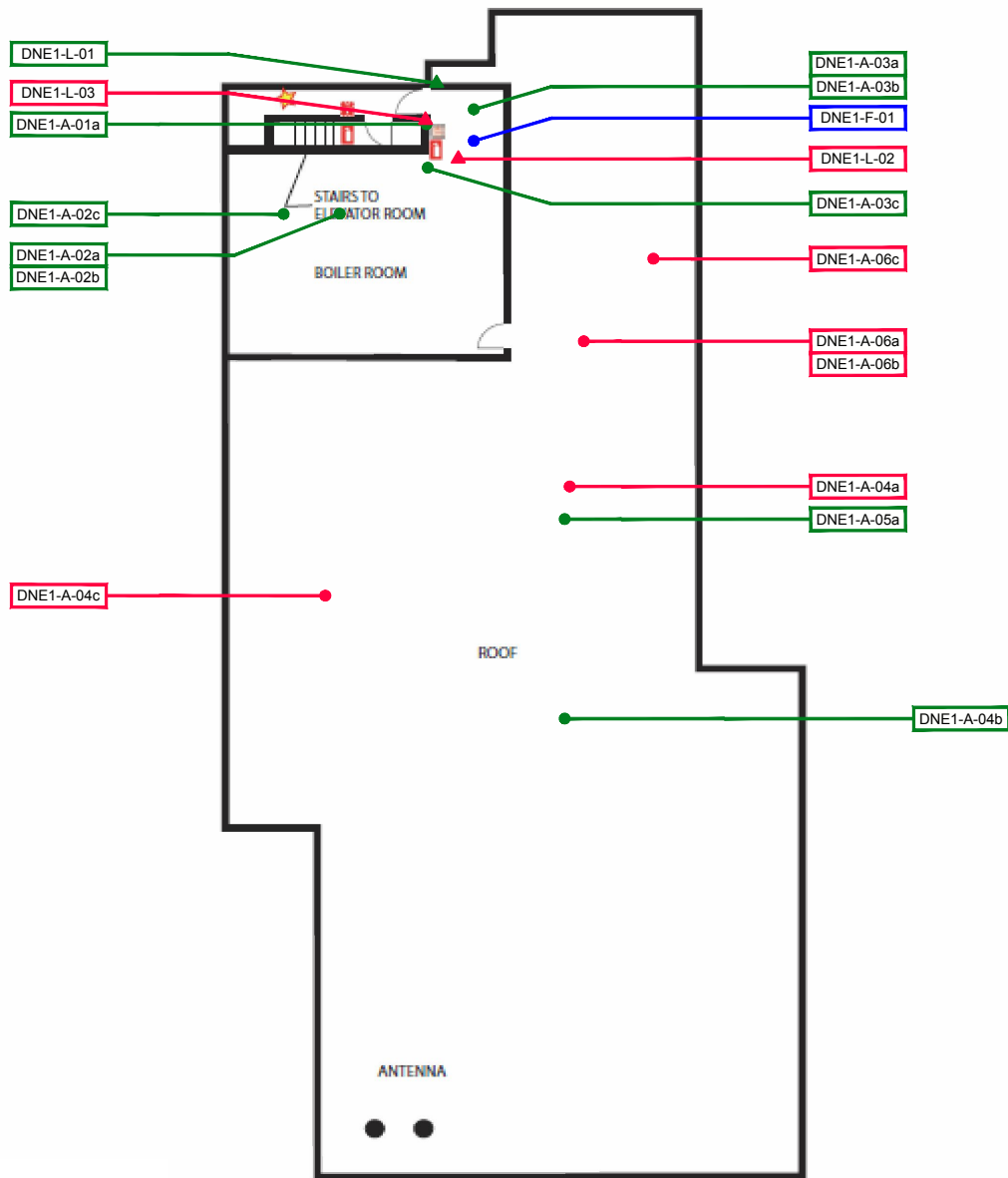
TITLE
SIXTEENTH FLOOR PLAN

PROJECT NO.
18100842

CONTROL
9069-HM-0009

REV.
0

FIGURE
9



LEGEND

- DNE1-A-# POSITIVE ASBESTOS SAMPLE LOCATION
- DNE1-A-# NEGATIVE ASBESTOS SAMPLE LOCATION
- ▲ DNE1-L-# POSITIVE LEAD-PAINT SAMPLE LOCATION
- ▲ DNE1-L-# NEGATIVE LEAD-PAINT SAMPLE LOCATION
- DNE1-F-# NEGATIVE FUNGAL SAMPLE LOCATION

1. PDF OBTAINED FROM THE CLIENT.

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CLIENT
CALGARY HOUSING COMPANY

PROJECT
HAZARDOUS MATERIALS INVENTORY
DNE1, 750 5 STREET NE, CALGARY, ALBERTA

CONSULTANT

YYYY-MM-DD 2022-01-28

DESIGNED CG

PREPARED JF

REVIEWED FL

APPROVED KS

TITLE
ROOFTOP PLAN

PROJECT NO.
18100842

CONTROL
9069-HM-0010

REV.
0

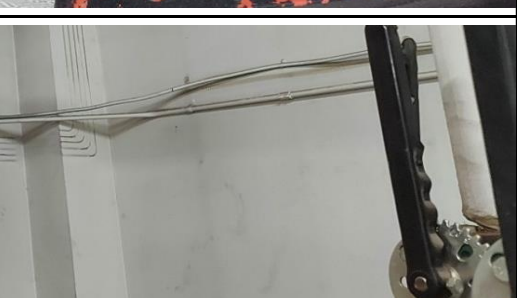
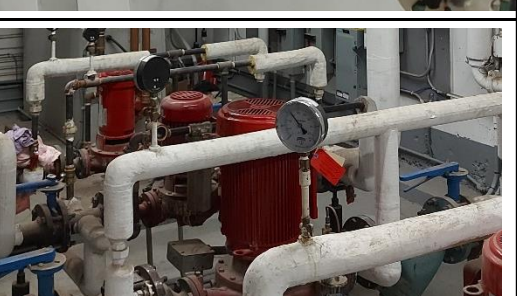
FIGURE
10



APPENDIX F

Hazardous Building Materials Spreadsheet

750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Exterior - Rooftop	Asbestos	Tar Over Fiberglass Insulation	DNE1-A-04	A to C	120 Square Feet	Low	Good	Low	5% to 10% Chrysotile	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Exterior	Asbestos	Light Grey Duct Joint Mastic	DNE1-A-05	A	20 Linear Feet	Low	Good	Moderate	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Exterior	Asbestos	Black Tar Mastic	DNE1-A-06	A to C	120 Square Feet	Low	Good	Low	5% Chrysotile	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Exterior	Asbestos	Brick Mortar	DNE1-A-23	A to C	23,000 Squarer Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Exterior	Asbestos	Black Window Glazing	DNE1-A-16	A to C	250 Linear Feet	Low	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Exterior	Lead Paint	Black Paint on Metal	DNE1-L-05	DNE1-L-05	400 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room / Elevator Motor Room	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	A	1,300 Square Feet	Moderate	Good	Moderate	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room / Elevator Motor Room	Asbestos	Mechanical Pipe Fitting Insulation on 3" Pipe	DNE1-A-02	A to C	20 Each	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room/ Elevator Motor Room	Lead Batteries	Lead-Acid Batteries in Emergency Light	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	

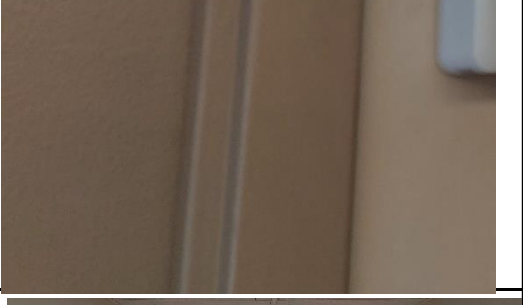
Note: Information in this spreadsheet should be read and interpreted in conjunction with the hazardous building materials assessment report.

750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room / Elevator Motor Room	Asbestos	Mechanical Pipe Fitting Insulation on 5" Pipe	DNE1-A-03	A to C	30 Each	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room/ Elevator Motor Room	Lead Paint	White Paint on Drywall	DNE1-L-01	DNE1-L-01	1,300 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room/ Elevator Motor Room	Lead Paint	Grey Paint on Concrete	DNE1-L-02	DNE1-L-02	450 Square Feet	N/A	Good	N/A	N/A	N/A	888 (Considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room/ Elevator Motor Room	Lead Paint	Taupe Paint on Metal	DNE1-L-03	DNE1-L-03	320 Square Feet	N/A	Good	N/A	N/A	N/A	1,360 (Considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room Insulation	Fungal Contamination	Fungal Contamination	DNE1-F-01	DNE1-F-01	30 Square Feet	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room/ Elevator Motor Room	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	32 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Boiler Room/ Elevator Motor Room	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	4 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	B	14,000 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Asbestos	Texture Coat on Wall	DNE1-A-07	A-C	3000 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	

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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Asbestos	2' x 4' Multi-Directional Fissures with Pinholes Patterned Ceiling Tiles	DNE1-A-08	A	80 Square Feet	High	Good	Moderate	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Asbestos	2' x 4' Sparse Multi-Directional Fissures with Pinholes Patterned Ceiling Tiles	DNE1-A-09	A	60 Square Feet	High	Good	Moderate	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Asbestos	Red/Brown Firestop	DNE1-A-09	A	20 Square Feet	Low	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Asbestos	Ceiling Stipple Coat	DNE1-A-11	A, D, and E	720 Square Feet	High	Good	Moderate	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Asbestos	Grey Cementitious Pipe Fitting Insulation	DNE1-A-25	A and B	15 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Lead Paint	Taupe Paint on Metal	DNE1-L-03	Reference	11,200 Square Feet	N/A	Good	N/A	N/A	N/A	1,360 (Considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Lead Paint	Beige Paint on Drywall	DNE1-L-04	DNE1-L-04	14,000 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (16th Floor Ceiling Tile)	Fungal Contamination	Fungal Contamination	DNE1-F-02	DNE1-F-02	16 Square Feet	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Lead Batteries	Lead-Acid Batteries in Emergency Light	N/A	N/A	120 Each	N/A	N/A	N/A	N/A	N/A	N/A	

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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	PCB	PCB-Containing Ballasts in Fluorescent Light Fixtures	N/A	N/A	150 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	300 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridors, Garbage Rooms, and Electrical Rooms 4 - 16th Floors)	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	75 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	F and G	3,600 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Asbestos	Grey Window Glazing	DNE1-A-17	A to C	220 Square Feet	Low	Good	Moderate	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Asbestos	12" x 12" White wih Beige Flecks Patterned Vinyl Floor Tile Mastic	DNE1-A-18	A to C	80 Square Feet	Low	Good	High	None Detected None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Asbestos	Ceiling Stipple Coat	DNE1-A-11	G	160 Square Feet	High	Good	Moderate	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Lead Paint	Taupe Paint on Metal	DNE1-L-03	Reference	600 Square Feet	N/A	Good	N/A	N/A	N/A	1,360 (Considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Lead Paint	Beige Paint on Drywall	DNE1-L-04	DNE1-L-04	14,000 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	

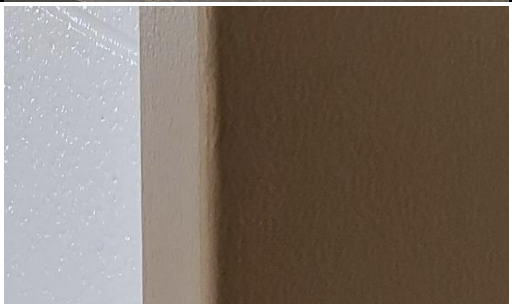
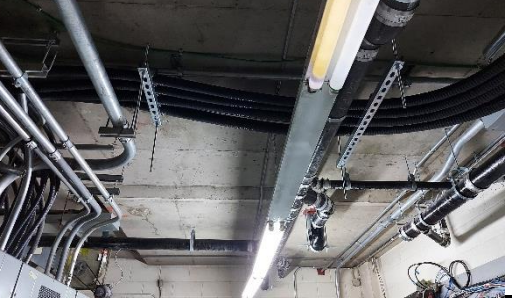
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	PCB	PCB-Containing Ballasts in Fluorescent Light Fixtures	N/A	N/A	13 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	23 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Mercury	Mercury Capsules in Thermostat	N/A	N/A	3 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Corridor, Laundryroom, Community Room, Meeting Room - 3rd Floor)	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	20 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	5,200 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Asbestos	Brown Duct Joint Mastic	DNE1-A-20	A	20 Linear Feet	Low	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Asbestos	Green Duct Joint Mastic	DNE1-A-21	A	40 Linear Feet	Low	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Asbestos	Grey Caulking	DNE1-A-22	A	30 Linear Feet	Low	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Lead Paint	Grey Paint on Concrete	DNE1-L-02	Reference	300 Square Feet	N/A	Good	N/A	N/A	N/A	888 (Considered to be lead-containing)	

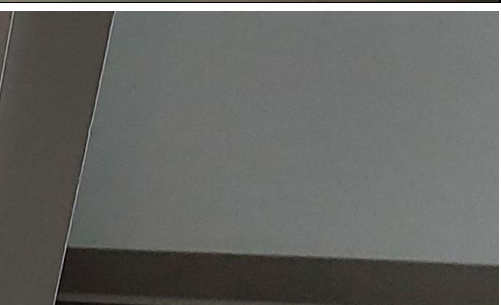
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Lead Paint	Taupe Paint on Metal	DNE1-L-03	Reference	420 Square Feet	N/A	Good	N/A	N/A	N/A	1,360 (Considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	5,200 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Lead Paint	lack on Metal	DNE1-L-05	Reference	230 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Lead Batteries	Lead-Acid Batteries in Emergency Light	N/A	N/A	8 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	PCB	PCB-Containing Ballasts in Fluorescent Light Fixtures	N/A	N/A	14 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	80 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Mercury	Mercury Capsules in Thermostat	N/A	N/A	3 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Areas (Lobby, Service Areas - Main Floor)	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	9 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Area (Parkade)	Asbestos	Spray-Applied Acoustic Insulation	DNE1-A-19	A to C	9,600 Square Feet	High	Good	High	None Detected	N/A	N/A	

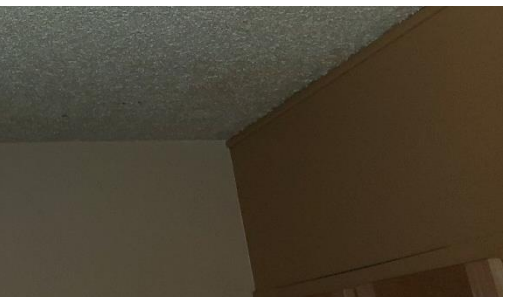
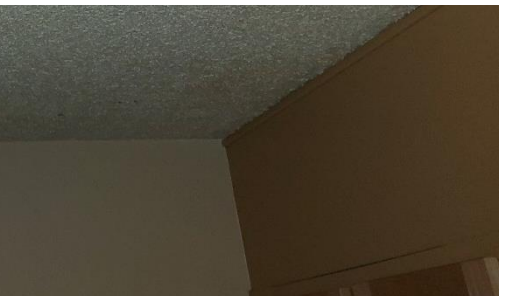
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Common Area (Parkade)	Lead Paint	Taupe Paint on Metal	DNE1-L-03	Reference	120 Square Feet	N/A	Good	N/A	N/A	N/A	1,360 (Considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Common Area (Parkade)	Lead Paint	White Paint on Concrete	DNE1-L-06	DNE1-L-06	10,900 Square Feet	N/A	Good	N/A	N/A	N/A	14 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Common Area (Parkade)	Lead Batteries	Lead-Acid Batteries in Emergency Light	N/A	N/A	20 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Area (Parkade)	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	200 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Common Area (Parkade)	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	20 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1608	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	C	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1608	Asbestos	Ceiling Stipple Coat	DNE1-A-11	B	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1608	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1608	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	

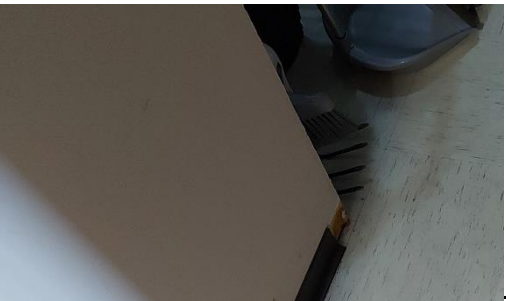
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	Asbestos	Ceiling Stipple Coat	DNE1-A-11	C	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	A	140 Square Feet	High	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	Asbestos	12" x 12" White with Blue Streaks Patterned Vinyl Floor Tile Mastic	DNE1-A-13	A	60 Square Feet	Low	Good	High	5% Chrysotile None Detected	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	PCB	PCB-Containing Ballasts in Fluorescent Light Fixtures	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	2 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1603	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	

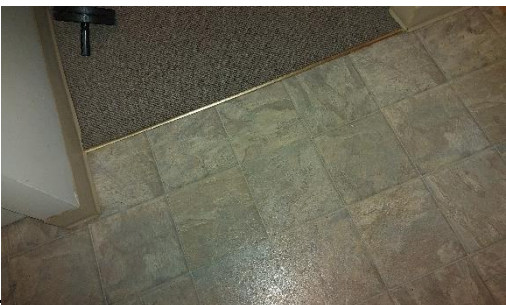
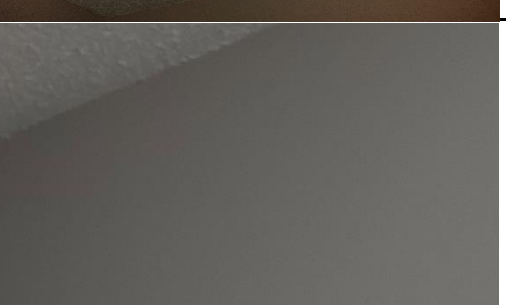
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1511	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	D	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1511	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1511	Asbestos	12" x 12" White with Blue Streaks Patterned Vinyl Floor Tile	DNE1-A-13	B	60 Square Feet	Low	Good	High	5% Chrysotile	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1511	Asbestos	2" x 2" Tile Patterned Vinyl Sheet Floor	DNE1-A-14	A	60 Square Feet	High	Good	High	20% Chrysotile	Moderate-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1511	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1511	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1511	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	

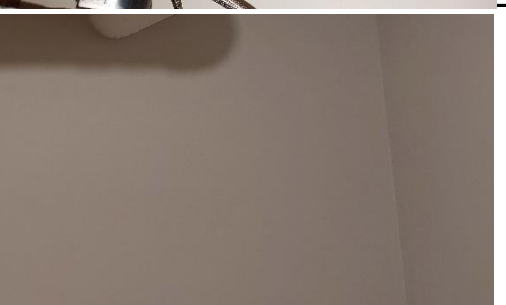
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	Reference	140 Square Feet	High	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	Asbestos	12" x 12" White with Blue Streaks Patterned Vinyl Floor Tile Mastic	DNE1-A-13	Reference	60 Square Feet	Low	Good	High	5% Chrysotile None Detected	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	PCB	PCB-Containing Ballasts in Fluorescent Light Fixtures	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	2 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1405	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1214	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	E	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1214	Asbestos	Ceiling Stipple Coat	DNE1-A-11	F	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	

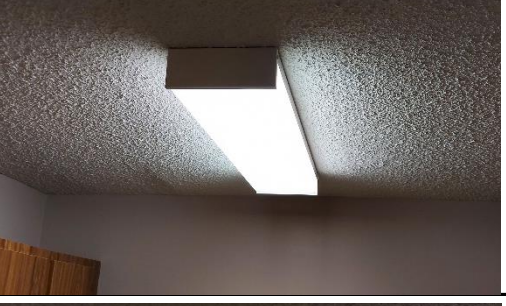
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1214	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	B	140 Square Feet	High	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1214	Asbestos	12" x 12" White with Blue Streaks Patterned Vinyl Floor Tile Mastic	DNE1-A-13	C	60 Square Feet	Low	Good	High	5% Chrysotile None Detected	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1214	Asbestos	Brown Acoustic Sink Insulation	DNE1-A-24	A	1 Each	Low	Good	High	5% Chrysotile	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1214	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1214	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1214	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	Reference	140 Square Feet	High	Good	High	None Detected	N/A	N/A	

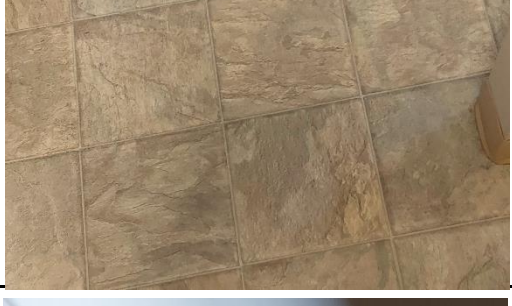
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	Asbestos	Brown Acoustic Sink Insulation	DNE1-A-24	Reference	1 Each	Low	Good	High	5% Chrysotile	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	PCB	PCB-Containing Ballasts in Fluorescent Light Fixtures	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	2 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1102	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1004	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1004	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1004	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	

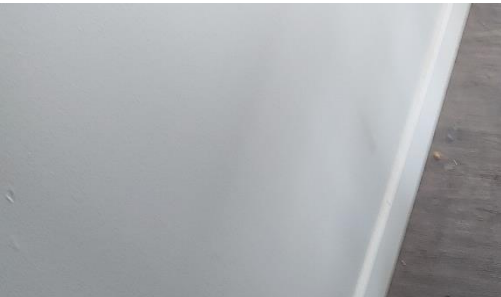
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 1004	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 910	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 910	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 910	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	Reference	70 Square Feet	High	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 910	Asbestos	12" x 12" White with Blue Streaks Patterned Vinyl Floor Tile Mastic	DNE1-A-13	Reference	35 Square Feet	Low	Good	High	5% Chrysotile None Detected	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 910	Asbestos	6" x 6" Tile Patterned Vinyl Sheet Floor	DNE1-A-15	A	40 Square Feet	Low	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 910	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 910	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 910	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	

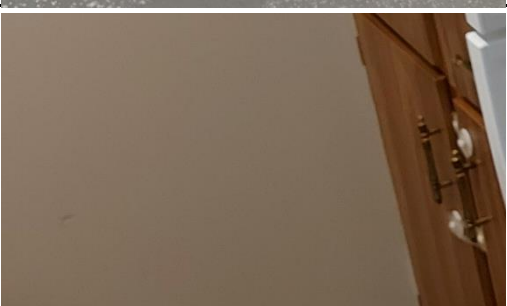
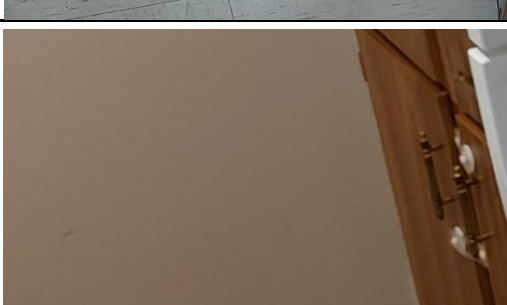
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 708	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 708	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 708	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 612	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 612	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 612	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	Reference	170 Square Feet	High	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 612	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 612	PCB	PCB-Containing Ballasts in Fluorescent Light Fixtures	N/A	N/A	2 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 612	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	3 Each	N/A	N/A	N/A	N/A	N/A	N/A	

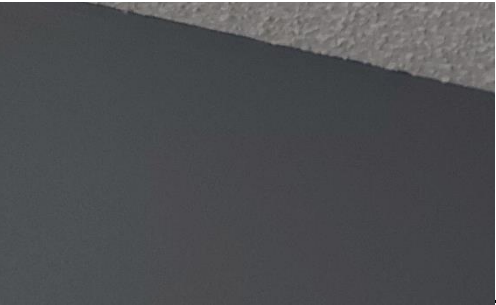
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 612	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 612	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 607	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 607	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 607	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	C	70 Square Feet	High	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 607	Asbestos	12" x 12" White with Blue Streaks Patterned Vinyl Floor Tile Mastic	DNE1-A-13	Reference	35 Square Feet	Low	Good	High	5% Chrysotile None Detected	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 607	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 607	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 607	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	

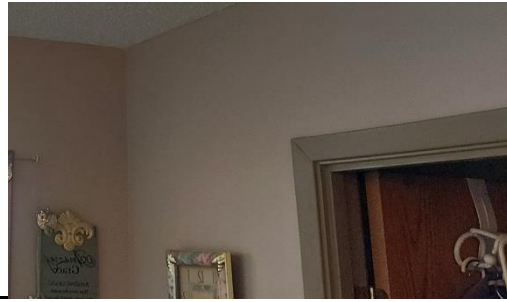
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750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 502	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 502	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 502	Asbestos	12" x 12" White with Blue Streaks Patterned Vinyl Floor Tile Mastic	DNE1-A-13	Reference	75 Square Feet	Low	Good	High	5% Chrysotile None Detected	Low-Risk	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 502	Asbestos	6" x 6" Tile Patterned Vinyl Sheet Floor	DNE1-A-15	Reference	80 Square Feet	Low	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 502	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 502	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 405	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 405	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 405	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	Reference	170 Square Feet	High	Good	High	None Detected	N/A	N/A	

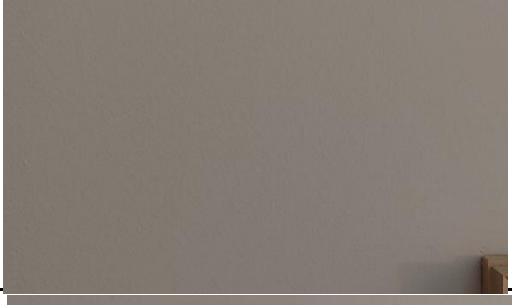
Note: Information in this spreadsheet should be read and interpreted in conjunction with the hazardous building materials assessment report.

750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 405	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 405	PCB	PCB-Containing Ballasts in Fluorescent Light Fixtures	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 405	Mercury	Fluorescent Light Tubes Containing Mercury-Vapour	N/A	N/A	2 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 405	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 405	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 411	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	2,100 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 411	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	650 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 411	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	Reference	170 Square Feet	High	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 411	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	2,100 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	

Note: Information in this spreadsheet should be read and interpreted in conjunction with the hazardous building materials assessment report.

750 - 5 Street SE (DNE1, formerly EV1)
Hazardous Building Materials Inventory Spreadsheet

Building / Component Name (#)	Location	Material Category	Material & Description	Homogeneous Sample Group (HSG) / Sample #	Sample I.D.	Quantity ⁽¹⁾	Friable	Condition	Accessibility	% Asbestos and Type	Asbestos Abatement Category	Lead Concentration (mg/kg)	Representative Photograph
750 - 5 Street SE (DNE1, formerly EV1)	Unit 411	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 411	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 307	Asbestos	Drywall Joint Compound on Walls	DNE1-A-01	Reference	3,600 Square Feet	Moderate	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 307	Asbestos	Ceiling Stipple Coat	DNE1-A-11	Reference	900 Square Feet	High	Good	Low	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 307	Asbestos	9" x 9" Beige Tile Patterned Vinyl Sheet Floor	DNE1-A-12	Reference	230 Square Feet	High	Good	High	None Detected	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 307	Lead Paint	Beige Paint on Drywall	DNE1-L-04	Reference	3,600 Square Feet	N/A	Good	N/A	N/A	N/A	<5 (Not considered to be lead-containing)	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 307	Mercury	Mercury Capsules in Thermostat	N/A	N/A	1 Each	N/A	N/A	N/A	N/A	N/A	N/A	
750 - 5 Street SE (DNE1, formerly EV1)	Unit 307	Radioactive Materials	Radioactive Material in Smoke Detectors	N/A	N/A	2 Each	N/A	N/A	N/A	N/A	N/A	N/A	

Note: Information in this spreadsheet should be read and interpreted in conjunction with the hazardous building materials assessment report.

APPENDIX G

Estimated Abatement Budgets

February 2022

Project No. 18100842

Raja Brahmakshatriya

Calgary Housing Company
Suite 900, 615 Macleod Trail SE
Calgary, Alberta
T2G 4T8
Raja.Brahmakshatriya@calgary.ca

**RE: HAZARDOUS BUILDING MATERIALS ABATEMENT BUDGET ESTIMATES,
PROPERTY DNE1, FORMERLY EV1, 750 - 5 STREET SE, CALGARY, ALBERTA**

Dear Mr. Brahmakshatriya:

As part of the hazardous building materials assessment conducted at 750 – 5 Street SE in Calgary, Alberta, Golder Associates Ltd. (Golder) has prepared a hazardous building materials abatement budget estimate.

This budget estimate includes for the safe removal and appropriate disposal of the identified hazardous building materials from the Site. The estimates are based on the following:

- Golder's hazardous building materials assessments conducted on August 18, 2021;
- extrapolations for the remaining units in property group DNE1, formerly EV1, not assessed;
- the current regulatory requirements for abatement and appropriate disposal;
- our estimates of prices for work in today's marketplace;
- the hazardous materials being abated on a pre-renovation or pre-demolition competitive bid basis;
- an allowance for installation of replacement materials/re-insulation is not included;
- Golder's assistance in the development of the specifications, tendering of the abatement work, and providing site inspection and air monitoring during the abatement process; and
- the identified hazardous building materials being abated on an individual basis.

If abatement work is grouped together in larger phased projects, or if the regulatory requirements for hazardous building materials handling change, significant variances in the actual cost to budget should be expected. As Golder's hazardous materials assessment was non-destructive in nature, a contingency has been included for potential concealed hazardous materials.

The total estimated budget for the removal of hazardous building materials is \$137,130.03, excluding taxes. A breakdown for each hazardous building material has been attached. This budget should be read in conjunction with Golder's hazardous building materials assessment report, including the assumptions associated with the hazardous building materials, which provide greater clarity and context on material quantities and locations.

We trust this information meets your needs. If you have any questions or require any further information, please feel free to contact the undersigned.

Golder Associates Ltd.

Kara Snelling, BA
OHS Project Manager

Fred Louth, BAIE, PMP
Associate, Senior OHS Project Manager

Dave Ayriss, BSc, CIH, CRSP, C-NRPP
Associate, Senior Occupational Hygienist

KS/FL/DA/

Attachments: Attachment 1 - Estimated Hazmat Abatement Budget

ATTACHMENT 1

Estimated Hazmat Abatement Budget

**Estimated Hazmat Abatement Budget
750 - 5 Street SE (DNE1, formerly EV1)**

18100842

Hazardous Building Materials	Approximate Quantity	Unit of Measure	Unit Rate	Estimated Budget
Asbestos-Containing Materials ⁽¹⁾				
Vinyl Sheet Flooring	620	Square Feet	\$12.00	\$7,440.00
Vinyl Floor Tile	4,300	Square Feet	\$7.50	\$32,250.00
Mastic	240	Square Feet	\$10.00	\$2,400.00
Brown Sink Insulation	80	Sink	\$150.00	\$12,000.00
Sub-Total				\$54,090.00
Other Hazardous Building Materials ⁽²⁾				
Lead Batteries in Emergency Lights	150	Each	\$50.00	\$7,500.00
Mercury Capsules in Thermostats	160	Each	\$100.00	\$16,000.00
Fluorescent Light Tubes with Mercury-Vapour	720	Each	\$5.00	\$3,600.00
PCB-Containing Light Ballasts	50	Each	\$100.00	\$5,000.00
Smoke Detectors with Radioactive Components	300	Each	\$50.00	\$15,000.00
Fungal Contamination	50	Square Feet	\$50.00	\$2,500.00
Sub-Total				\$49,600.00
Contingency (15% of Subtotal) ⁽³⁾				\$15,553.50
Hazardous Materials Consulting ⁽⁴⁾				\$17,886.53
Total (excluding taxes)				\$137,130.03

Notes/Assumptions:

An estimate to remove the lead-containing paint has not been prepared as it was observed to be in good condition at the time of the assessment and does not require abatement in it's current condition.

⁽¹⁾ The class estimate for all listed asbestos-containing materials is designated as Class 4, due to the non-destructive nature of the assessment, potential variability in contractor pricing and due to Golder assessing only 10% of the units.

⁽²⁾ The class estimate for all listed remaining hazardous building materials is designated as Class 3, due to the non-destructive nature of the assessment, the limited number of units entered during the assessment and potential variability in contractor pricing. Quantity estimates were prepared based on extapolations based on site observations and available site information.

⁽³⁾ The 15% contingency has been carried for inaccessible hazardous building materials that may be encountered during abatement or demolition activities.

⁽⁴⁾ Hazardous Building Materials Consulting includes preparation of abatement scopes of work and tender specifications, assisting with tendering, daily air monitoring and site assessments during abatement activities, and final reporting.

APPENDIX H

**September 2021 Bulk Sample
Report**

ANALYSIS REPORT

Analysis Requested: ASBESTOS ANALYSIS

Date: October 5, 2021

Samples collected:	September 16, 2021	Number of Samples:	2
Job Number:	18-100842.9069	Sample Type:	Asbestos Bulk
Client:	Calgary Housing Company	Attention:	Mr. Len van As

Job Description:	Bulk sampling and analysis of pipe-insulation suspected of being asbestos-containing at 750 5th Street SE (Property DNE1), in Calgary, Alberta
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ANALYSIS RESULTS

Reference Number	Sample Location/Description	Asbestos Type and Percentage
DNE1-A-25A	16th Floor Corridor / Grey Cementitious Pipe Insulation	None Detected
DNE1-A-25B	16th Floor Corridor / Grey Cementitious Pipe Insulation	None Detected

COMMENTS:

Samples collected and identified by Golder Associates Ltd.

ANALYTICAL PARAMETERS:

Method used: Polarized Light Microscopy using dispersion staining (EPA/600/R-93/116)

Analysis performed by: EMSL Canada Inc.



Fred Louth, BAIE, PMP
Associate / Senior OHS Project Manager

5-Oct-2021

Golder

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EMSL Canada Inc.

2333 18th Avenue NE, Unit 48 Calgary, AB T2E 8T6

Tel/Fax: (403) 879-1149 / (403) 879-1152

<http://www.EMSL.com> / CalgaryLab@EMSL.com

EMSL Canada Order: 652107751

Customer ID: 55EHPL50

Customer PO:

Project ID:

Attention: Kara Snelling

Golder Associates, Ltd.

Suite 120, 8610 - 36 Street NE

Calgary, AB T3J 2E1

Phone: (403) 299-5600

Fax: (403) 299-5606

Received Date: 09/16/2021 10:10 AM

Analysis Date: 09/16/2021

Collected Date: 09/16/2021

Project: 18100842.9069

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
DBE1-A-25A 652107751-0001	GREY CEMENTITIOUS PIPE INSULATION	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
DNE1-A-25B 652107751-0002	GREY CEMENTITIOUS PIPE INSULATION	Gray Fibrous Homogeneous	35% Min. Wool	65% Non-fibrous (Other)	None Detected

Analyst(s)

Kurt Carlson (2)

Jefferson Salvador, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Canada Inc. Calgary, AB NVLAP Lab Code 500100-0

Initial report from: 09/17/2021 11:46:03



golder.com