Appendix A

Environmental Reports

-DRAFT REPORT-

SUPPLEMENTAL
HAZARDOUS BUILDING MATERIALS ASSESSMENT

ADMINISTRATION BUILDING PRE-DECONSTRUCTION
CANADIAN COAST GUARD SOUTHSIDE BASE
280 SOUTHSIDE ROAD, ST. JOHN'S
NEWFOUNDLAND AND LABRADOR
DFRP 72019

Submitted to:

Public Services and Procurement Canada
Environmental Services
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IMPORTANT NOTICE

This report was prepared exclusively for Public Services and Procurement Canada (PSPC) and Fisheries and Oceans Canada (DFO) by Wood Environment & Infrastructure Solutions, a Division of Wood Canada Limited (Wood). The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in Wood's services and based on: i) information available at the time of preparation, ii) data supplied by outside sources and iii) the assumptions, conditions and qualifications set forth in this report. This report is for use by PSPC and DFO only, subject to the terms and conditions of its contract with Wood. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

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APPENDICES

1.0 INTRODUCTION

Wood Environment & Infrastructure Solutions (Wood), was retained by Public Services and Procurement Canada (PSPC), on behalf of Fisheries and Oceans Canada (DFO), to conduct a Supplemental Hazardous Building Materials Assessment (HBMA) for the Administration Building (Building # 107269) located at the Canadian Coast Guard (CCG) Southside Base (DFRP # 72019) in St. John's, Newfoundland and Labrador (NL), herein referred to as the "site" (refer to Figure A-1, Appendix A).

1.1 Objectives

The objective of the Supplemental HBMA is to further evaluate known and potential hazardous building materials used in the construction of the site building for the purpose of demolition of the building, and to provide an updated cost estimate for complete abatement of the identified hazardous materials from the building based on the findings of the previous and current HBMAs. The cost estimate for the abatement has been issued under a separate cover.

1.2 Site and Building Description

The site is located at 280 Southside Road on the south side of St. John's Harbour, approximately 1.3 kilometres (km) northeast of the intersection of Blackhead Road and Southside Road in the City of St. John's, NL. The site is owned by DFO and operated as a base for the CCG. The Administration Building serves as a centre of operations for Marine Navigation Services, Telecommunication and Electronics, Ship Safety, Ships Electronics Workshop, Search and Rescue, Fleet Systems (Operations), Vessel Traffic Services, Material Contracting and Facility Management (Depot) and Ice Operations.

The Administration Building was constructed in the early 1960s and consists of a four-storey, steel frame and concrete block structure with a poured concrete foundation. The footprint area of the building is approximately 2,400 m^2 and floor area of 6,609 m^2. The exterior of the building consists of brick, concrete, metal framed windows and doors, and metal flashing. The roofing materials consist of torched on modified bitumen membranes, tar and asphalt shingles. The exterior walls of the building are constructed of brick and concrete.

The interior walls and wall finishes of the building consist of painted wood, painted brick, concrete, painted concrete block, painted drywall, fabric wall coverings, painted metal and wooden door frames, painted wooden trim around windows and doors, painted wooden baseboards and vinyl baseboards. The ceilings and ceiling finishes of the building consist of painted concrete, acoustic ceiling tile, stucco and painted drywall. The floors and floor finishes of the building consist of painted concrete and levelling compound, suspended floor tile, vinyl floor tile, vinyl flooring, ceramic floor tile, terrazzo flooring and carpet.

Interior lighting for the building consists of fluorescent, incandescent and emergency back-up lights and exterior lighting consists of high intensity discharge (HID) lights. The building is heated

by oil-fired boilers and associated wall-mounted radiation heaters and wall-mounted electrical heaters.

1.3 Scope of Work

The scope of work for this assessment, as per Wood Proposal Number P5031 (*Proposal for Professional Consulting Services for Additional HBMA Sampling and Abatement Cost Estimate, Administration Building, CCG Southside Base, St. John's, NL*), included:

- Prior to the commencement of any field work, submit a site-specific Health and Safety Plan (HASP) to PSPC. Additional safety precautions may need to be addressed and/or confirmed before intrusive sampling is performed. All Wood field staff, and subcontractors, if applicable, will review the HASP and sign the acknowledgement form prior to conducting field activities. Areas that are not accessible with a 2.4 m step ladder or areas that are not safe to access will not be assessed unless appropriate and safe equipment is provided by PSPC at the time of the site visit and the field technician(s) have appropriate fall protection (e.g., safety harnesses, training, etc.). Confined space entry (e.g., entering a crawl space or attic) and fall protection plans, which would involve preparation and implementation of specific procedures/permits, are not anticipated to be required as part of this project. The roof areas of the building will only be assessed if safe access can be provided through a roof access hatch at the time of the site visit.
- Sampling and laboratory testing of suspected ACMs to confirm the absence or presence and concentration of asbestos fibres. Wood proposes to collect 66 bulk material samples and four (4) paint samples, from the building for analysis of asbestos content. It should be noted that each layer comprising the bulk building material sample is considered a separate sample for costing purposes. For example, thermal insulation on straight-run piping could have several layers, including but not limited to, wrap, tar paper, foil, paper backing, and insulation. After all bulk material samples had been split into layers for laboratory analyses, the total number of bulk material sample layers was 85, paint samples were not split into separate layers.
- Sampling and laboratory testing of paint to determine the absence or presence and concentrations of lead, mercury and PCBs. Wood proposes to collect 26 paint samples from the building for analyses of lead and mercury content. Wood proposes that 11 of these paint samples will also be analysed for PCB content. Paint samples that exceed 50 mg/kg for mercury or 5,000 mg/kg for lead will be submitted for respective leachate analyses (i.e., using the TCLP) in order to determine proper disposal options for painted materials.
- Sampling and laboratory testing of suspected PCB-containing materials to determine the absence or presence and concentration of PCBs. Wood proposes to collect 10 bulk material samples from the building for analyses of PCB content.
- Conduct intrusive cavity inspections on each floor and the exterior of the building to attempt to identify any hidden and potentially hazardous building materials that may be concealed by walls and/or ceiling systems.

- Based on the findings of the supplemental investigation, sampling and laboratory analyses, Wood will prepare a revised order-of-magnitude cost estimate for abatement of the identified hazardous materials from the building.
- Other project requirements include regular communication with the PSPC Project Manager. Wood will provide a status report, in the form of an email message to the PSPC Project Manager at the completion of the field work, to advise of the project status and any factors that may influence the planned schedule, budget or deliverables. No additional work will be carried out without prior approval from PSPC.

Findings of the supplementary HBMA are based on the interpretation of data from the areas investigated and analytical results pertaining to specific samples collected and tested. It is possible that materials exist that could not be reasonably identified within the scope of the work or which were not apparent or accessible during the site visits.

1.4 Environmental Regulatory Framework

The federal and provincial governments in Canada have prepared and/or adopted numerous acts (and amendments), regulations (and amendments), guidelines, policies, and procedures related to the protection of the environment and the investigation of sites containing hazardous building materials. Wood has considered the following documents in conducting the additional HBMA:

- Canadian Council of Ministers of the Environment (CCME) Canadian Environmental Quality Guidelines (CEQG)
    - Canadian Soil Quality Guidelines (CSQG) for the Protection of Environmental and Human Health
- CCME Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products
- Canadian Environmental Protection Act (1999, C. 33)
    - PCB Waste Export Regulations (SOR/97-109)
    - Ozone-depleting Substances Regulations and Halocarbon Alternative Regulations (SOR/2016-137)
    - PCB Regulations (SOR/2008-273)
    - Regulations Amending the PCB Regulations (SOR/2010-57)
    - Interprovincial Movement of Hazardous Waste Regulations (SOR/2002-301)
    - Federal Halocarbon Regulations (SOR/2003-289)
    - Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2005-149)
    - Products Containing Mercury Regulations (SOR/2014-254)
- Federal Hazardous Products Act (R.S.C., 1985, c. H-3)
    - Surface Coating Materials Regulations (SOR/2016-193)
- Federal Transportation of Dangerous Goods Act (1992, c. 34)

  - Transportation of Dangerous Goods Regulations (SOR/2012-245)
- Health Canada Guidelines for Canadian Drinking Water Quality (Summary Table, 2017)
- National Plumbing Code of Canada (National Research Council Canada)
- NL Environmental Protection Act (SNL2002 E-14.2; Amended: 2004 cL-3.1 s28; 2006 c12; 2006 c32; 2013 c16 s25)
  - Storage of PCB Wastes Regulations (61/03)
  - Halocarbon Regulations (41/05)
- NL Dangerous Goods Transportation Act (RSNL1990 Chapter D-1; Amended: 1995 cP-31.1 s53; 1997 c13 s13; 2004 c36 s9; 2006 c40 s21; 2013 c16 s25)
  - Dangerous Goods Transportation Regulations (5/96)
- NL Department of Environment, Pollution Prevention Division, Guidance Document: Leachable Toxic Waste, Testing and Disposal (2003, GD-PPD-26.1)
- NL Department of Environment and Conservation, Guidance Document for the Management of Impacted Sites (2014, Version 2.0)
- NL Department of Environment and Conservation, Pollution Prevention Division, Guidance Document: Treated Wood Waste Disposal (2015, GD-PPD-075.1)
- NL Occupational Health and Safety Act (RSNL1990 Chapter O-3; Amended: 1992 c29 s24; 1992 c42; 1996 cP-41.01 s37; 1997 c13 s49; 1998 c19 s20; 1999 c28; 2001 c10; 2004 c36 s27; 2004 c47 s27; 2004 c52; 2006 c16; 2009 c19; 2012 c38 s11; 2013 c16 s25)
  - Occupational Health and Safety Regulations (5/12)
  - Asbestos Abatement Regulations (111/98)

1.4.1 Selection of Guidelines/Standards

The following sections present the guidelines and standards that were used to evaluate analytical results for samples of suspected hazardous materials collected during this assessment.

1.4.1.1 Asbestos-Containing Materials (ACMs)

Analytical results for asbestos in building materials were compared to the NL Asbestos Abatement Regulations (111/98) under the Occupational Health and Safety Act. Under these regulations, materials containing greater than 1% asbestos by dry weight are considered to be ACMs and should be managed in accordance with the applicable regulations.

1.4.1.2 Lead in Paint

Analytical results for lead in paint were compared to the current and former Federal Hazardous Products Act (HPA) criteria of 90 mg/kg and 5,000 mg/kg, respectively. Under the HPA, the lead content limit was reduced from 5,000 mg/kg to 600 mg/kg in 2005 for surface coating materials

used in or around the home or other premises where children may become exposed. In 2010, the lead content limit was further reduced from 600 mg/kg to 90 mg/kg. It is important to consider, in the event that lead is detected in paint or other surface coating materials at a concentration less than 90 mg/kg, while it is not considered a LBP under the Federal HPA, the paint would be subject to control measures under the OHS Regulations.

In order to determine disposal options for paint, should disposal be required, the former Federal HPA criterion of 5,000 mg/kg lead in paint is typically used as a Provincial disposal guideline to determine whether or not paint samples should be submitted for leachate analysis. Paint samples that contain less than 5,000 mg/kg are not likely to be leachable and therefore may be disposed of at an approved landfill facility, pending landfill and Provincial regulatory approval. Paint samples with lead concentrations in excess of 5,000 mg/kg should be subjected to leachability testing. The NL Department of Municipal Affairs and Environment (MAE) (formerly NL Department of Environment) 2003 Guidance Document for Leachable Toxic Waste, Testing and Disposal (GD-PPD-26.1) guideline of 5.00 mg/L lead should be used to assess the results of the leachability testing to determine disposal options for any lead-containing paint to be removed during any disturbance, demolition or renovation activities. Any paints that require disposal and exceed the lead leachate guideline are considered to be leachable toxic waste and must be disposed of at an approved hazardous waste disposal site and not a landfill disposal site.

1.4.1.3 Mercury in Paint

Analytical results for mercury in paint were compared to the Federal HPA criterion. The maximum acceptable concentration of mercury in paint, under the HPA, is 0.001% (equivalent to 10 mg/kg) in or around the home or other premises where children or pregnant women may become exposed. It is important to consider, in the event that mercury is detected in paint or other surface coating materials at a concentration less than 10 mg/kg, while it is not considered a MBP under the Federal HPA, the paint would be subject to control measures under the OHS Regulations.

In order to determine disposal options for paint, should disposal be required, the Canadian Council of Ministers of the Environment (CCME) Canadian Soil Quality Guidelines (CSQG) criterion of 50 mg/kg for mercury in soil at an industrial site is typically used as a Provincial disposal guideline to determine whether or not the paint samples should be submitted for leachate analysis. Paint samples with a mercury concentration of less than 50 mg/kg are not likely to be leachable and therefore may be disposed of at an approved landfill facility, pending landfill and Provincial regulatory approval. Paint samples with a mercury concentration exceeding 50 mg/kg should be subjected to leachability testing. The NL Department of MAE, 2003 Guidance Document for Leachable Toxic Waste, Testing and Disposal (GD-PPD-26.1) guideline of 0.10 mg/L mercury should be used to assess the results of the leachability testing to determine disposal options for any mercury-containing paint to be removed during any disturbance, demolition or renovation activities. Any paints that require disposal and exceed the mercury leachate guideline are considered to be leachable toxic waste and must be disposed of at an approved hazardous waste disposal site and not a landfill disposal site.

1.4.1.4 PCBs in Paint and Other Materials

Analytical results for PCBs in paint and/or other materials (i.e., caulking, sealants, tar, etc.) were compared to the CCME CSQG criterion of 33 mg/kg for PCBs in soil at an industrial site. The Federal HPA does not include any assessment criteria for PCBs in paint.

In order to determine disposal options for paint and/or other suspected PCB-containing materials, should disposal be required, concentrations of PCBs in building materials should be compared to the criterion of 50 mg/kg for PCB solid provided in the NL Department of MAE, 2003 Guidance Document for Leachable Toxic Waste, Testing and Disposal (GD-PPD-26.1) and the Federal Transportation of Dangerous Goods (TDG) Regulations. Any building materials (i.e., paints, caulking, etc.) that require disposal and exceed the PCB solid criterion must be disposed of at an approved hazardous waste disposal site and not a landfill disposal site.

1.5 Methodology

The site inspections and sampling for the supplemental HBMA were conducted by Wood personnel on January 13 and 14, 2020 and February 4, 5, 6, and 12, 2020.

1.5.1 Intrusive Cavity Inspections

After a review of the as-built drawings that were provided by PSPC, several locations were selected for wall or ceiling cavity inspections. Intrusive cavity inspections were performed through drywall by using a hammer to create openings for visual inspection and to allow access to sample any suspected hazardous building materials, if identified. Intrusive cavity inspections were performed through brick by using a jack hammer to chip away the exterior brick layer to allow visual inspection and to allow access to sample any suspected hazardous building materials, if identified.

1.5.2 Bulk Material Sampling and Laboratory Analytical Program

Building materials suspected of containing asbestos or PCBs were sampled by removing a 2.0 cm by 2.0 cm piece of material (where possible) and placing the sampled materials into Glad® or Ziploc® plastic bags.

Bulk material samples suspected of containing asbestos were submitted to the EMSL Canada Inc. (EMSL) laboratory located in Mississauga, Ontario (ON) for the analysis of asbestos using Polarized Light Microscopy (PLM) with dispersion staining. The analysis was conducted in accordance with the United States Environmental Protection Agency (USEPA) Method EPA 600/R-93/116 (Method for the Determination of Asbestos in Bulk Building Materials). EMSL is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) and the American Industrial Hygiene Association (AIHA) for bulk asbestos fibre analysis by PLM.

Bulk material samples suspected of containing PCBs were submitted to the AGAT Laboratories (AGAT) laboratory located in Halifax, Nova Scotia (NS) for the analysis of PCB content using Gas Chromatography – Electron Capture Detector (GC-ECD). The analysis was conducted in

accordance with the USEPA Method EPA SW-846 8082 (Test Method for Polychlorinated Biphenyls by Gas Chromatography). AGAT is accredited under the Standards Council of Canada (SCC) to perform analysis of PCBs in bulk materials.

1.5.3 Paint Sampling and Laboratory Analytical Program

Paint samples were collected from painted surfaces that were known or suspected to contain lead, mercury or PCBs at concentrations above the applicable CCME CSQG or former Federal HPA criterion (i.e., based on paint colour and the previous HBMA results) by cutting and scraping areas of flaking paint using clean knives, scrapers, and wood planers. Asbestos was also collected in four paint samples. Samples were collected down to bare substrate (e.g., drywall, concrete and wood) and some samples included the substrate. A minimum of five grams (where possible) of paint was obtained from each sampling location and stored in Glad® or Ziploc® plastic bags. Paint colour (including all distinguishable layers) and matrix (substrate) were noted at each location during the sampling program.

Paint samples were submitted to the AGAT laboratory located in Halifax, NS for lead and PCB content analyses and Mississauga, ON for mercury and asbestos content analyses. Lead content analysis was conducted using Inductively Coupled Plasma – Optical Emission Spectrometry (ICP-OES) in accordance with the Standard Methods 3120 B (Metals in Water by Plasma Emission Spectroscopy). Mercury content analysis was conducted by Cold Vapor-Atomic Absorption Spectrophotometry (CVAAS) in accordance with the USEPA Method EPA SW 846 747 1B & 245.5 (Mercury in Solid or Semisolid Waste). PCB content analysis was conducted using GC-ECD in accordance with the USEPA Method EPA SW-846 8082 (Test Method for Polychlorinated Biphenyls by Gas Chromatography). AGAT is accredited under the Standards Council of Canada (SCC) to perform analysis of lead, mercury and PCBs in paint samples.

1.5.4 Roof Core Sampling and Laboratory Analytical Program

Roof core samples were collected from the roof of the building using a hand powered core sampler. Samples were collected so that all layers of roof covering, and insulation were captured, samples were then stored in Glad® or Ziploc® plastic bags. Core holes advanced in the roof were repaired after sampling to prevent exposure to the elements and infiltration of precipitation to the building.

Roof core samples suspected of containing asbestos were submitted to the EMSL laboratory located in Mississauga, ON for the analysis of asbestos using Polarized Light Microscopy (PLM) with dispersion staining. EMSL split the roof core samples into layers (i.e., tar, foil, particle board, foam, tar paper, etc.) for separate analysis, where warranted. The analysis was conducted in accordance with the USEPA Method EPA 600/R-93/116 (Method for the Determination of Asbestos in Bulk Building Materials). EMSL is accredited by the NVLAP and the American Industrial Hygiene Association (AIHA) for bulk asbestos fibre analysis by PLM.

1.5.5 Quality Assurance/Quality Control (QA/QC) Program

Laboratory blanks and duplicates and Quality Control (QC) standard samples were analyzed to assess the reliability of the analyses. In order to minimize cross contamination during sampling, a field Quality Assurance/Quality Control (QA/QC) program was followed, which included the following measures:

- Latex or nitrile gloves were worn during all sampling (new pair of gloves for each sample);
- All sampling equipment was thoroughly cleaned prior to sampling to ensure that samples were unaffected by cross-contamination from previous samples; and
- Each sample was photographed, given a unique sample ID and logged onto a chain of custody form before shipment to the laboratory.

The laboratories utilized have extensive QA/QC programs in place to ensure that reliable results are consistently obtained. Specific laboratory QA/QC measures include:

- Chain of Custody and sample integrity inspection;
- Strict documentation control and files;
- Trained personnel prepare and analyze samples according to Standard Operating Procedures (SOPs);
- All analytical methods are based on accepted procedures and are fully validated prior to use;
- Precision is monitored by performing replicate analysis of samples;
- Accuracy is verified by analyzing spiked samples and reference materials;
- Instrument calibration integrity is ensured by analyzing calibration check standards within each run sequence;
- Extensive use is made of reference material for routine procedure evaluation;
- Highest available purity analytical standards;
- Predefined analytical sequences ensure all results are traceable to calibration and QC data;
- Hard copy reports displaying all of the required data are generated for each instrument;
- Analytical results are determined only from instrument responses that fall within the calibration range;
- Acceptable QC performance must be demonstrated prior to data authorization;
- On-going method and instrument performance records are maintained for all analysis; and,
- A full-time QA Scientist evaluates the QA program on an on-going basis.

2.0 BACKGROUND INFORMATION

In order for PSPC to complete the deconstruction specifications for the Administration Building, it was determined that additional information was required concerning previous conclusions and recommendations for the building materials encountered within the Administration Building. Summaries of the previous HBMAs completed at the site, including hazardous building materials sampling programs conducted as part of Environmental Site Assessments (ESAs), are described in the section.

2.1 PHASE II/III ESA – AMEC, MARCH 2002

AMEC (now Wood), on behalf of Public Works and Government Services Canada (PWGSC, now PSPC) and DFO, completed a Phase II/III ESA of the site in March 2002. The scope of work for the Phase II/III ESA completed by AMEC in relation to issues of concern regarding hazardous building materials consisted of the following:

- Sampling and laboratory testing of paint to determine the concentrations of lead. Twenty paint samples were collected from interior surfaces of the site building for lead analysis.
- Sampling and laboratory testing of potable water to determine the concentrations of lead. One potable water sample was collected from a tap in the washroom on the Mezzanine within the site building for lead analysis.
- Reviewing documentation on existing transformers on-site.

Findings of the 2002 Phase II/III ESA regarding potential and/or actual hazardous building materials at the site are provided below:

- The concentrations of lead in the 20 paint samples ranged from non-detect (<5.0 mg/kg) to 3,410 mg/kg. Twelve (12) of the paint samples contained lead at concentrations above the Surface Coating Materials Regulations criterion of 90 mg/kg but below the former Federal Hazardous Products Act (HPA) criterion of 5,000 mg/kg. Lead was either not detected (<5.0 mg/kg) above the reportable detection limit (RDL) or contained lead at concentrations above the RDL but below the Surface Coating Materials Regulations criterion of 90 mg/kg in the other eight paint samples.
- Lead was not detected (<0.001 mg/L) above the RDL in the potable water sample.
- Three Westinghouse transformers were identified inside the electrical room vault of the site building. A review of documentation revealed that the transformers on-site had been previously sampled and analyzed for polychlorinated biphenyls (PCBs). The results indicated that these transformers did not contain significant levels of PCBs (i.e. less than 10 parts per million (ppm)). On this basis no further sampling or analyses was conducted with respect to on-site electrical transformers.

2.2 PAINT SAMPLING PROGRAM – AMEC, MARCH 2005

AMEC (now Wood), on behalf of PSPC and DFO, completed a Paint Sampling Program at the site in January 2005. The scope of work for the sampling program completed by AMEC consisted of the following:

- Reviewing previous reports and construction drawings to gather background information about the site.
- Collecting 22 paint samples from the site building for lead, mercury and PCB analyses. Toxicity Characteristic Leaching Procedure (TCLP) testing for lead leachate was conducted on one paint sample collected at the site.
- Providing site-specific professional advice and recommendations as to how to deal with the identified substances.

Findings of the 2005 Paint Sampling Program are provided below:

- The concentrations of lead in the 22 paint samples ranged from non-detect (<5.0 mg/kg) to 11,300 mg/kg. Nine (9) of the paint samples contained lead at concentrations above the Surface Coating Materials Regulations criterion of 90 mg/kg but below the former Federal HPA criterion of 5,000 mg/kg. One yellow paint sample (PS-3F-01) collected from a doorframe in Room 327 contained lead at a concentration above the former Federal HPA criterion of 5,000 mg/kg. Lead was either not detected (<5.0 mg/kg) above the RDL or contained lead at concentrations above the RDL but below the Surface Coating Materials Regulations criterion of 90 mg/kg in the other 12 paint samples.
- The concentration of leachable lead (<0.02 mg/L) in the paint sample tested (i.e., yellow paint on doorframe in Room 237) was below the Schedule II leachate criterion for lead (5.00 mg/L) provided in the Provincial guidance document for Leachable Toxic Waste, Testing and Disposal (GD-PPD-26.1).
- The concentrations of mercury in the 22 paint samples ranged from non-detect (<0.01 mg/kg) to 0.60 mg/kg. Mercury was either not detected (<0.01 mg/kg) above the RDL or contained mercury at concentrations above the RDL but below the Surface Coating Materials Regulations criterion of 10 mg/kg and the Canadian Council of Ministers of the Environment (CCME) Canadian Soil Quality Guidelines (CSQG) criterion of 50 mg/kg for mercury in soil at an industrial site in the paint samples.
- The concentrations of PCBs in the 22 paint samples ranged from non-detect (<0.05 mg/kg) to 28 mg/kg. PCBs were either not detected (<0.05 mg/kg) above the RDL or contained PCBs at concentrations above the RDL but below the CCME CSQG criterion of 33 mg/kg for PCBs in soil at an industrial site and the criterion of 50 mg/kg for PCB solid provided in the Provincial guidance document for Leachable Toxic Waste, Testing and Disposal (GD-PPD-26.1) in the paint samples.
- A review of documentation revealed that a white paint sample had been previously collected from a window sill in Room 245 on the second floor of the site building by the CCG on June 29, 2004. The concentration of lead (19,000 mg/kg) reported in the paint sample was above the former Federal HPA criterion (5,000 mg/kg). No lead leachability testing was conducted on

the sample at that time. The total surface area of lead-containing paint within Room 245 was estimated at 1 m^2.

Based on the findings of the 2005 Paint Sampling Program, AMEC recommended the following further actions be carried out at the site:

- Intact lead-based paint on most walls and ceilings was not considered a hazard, although it was recommended the paint should be maintained and its condition monitored to ensure that it does not deteriorate and eventually become a hazard (i.e. dust containing lead generated from routine maintenance activities, such as wall preparation for repainting is considered a hazard).
- Special consideration should be given to the presence of lead-containing paint on the doorframe, interior walls and ceiling in Room 327 and windowsill in Room 245. Documentation pertaining to Room 327 should be kept on file detailing the areas where the lead-containing paint is located, the concentration of lead in the paint and the last time an inspection was performed on the area. Maintenance staff must be made aware of the location of the lead-containing paint in Room 327 and be educated on what to do if maintenance has to be performed in this area that will require the lead-containing paint to be disturbed or if it is noticed that an area becomes deteriorated. All painted surfaces in Room 327 should be annually inspected for signs of deterioration. In the event of demolition of the site building and/or renovations are carried out on Room 327, special consideration should be given to the removal and disposal of lead-containing paint present at the site. Since the concentration of lead leachate in paint sampled from Room 327 was not at a level considered to be hazardous (under Transportation of Dangerous Goods), it was determined that this paint could be disposed at an approved landfill facility.
- Since the leachability of lead and physical condition of the white paint present on the window sill in Room 245 was not assessed during the 2005 Paint Sampling Program, the paint shall be managed in the same manner as the lead-containing paint identified on the doorframe, interior walls and ceiling of Room 327. Prior to any renovations and/or removal of the window in Room 245 from the site building, it was recommended that lead leachability testing be conducted on the paint to assess disposal options (i.e. landfill versus hazardous material disposal facility). Levels of lead in paint on other window sills throughout the site building, especially white painted window sills present on the second floor, that appeared to be painted with the same paint should be assessed for lead content to address potential health and safety concerns for building occupants.

2.3 LIMITED HBMSP – AMEC, JUNE 2013

AMEC (now Wood), on behalf of PWGSC (now PSPC) and DFO, completed a Limited Hazardous Building Materials Sampling Program (HBMSP) at the site in June 2013. The scope of work for the limited investigation completed by AMEC consisted of the following:

- Conducting an inspection of the building materials within a section of wall scheduled to be demolished on the 4th floor of the site building (i.e., Room 407), to identify the potential and/or

actual presence of hazardous building materials including asbestos-containing materials (ACMs), lead-based paints (LBPs) and mercury-based paints (MBPs).
- Sampling and laboratory testing of seven (7) building material samples to confirm the presence or absence of asbestos fibres.
- Sampling and laboratory testing of three (3) paint samples to determine the concentrations of lead and mercury.
- Preparing a letter report documenting the methodologies and findings of the Limited HBMSP.

Findings of the 2013 Limited HBMSP are provided below:

- Seven building material samples (ASB-01 to ASB-07) were collected within the area of the wall to be demolished in the site building and analyzed for asbestos content. Asbestos was not detected in the building material samples (i.e., drywall joint compound, vinyl sheet flooring, wall paper and acoustic ceiling tile) collected and submitted for analysis.
- Three paint samples (PS-01 to PS-03) were collected from painted surfaces from the area of the wall to be demolished in the site building and analyzed for lead and mercury content. The concentrations of lead in the paint samples ranged from 11 mg/kg to 23 mg/kg and the concentrations of mercury in the paint samples ranged from 7.3 mg/kg to 7.6 mg/kg. The paint samples contained lead and mercury at concentrations below the Surface Coating Materials Regulations criteria of 90 mg/kg for lead and 10 mg/kg for mercury.

Based on observations made and information gathered during the 2013 Limited HBMSP, the following conclusions and recommendations were made with respect to the potential and actual presence of hazardous building materials within the section of wall in Room 407 on the 4th Floor of the site building that was scheduled to be demolished:

- Results of the asbestos sampling and analytical program revealed that none of the building materials sampled during the limited assessment contained asbestos. Other possible hidden and inaccessible ACMs had the potential to be present at the site but were not identified during the site visit. It was recommended, if other potential ACMs were encountered in the future that could not have been sampled as part of the assessment due to access issues, these materials should be treated as ACMs or samples should be collected and tested to verify asbestos content, as soon as these materials were encountered and before these materials were disturbed. This included materials that were concealed by walls and ceiling systems.
- In accordance with the NL Asbestos Abatement Regulations (Reg. 111/98), which provide the legislative requirements for safe handling of ACMs in workplaces in the Province of NL, safe work procedures shall be established; all buildings constructed during the period when asbestos was readily used in construction must have a written assessment and management plan (where applicable) for potential ACMs; prior to general disturbance activity (e.g., demolition, renovation or removal), all ACMs must be safely removed from the site building and disposed of in accordance with appropriate environmental guidelines by an asbestos abatement contractor registered with the Department of Labour, Occupational Health and Safety Branch. ACMs in good condition should be inspected on an annual basis. ACMs in poor condition should be removed from the site building and transported off-site for proper disposal in accordance with the Asbestos Abatement Regulations (111/98).

- Results of the paint sampling and analytical program revealed that none of the paint finishes sampled during the limited assessment contained lead or mercury at concentrations above the Surface Coating Materials Regulations criteria of 90 mg/kg for lead and 10 mg/kg for mercury; therefore, these paint finishes were not considered to be LBP or MBP finishes. Paint finishes with a lead concentration of less than 5,000 mg/kg or a mercury concentration of less than 50 mg/kg are not likely to be leachable, and therefore, may be disposed of at an approved landfill facility, pending landfill and regulatory approval. Based on the results from the paint samples analyzed during the limited assessment, none of the paint finishes that were sampled for lead and mercury in paint were considered hazardous waste, therefore, it was determined that these paints may be disposed of at an approved landfill facility, pending regulatory and landfill operator approval. It was recommended, if potential lead or mercury containing paint finishes that were not sampled during the limited assessment were encountered, samples should be obtained and tested to verify lead and mercury content before the paint finishes were disturbed. This included materials that were concealed by walls and ceiling systems.
- There are potential adverse human health impacts associated with disturbing (e.g., scraping) LBP and MBP finishes. As a precautionary measure, AMEC recommended proper maintenance of LBP and MBP finishes, as follows:
    - Where LBP and MBP finishes were in good condition (i.e., intact and not peeling or flaking) the surfaces could be covered by painting with non lead or non mercury-containing paint. In areas of minor peeling or flaking the paint should be removed using wet scraping techniques and the surface should then be repainted with non lead or non mercury-containing paint. In areas of extensive peeling and flaking the paint should be removed and more extensive particulate control measures may be required. In areas where LBP or MBP finishes were present and in poor condition, an experienced contractor should be utilized for painting, renovation or decommissioning/demolition activities. Steps should be taken to ensure that workers and anyone present in and around areas being renovated, dismantled or demolished are protected. The contractor should also ensure that dust generation and migration is minimized.

2.4 HBMS – AMEC, DECEMBER 2013

AMEC (now Wood), on behalf of PSPC and DFO, completed an intrusive/ invasive Hazardous Building Materials Survey (HBMS) at the site in June-July 2013. The scope of work for the investigation completed by AMEC consisted of the following:

- Conducting a walk-through inspection of the site building to identify the potential and/or actual presence of hazardous building materials (i.e., ACMs, LBPs, MBPs, PCB-based paints, etc.).
- Documenting the location of any ozone depleting substances (ODS), Federal Halocarbons and petroleum storage tanks identified during the survey.
- Inspecting the site building for evidence of areas that are impacted by suspected visible mould growth (SVG). If present, sampling and laboratory testing of the suspected mould growth to confirm the presence of mould. One bulk material sample was collected from an area of SVG for mould analysis.

- Inspecting the site building for stained areas on building materials which could be the result of spilled chemicals. If observed, documenting the location of the stained areas and completing an inventory of any chemicals stored in the vicinity of these areas.
- Sampling and laboratory testing of suspected ACMs to confirm the presence or absence of asbestos fibres. A total of 166 bulk material samples were collected from the site building for asbestos analysis.
- Sampling and laboratory testing of paint to determine the concentrations of lead, mercury and PCBs. A total of 12 paint samples were collected from painted surfaces of the site building for lead and mercury analyses. Five paint samples were also analyzed for PCB content.
- Sampling and laboratory testing of boiler ash to determine the concentrations of heavy metals, polycyclic aromatic hydrocarbons (PAHs) and fuel oil components (benzene, toluene, ethylbenzene, xylene (BTEX) and total petroleum hydrocarbons (TPH)). One ash sample was collected from the chimney in the boiler room of the site building for BTEX, TPH, metals and PAH analyses.
- Inspecting all thermostats to assess the presence/absence of mercury-containing switches.
- Recording the number and type of fluorescent light fixtures. As per discussions with PWGSC, inspecting fluorescent lights for PCB-containing light ballasts was not included in the scope of work.
- Preparing a written report documenting the methodologies and findings of the HBMS.

Based on observations made and information gathered during the 2013 HBMS, the following conclusions and recommendations were made with respect to the potential and actual presence of hazardous building materials at the site building:

- Results of the asbestos sampling and analytical program revealed that non-friable asbestos (chrysotile) was present in the form of tar paper (interior wall in Room 326) and tar/fibre mesh (site building exterior at ground level). The results also revealed that there was caulking (site building exterior at ground level) that contained less than 1% asbestos by dry weight. Texture finishes (i.e. stucco) were observed on the ceilings in some areas of the site building. Asbestos was not detected in one stucco finish sample that was collected and submitted for analysis; however, it was noted that it was common for the asbestos content in troweled on materials, such as stucco finishes within an older building, to vary in concentration depending on the methods used to mix and place these materials. Therefore, it was recommended that these materials (i.e., stucco) should be treated as ACMs or additional samples should be collected and tested to verify asbestos content.
- Other potential ACMs were observed and were not sampled due to the nature of the materials and/or hazards associated with sampling these materials. These materials included, but were not limited to, fire rated doors, electrical and mechanical components and insulators such as wiring and gaskets inside electrical panels, electronic and/or mechanical equipment. Other possible hidden and inaccessible ACMs had the potential to be present at the site but were not identified during the site visits. These possible ACMs included interior components of chimneys and boilers, packing associated with cast iron pipe joints, other fire rated structures or building materials and underground infrastructure and piping. In addition, due to the age of the site building, it was also possible that the concrete block walls contained asbestos-containing

vermiculite insulation. It was recommended, if other potential ACMs were encountered in the future that could not have been sampled as part of the assessment due to access issues, these materials should be treated as ACMs or samples should be collected and tested to verify asbestos content, as soon as these materials were encountered and before these materials were disturbed. This included materials that were concealed by walls and ceiling systems.

- In accordance with the NL Asbestos Abatement Regulations (Reg. 111/98), which provide the legislative requirements for safe handling of ACMs in workplaces in the Province of NL, safe work procedures shall be established; all buildings constructed during the period when asbestos was readily used in construction must have a written assessment and management plan (where applicable) for potential ACMs; prior to general disturbance activity (e.g., demolition, renovation or removal), all ACMs must be safely removed from the site building and disposed of in accordance with appropriate environmental guidelines by an asbestos abatement contractor registered with the Department of Labour, Occupational Health and Safety Branch. ACMs in good condition should be inspected on an annual basis. ACMs in poor condition should be removed from the site building and transported off-site for proper disposal in accordance with the Asbestos Abatement Regulations (111/98).
- Results of the paint sampling and analytical program revealed LBP and MBP finishes within the site building (i.e., the concentrations of lead and mercury in some paint finishes were above the Surface Coating Materials Regulations criteria of 90 mg/kg for lead and 10 mg/kg for mercury). The concentrations of lead in the paint samples ranged from non-detect (<5.0 mg/kg) to 44,000 mg/kg and the concentrations of mercury in the paint samples ranged from non-detect (<1.0 mg/kg) to 19 mg/kg. One paint sample (grey paint) collected from the concrete floor in Room 160 and one paint sample (white over green over grey paint) collected from wood on the site building exterior contained lead at concentrations (44,000 mg/kg and 5,100 mg/kg, respectively) above the former Federal HPA criterion (5,000 mg/kg).
- Based on the results from the paint samples analyzed during the 2013 HBMS, 11 paint finishes that were analyzed for lead and mercury in paint (including leachable lead, where applicable) were not considered hazardous, and if removed from the site building, it was determined could be disposed of at an approved landfill facility, pending regulatory and landfill operator approval. However, the concentration of leachable lead (710 mg/L) in one grey paint sample, collected from the concrete floor in Room 160, was above the Schedule II leachate criterion for lead (5.00 mg/L); therefore, this paint was considered to be hazardous, and if removed from the site building, was required to be disposed of at a hazardous waste treatment facility. The paint collected at the site was generally in fair to poor condition; and the paint that exceeded the lead leachate criterion was deteriorated (i.e. peeling and flaking). It was recommended that priority should be given to removing all deteriorated areas painted with grey paint on the floor in Room 160. This paint was considered to be a LBP and was in poor condition and in order to prevent exposure to the workers in the site building, it was recommended that this paint be removed by lead abatement procedures. It was also recommended, if potential lead or mercury containing paint finishes that were not sampled during these assessments were encountered, samples should be obtained and tested to verify lead and mercury content, as soon as the paint was encountered and before it was disturbed. This included materials that were concealed by walls and ceiling systems.

- Based on the results from the paint samples analyzed during the previous assessments in 2002, 2005 and 2013 (i.e. Limited HBMSP), all 45 of the paint finishes that were analyzed for lead and mercury in paint were not considered hazardous, and if removed from the site building, it was determined could be disposed of at an approved landfill facility, pending regulatory and landfill operator approval. It was noted that no lead leachability testing was conducted on the white paint sample previously collected from a window sill in Room 245 by the CCG in 2004. The total surface area of lead-containing paint within Room 245 was estimated at 1 m^2.
- PCBs were not detected (<5.0 mg/kg) above the RDL in the five paint samples that were analyzed for PCBs during the 2013 HBMS; therefore, the concentrations of PCBs in the paint samples were below the CCME CSQG criterion of 33 mg/kg for PCBs in soil at an industrial site and the criterion of 50 mg/kg for PCB solid provided in the Provincial guidance document for Leachable Toxic Waste, Testing and Disposal (GD-PPD-26.1).
- There are potential adverse human health impacts associated with disturbing (e.g., scraping) LBP and MBP finishes, or paint finishes containing PCBs. As a precautionary measure, AMEC recommended proper maintenance of LBP and MBP finishes, or paint finishes containing PCBs, as follows:
    - Where LBP and MBP finishes were in good condition (i.e., intact and not peeling or flaking) the surfaces could be covered by painting with non lead or non mercury-containing paint. In areas of minor peeling or flaking the paint should be removed using wet scraping techniques and the surface should then be repainted with non lead or non mercury-containing paint. In areas of extensive peeling and flaking the paint should be removed and more extensive particulate control measures may be required. In areas where LBP or MBP finishes were present and in poor condition, an experienced contractor should be utilized for painting, renovation or decommissioning/demolition activities. Steps should be taken to ensure that workers and anyone present in and around areas being renovated, dismantled or demolished are protected. The contractor should also ensure that dust generation and migration is minimized.
- Based on a visual and intrusive inspection, there was no evidence that urea formaldehyde foam insulation (UFFI) was present; however, the inferred age of the site building suggested that UFFI could be present within the walls of the building which were not visually inspected.
- Peeling and flaking paint that can be a result of building materials compromised by moisture was observed on some walls and/or ceilings in the site building, and areas of water staining and/or SVG were observed in several areas on the interior surfaces of the site building. One bulk material sample was collected from an area of SVG on a painted wall in Room 403 and analyzed for mould growth. Results of the mould sampling and analytical program revealed that moderate mould growth was present in the sample. Based on the estimated area of mould impacted materials observed at the site, and pending future occupancy of these areas of the site building, it was recommended that the small area of impacted paint identified in Room 403 and the small area of SVG observed on the back of a door panel in Room 401 should be remediated using Level 1 abatement procedures (i.e. less than 1 m^2), as outlined in the 2010 Environmental Abatement Council of Ontario (EACO) Mould Abatement Guidelines. Alternatively, if the site building was to

be demolished, then no further action was deemed to be required with respect to removing mould from the building.

- Various cleaning products, oils, lubes, greases, rust inhibitors, paints, chemicals, gas cylinders (oxygen, acetylene, argon and carbon dioxide) and hydraulic fluid were observed inside the site building. Overall, generally good storage practices were observed at the site, and with the exception of suspected leaks from a compressor and elevator equipment at the site, no significant issues of concern regarding chemical use, handling and storage at the site were identified. It was recommended that the various cleaning products, chemicals, gas cylinders, hydraulic fluid, etc. should be removed from the site building prior to demolition and either transferred to another facility for reuse or disposed of in accordance with applicable regulations
- Several potential lead-acid battery containing devices (i.e., emergency light fixtures), mercury-containing thermostats, and suspected mercury-containing high intensity discharge (HID) and fluorescent light tubes and bulbs were observed at the site. It was recommended that the disturbance, control or disposal of lead-containing material/equipment (e.g., solder on copper piping, batteries, etc.) or mercury-containing material/equipment (e.g., light tubes, bulbs, thermostats, etc.) should be carried out in accordance with applicable criteria/regulations. The presence/ absence of lead or mercury in these materials should be confirmed through a mechanical contractor or consultant prior to disturbance or disposal of these materials. Typically, these materials are sent to a recycling facility and not a landfill. Removal of lead-containing batteries should be completed in a manner that ensures structural integrity and no loss of fluid from the batteries. Disposal of lead-containing batteries should be completed in accordance with hazardous waste procedures/guidelines (i.e. at an approved facility). Mercury-containing thermostat tubes, fluorescent light tubes and HID light bulbs should be removed intact and returned to the manufacturer for recycling or disposed of at an approved facility.
- Based on the results of the ash sampling and analytical program, the concentrations of nickel, selenium, vanadium and zinc were above the CCME CSQG criteria for these metals, therefore, the ash was analyzed for metals leachability to determine disposal options. Based on the ash leachate data, the chimney ash present on-site was not considered hazardous, and if removed from the site, it was determined could be disposed of at an approved landfill facility, pending regulatory and landfill operator approval. However, since the analysis of the ash determined that there were some levels of metals present in the ash, it was recommended that workers handling the ash should don proper personal protective equipment (PPE) to prevent/reduce exposure to these metals.
- A review of documentation revealed that three Westinghouse transformers inside the electrical room vault of the site building had been previously sampled and analyzed for PCB content. The results indicated that these transformers contained PCBs at concentrations less than 10 ppm. Based on the reported date of construction of the site building (i.e. early 1960s), it was reported that the light ballasts observed throughout the site building may contain PCBs since the use of PCBs in light ballasts was not discontinued until the early 1980s. It was recommended that the PCB content in all light ballasts should be confirmed prior to removal and disposal. All PCB-containing equipment (if present) should be handled, decontaminated, transported and disposed of as per

current Federal and Provincial acts and regulations. Any PCB-containing equipment removed from the site building should be transported and disposed of by a registered hazardous waste transporter in accordance with applicable regulations.

- Potential sources of ODS identified during the 2013 HBMS included 114 air conditioners, one heating, ventilation and air conditioning (HVAC) unit, 27 refrigerators, 22 water bottle coolers and two drink coolers. ODS were identified at the site in the form of refrigerants R-12 and R 22 contained in some of the air conditioners, mini-refrigerators, refrigerators and water bottle coolers. These refrigerants are chlorofluorocarbons (CFCs) and are regulated under the Federal Halocarbon Regulations (2003). Air conditioners, mini-refrigerators, refrigerators, water bottle coolers and a drink cooler that contained R-134A and R410A were also identified at the site. Refrigerants R-134A and R410A are hydrofluorcarbons (HFCs) and are regulated under the Federal Halocarbon Regulations (2003); however, these substances were not considered to be ODS. Although several fire extinguishers were identified in the site building, the labels on these units, where observed, did not indicate the presence of halon or other ODS ingredients. It was recommended that all ODS should be removed by an approved contractor prior to disposing of the refrigeration/cooling equipment and appliances. The use, storage, operation, maintenance, decommissioning, and disposal of ODS containing equipment in general is regulated at both a Provincial and Federal level and must comply with the most recent NL Halocarbon Regulations and the Federal Halocarbon Regulations. The status of the potential ODS containing equipment should be confirmed through a mechanical contractor or consultant.
- Potential sources of PAHs identified during the 2013 HBMS included two oil-fired boilers and a chimney (containing soot/ash) in the boiler room and a diesel generator in the diesel generator room. It was also concluded that PAHs may also be present in roofing tars on the site building. The requirements for regulatory compliance of the boilers on-site were not determined by the assessment.
- Two steel, horizontal, double walled, diesel aboveground storage tanks (ASTs) (960 litre (L) and 494 L), one steel, horizontal, double walled, used oil AST (2,273 L) and one steel, horizontal, double walled, fuel oil AST (15,500 L) were observed at the site. The diesel ASTs were located inside the diesel generator room and the used oil and fuel oil ASTs were located on the northwest side of the building exterior. The requirements for regulatory compliance of the ASTs on-site were not determined by the assessment. At the time of the assessment, the tanks appeared to be in good condition; however, it was noted that the condition and status of the ASTs could only be confirmed through test methods, such as magnetic testing, pressure testing or visual inspection. It was recommended, prior to demolition of the site building, any petroleum products in the on-site ASTs and associated fuel lines/equipment should be removed and the ASTs and associated fuel lines/equipment at the site should be purged of all vapours, cleaned and then removed from the site in accordance with applicable regulations.
- Silica was expected to be present in concrete, brick and mortar at the site. It was recommended that precautions should be taken to prevent/reduce exposure to silica dust during any disturbance/demolition of silica-containing products, such as wetting the surface of the materials to prevent dust emissions, donning respiratory protection, and

cleaning tools and clothing prior to exiting the work area. It was also noted that asbestos was identified in the tar/fibre mesh in the joint between the concrete foundation and brick on the building exterior.

2.5 SUPPLEMENTARY HBMA – AMEC FOSTER WHEELER, MARCH 2017

As a follow-up to the findings of the previous 2013 HBMS, Amec Foster Wheeler (now Wood), on behalf of PSPC and DFO, completed a supplementary HBMA at the site in January and March 2017. The objective was to provide further assessment of the type and location of potential and confirmed hazardous building materials within the site building prior to renovations (i.e., proposed installation of an accessibility lift) and to assist PWGSC with the preparation of deconstruction specifications for the building.

The scope of work for the investigation completed by Amec Foster Wheeler consisted of the following:

- Reviewing available as-built drawings for the building and performing intrusive cavity inspections to attempt to identify any hidden and potentially hazardous building materials that may be concealed by walls and/or ceiling systems (e.g., fire rated walls or ceilings, vermiculite insulation, UFFI, etc.).
- Inspecting doors throughout the building to attempt to identify and document any fire rated doors.
- Sampling and laboratory testing of suspected asbestos-containing stucco at various locations throughout the building and suspected ACMs inside the center stairwell (Room 119-A) of the building (prior to the installation of a proposed accessibility lift) to confirm the presence or absence of asbestos fibres. A total of 13 bulk material samples (i.e., two stucco, five plaster, two drywall joint compound, one caulking and three concrete samples) were collected from the site building for asbestos analysis.
- Sampling and laboratory testing of suspected insulation of concern to determine the presence or absence of UFFI or asbestos fibres (i.e., vermiculite insulation).
- Sampling and laboratory testing of three paint finishes (i.e., yellow, white and grey) that contained lead at concentrations above the former Federal HPA criterion of 5,000 mg/kg to determine the concentrations of leachable lead using the TCLP in order to assess disposal options for the paint. A total of three paint samples were collected from painted surfaces of the site building for lead leachate analysis.
- Selecting locations for collecting concrete core samples based on paint that contained lead at concentrations above the former Federal HPA criterion of 5,000 mg/kg to determine the concentrations of leachable lead using the TCLP in order to assess disposal options for the paint and substrate (i.e., concrete). A total of five concrete core samples were collected from the site building for lead leachate analysis.
- Preparing a written report documenting the methodologies and findings of the supplementary HBMA, with recommendations for handling and disposal of any identified hazardous materials.

Based on observations made and information gathered during the supplementary HBMA, the following conclusions and recommendations were made with respect to the potential and actual presence of hazardous building materials at the site building:

- Several intrusive cavity inspections were performed on each floor of the building to attempt to identify any hidden and potentially hazardous building materials that may have been concealed by walls and/or ceiling systems. Intrusive cavity inspections were performed through concrete block by either cutting, drilling, coring or hammering holes in the walls of the building to create openings for visual inspection and to allow access to sample any suspected hazardous building materials, if identified. Intrusive cavity inspections to attempt to identify any hidden and potentially hazardous building materials that may have been concealed by ceiling systems were limited to inspecting above acoustic ceiling tiles or through existing access hatches. There was no evidence of any hidden fire rated walls or ceilings, vermiculite insulation or suspected UFFI observed within the areas of the building that were visually inspected, therefore, no samples of these materials were collected for analysis.
- Building materials containing greater than 1% asbestos by dry weight, which are considered to be ACMs, were identified in the form of white caulking (2% chrysotile asbestos) on an interior wall in Room 119-A (1st floor stairwell) in the area of the proposed accessibility lift. It was noted that during the 2013 HBMA, chrysotile asbestos was detected in black tar paper (5%) identified in Room 326 and black tar paper/fibre mesh (4%) identified on the joint between the foundation and brown brick exterior wall.
- The locations of 82 fire rated doors/frames or potential fire rated doors/frames were identified in the site building. It was noted that some doors were inaccessible during the site visit (locked and no key, obstructed, etc.), or the tag that typically indicates the fire rating appeared to have been painted over or removed on a number of doors/frames. These doors and frames were assumed to be fire rated. It was recommended that the fire rated doors/frames should be treated as ACMs unless proven otherwise through sampling and analysis. It was also recommended, if other potential ACMs that were not sampled as part of the supplementary assessment or the previous assessments were encountered in the future, these materials should be treated as ACMs or samples should be collected and tested to verify asbestos content, as soon as these materials were encountered and before these materials were disturbed. This included materials that were concealed by walls and ceiling systems.
- In accordance with the NL Asbestos Abatement Regulations (Reg. 111/98), which provide the legislative requirements for safe handling of ACMs in workplaces in the Province of NL, safe work procedures shall be established; all buildings constructed during the period when asbestos was readily used in construction must have a written assessment and management plan (where applicable) for potential ACMs; prior to general disturbance activity (e.g., demolition, renovation or removal), all ACMs must be safely removed from the building and disposed of in accordance with appropriate environmental guidelines by an asbestos abatement contractor registered with the Department of Labour, Occupational Health and Safety Branch. ACMs in good condition should be inspected on an annual basis. ACMs in poor condition should be removed from the building and transported off-site for proper disposal in accordance with the NL Asbestos Abatement Regulations (Reg. 111/98). ACMs can be

disposed of at a Regional Solid Waste Landfill, provided permission is obtained from the facility.

- Results of the previous 2013 HBMS revealed that the concentration of leachable lead (710 mg/L) in one grey paint sample, collected from the concrete floor in Room 160, was above the Schedule II leachate criterion for lead (5.00 mg/L) provided in the Provincial guidance document for Leachable Toxic Waste, Testing and Disposal (GD-PPD-26.1). Since the concentration of leachable lead in this paint sample was at a level considered to be hazardous, this paint, if removed from the site, must be disposed of at a hazardous waste treatment facility. One composite paint sample of visually similar grey paint, collected from the concrete floors in Rooms 138, 153 and 159-A, contained leachable lead at a concentration of 1.8 mg/L, which was below the Schedule II leachate criterion of 5.00 mg/L for lead. The grey paint on the concrete floors in Rooms 138, 153 and 118 was observed to be in poor condition (i.e., peeling and flaking). Since the concentration of leachable lead in this composite paint sample was at a level that was not considered to be hazardous, it was determined that these paints, if removed from the site, could be disposed of at an approved landfill facility, pending Provincial regulatory and landfill operator approval. However, due to the variability of lead leachability in the grey paint samples collected during the 2013 HBMA and the 2017 Supplementary HBMA, it was recommended that all grey paint on concrete floors in the site building, where samples have not been collected, should be considered hazardous unless proven otherwise through sampling and analysis, and if removed from the site, must be disposed of at a hazardous waste disposal facility.
- The concentration of leachable lead in one composite white over green paint sample with wood substrate, collected from the exterior of window frames in Rooms 158, 233, 241 and 243, contained leachable lead at a concentration of 14 mg/L, which was above the Schedule II leachate criterion of 5.00 mg/L for lead. The white over green paint on the exterior of the window frames was observed to be in poor condition (i.e., peeling and flaking) at the time of the assessment. Since the concentration of leachable lead in this composite paint sample, which included the wood substrate, was at a level considered to be hazardous, it was determined that this paint and the wood substrate, if removed from the site, must be disposed of at a hazardous waste treatment facility.
- The concentration of leachable lead in one composite light yellow paint sample with drywall paper and plaster substrate, collected from walls in Rooms 300-A and 400-A, was not detected (<0.005 mg/L) above the RDL, and therefore, was below the Schedule II leachate criterion for lead (5.00 mg/L). The light yellow paint on the drywall and plaster walls was observed to be in good condition in Room 300-A and in poor condition in Room 400-A (i.e., peeling and flaking). Since the concentration of leachable lead in this composite paint sample, which included the drywall and plaster substrate, was at a level that was not considered to be hazardous, it was determined that this paint, if removed from the site, could be disposed of at an approved landfill facility, pending Provincial regulatory and landfill operator approval.
- The concentrations of leachable lead in the five concrete core samples, collected from painted floors in Rooms 159-B, 149, 144, 118 and 262, were not detected (<0.005 mg/L) above the RDL, and therefore, were below the Schedule II leachate criterion for lead (5.00 mg/L). Since the concentrations of leachable lead in the concrete core samples collected from Rooms 159-B, 149 and 118, which had the grey paint removed from the concrete core surfaces prior to

analysis, were at levels that were not considered to be hazardous. Therefore, it was determined that the concrete in these areas of the building, if removed from the site, could be disposed of at an approved landfill facility, pending Provincial regulatory and landfill operator approval. Furthermore, since the concentrations of leachable lead in the concrete core samples collected from Rooms 144 and 262, which included grey paint on the concrete core surfaces prior to analysis, were also at levels that were not considered to be hazardous. Therefore, it was determined that the concrete with adhered grey paint in these areas of the building, if removed from the site, could also be disposed of at an approved landfill facility, pending Provincial regulatory and landfill operator approval.

- It was recommended, if potential lead containing paint finishes that were not sampled during the 2017 Supplementary HBMA (or previous HBMAs) were encountered in future, samples should be obtained and tested to verify concentrations of lead, as soon as the paint was encountered and before it was disturbed. This included materials that were concealed by walls and ceiling systems.
- There are potential adverse human health impacts associated with disturbing (e.g., scraping) lead containing paint finishes. As a precautionary measure, Amec Foster Wheeler recommended handling these paint finishes, as follows:
    - In areas of minor peeling or flaking, the paint should be removed using wet scraping techniques. In areas of extensive peeling and flaking, the paint should be removed and more extensive particulate control measures may be required. In areas where lead containing paint finishes were present and in poor condition, an experienced contractor should be utilized for decommissioning/demolition activities. Given that the site was still active at the time of the assessment, it was recommended that prior to demolition or renovation activities, any areas of extensive peeling and flaking of lead containing paint finishes should be removed and/or remediated to ensure that building occupants were protected from associated dust/particulate. Steps should be taken to ensure that workers and anyone present in and around areas being dismantled or demolished are protected. The contractor should also ensure that dust generation and migration is minimized.

3.0 FINDINGS – 2020 SUPPLEMENTAL HBMA

The findings documented in this section are based on observations made by Wood personnel at the time of the site visits and laboratory analyses of samples collected from the Administration Building in 2020.

3.1 Intrusive Cavity Inspections

During the current HBMA, several intrusive cavity inspections were performed on each floor of the building in an attempt to identify any hidden and potentially hazardous building materials that may be concealed by walls and/or ceiling systems.

A total of 29 bulk material samples were collected during the cavity inspections for asbestos analysis. A detailed review of the asbestos results is presented in Section 3.2. Sample

descriptions and results are provided in Table C-1, Appendix C and the approximate locations of the cavity inspections are shown on Figures A-12 to A-16, Appendix A. A summary of the cavity inspections, locations, sample IDs, and photo numbers is provided in Table 3.1.

Table 3.1- Intrusive Cavity Inspection Descriptions

Room Number	Description	Sample ID	Photo #
M7	Gyprock over concrete	20-AS-43	44
Cape Harris Room	Gyproc over cinderblock	20-AS-44	45
103	Gyproc, over yellow fiberglass, over mesh	---	107
107 John Cabot Room	Gyproc, over pink fiberglass, over red painted studs, over plywood	---	108
113	Finished Gyproc over pink fibreglass	20-AS-46	47
116	Finished Gyproc, over pink fiberglass, over cinderblock	20-AS-45	46
124	Finished Gyproc, over pink fiberglass, over cinderblock	20-AS-47	48
129	Fire rated Gyprock over cinderblock	20-AS-48	49
201	Finished Gyproc, over finished parging, over coarse parging	20-AS-28	29
202	Finished parging, over parging, over unfinished Gyproc, over cinderblock with yellow fiberglass insulation	**20-AS-29**	30
223	Finished parging, over parging, over unfinished Gyproc, over cinderblock	20-AS-32	33
226	Finished Gyprock, over parging, over parging, over mesh	20-AS-30 20-AS-31	31 32
233	Gyproc on metal studs over parging finish over coarse parging, over concrete	---	102
254	Finished Gyproc, over finished parging, over parging, over Gyproc, over plastic vapour barrier, over yellow fiberglass insulation with paper backing, over cinderblock	20-AS-33	34
263	Finished Gyproc, over unfinished Gyproc, over cinderblock wall with black sealant	---	103
263	Finished Gyproc, over cinderblock with black sealant	20-AS-34	35
302	Finished Gyproc, over wood panel, over pink fiberglass insulation, over foil with tar paper, over cinderblock.	20-AS-38	39
305	Finished Gyproc, over pink fiberglass, over foil with tar paper, over cinderblock	---	105
314	Finished Gyproc, over unfinished Gyproc, over cinderblock	20-AS-37	38
325	Finished Gyproc over unfinished Gyproc	**20-AS-36**	37
326	Painted Gyproc, over plastic vapour barrier, over yellow fiberglass insulation, over cinderblock	20-AS-35	36, 104
401	Finished Gyproc, over plywood, over pink fiberglass insulation, over cinderblock	---	106
402	Finished Gyproc, over wood panel, over foil with paper backing, over pink fiberglass, over cinderblock	20-AS-39	40
407	Painted Gyproc over cinderblock	20-AS-41	42
415	Painted Gyproc over cinderblock	20-AS-40	41
424	Finished gyprock, over gyprock, over cinderblock	20-AS-42	43
427A	Gyproc, over gyprock, over gyprock, over cinderblock	20-AS-24	25
Building Exterior	Brick, over tar paper, over cinderblock	**EX-1, EX-2, EX-3,** EX-4, **EX-5, EX-6, EX-7**	60, 61, 62, 63, 64, 65, 66

Notes:
--- No sample collected; potential ACM not observed during cavity inspection or collected elsewhere
Bold lettering indicates asbestos detected in sample

3.2 Asbestos-Containing Materials (ACMs)

There are over 3,000 ACMs that are commercially available, which can be divided into two broad categories: friable and non-friable. ACMs were discontinued from use in Canada in the late 1970s/early 1980s, although non-friable asbestos is still found in many more recent buildings.

During the current HBMA, a total of 66 building material samples (20-AS-01 to 20-AS-55, CORE-1 to CORE-3, EX-1 to EX-7 and PCB-3 Fibres) and four paint samples (20-PS-12, 20-PS-14, 20-PS-22 and 20-PS-23) were collected from the building and analyzed for asbestos content (refer to Photos 1 to 66, 80, 82, 90, 91, and 94, Appendix B). Select samples were separated into sub-samples representing distinct material layers and re-labeled by the laboratory prior to analysis (e.g., CORE-1 was split into CORE-1-Roof Tar, CORE-1-Particle Board, CORE-1-Foam, and CORE-1-Roof Felt); bringing the total number of bulk material sample layers analyzed for asbestos content to 89. Sample descriptions and analytical results are summarized in Table C-1, Appendix C. Sample locations and analytical results are illustrated on Figures A-2 to A-6, Appendix A.

3.2.1 Friable Materials

Friable ACMs are defined as materials that can be crumbled, pulverized and reduced to powder when dry using hand pressure. Typical friable materials include acoustical or decorative spray applications, fireproofing and thermal insulation.

3.2.1.1 Spray-Applied Fireproofing, Insulation and Texture Finishes

There were no spray-applied fireproofing or insulation samples collected during the current HBMA.

During the current HBMA, seven (7) samples of parging finish (20-AS-07, 20-AS-10, 20-AS-28, 20-AS-29, 20-AS-31, 20-AS-32 and 20-AS-33) were collected from the surfaces of walls and ceilings of the Administration Building for asbestos content analysis (refer to Photos 7, 11, 29, 30, and 32 to 34, Appendix B). It should be noted that six (6) of the parging samples were separated into layers (20-AS-07-Skim Coat, 20-AS-07-Rough Coat, 20-AS-10-Skim Coat, 20-AS-10-Rough Coat, 20-AS-28-Beige Adhesive, 20-AS-28-Parging on Gyproc, 20-AS-28-Rough Coat, 20-AS-28-Skim Coat, 20-AS-31-Skim Coat, 20-AS-31-Rough Coat, 20-AS-32-Skim Coat, 20-AS-32-Rough Coat, 20-AS-33-Skim Coat, and 20-AS-33-Rough Coat) by the laboratory prior to asbestos content analysis. Actinolite asbestos was detected in finish parging sample 20-AS-29-Rough Coat at a concentration less than 1% and is not considered to be an ACM. Asbestos was not detected in any other finish parging samples collected from the walls and ceilings of the Administration Building in the current HBMA.

One (1) sample of stucco was collected from the ceiling in Room 216 (20-AS-09) during the current HBMA (refer to Photo 10, Appendix B). Asbestos was not detected in the stucco sample collected from the ceiling of Room 216.

3.2.1.2 Building and Thermal System Insulation

During the current HBMA, six (6) samples of parging (20-AS-50, 20-AS-51, 20-AS-52, 20-AS-53, 20-AS-54 and 20-AS-55) were collected from pipes and pipe elbows throughout the Administration Building for asbestos content analysis (refer to Photos 51 to 56, Appendix B). Chrysotile asbestos was detected in parging sample 20-AS-51 (70%) at a concentration above the applicable NL Asbestos Abatement Regulations (111/98) (i.e., >1%); and is considered to be an ACM. Parging sample 20-AS-51 was collected from a pipe valve in Room 401.

During the current HBMA a pipe elbow with signage indicating that it was an ACM was observed above the ceiling tile in Room M07 (Maritime Room) (refer to Photos 67 and 68, Appendix B). This pipe elbow was not sampled as it was already confirmed to be an ACM.

One (1) sample of wrap insulation (20-AS-49) was collected from a pipe in the stairwell for asbestos content analysis, asbestos was not detected in the pipe wrap insulation sample (refer to Photo 50, Appendix B).

One sample of rock wool insulation (20-AS-11) was collected from above the ceiling tiles in Room M03 for asbestos content analysis asbestos was not detected in the rock wool insulation sample.

3.2.2 Non-Friable and Potentially Friable Materials

Non-friable ACMs are hard or manufactured products such as floor tiles, fire blankets, pre-formed manufactured cementitious insulation and wallboards, pipes, and siding, wherein the asbestos fibres are bound to the substrate. Note that although a product may be considered non-friable when new, the product may release fine dust when disturbed (e.g., deterioration, removal, renovations) and the free dust is considered friable.

3.2.2.1 Drywall Joint Compound/Plaster

During the current HBMA, 31 samples of drywall joint compound (20-AS-01 to 20-AS-06, 20-AS-08, 20-AS-08A, 20-AS-12 to 20-AS-17, 20-AS-20, 20-AS-23 to 20-AS-27, 20-AS-30, 20-AS-35, 20-AS-36, and 20-AS-40 to 20-AS-47) were collected from the walls and ceilings of the Administration Building and analyzed for asbestos content (refer to Photos 1 to 6, 8, 9, 13 to 18, 21, 24 to 28, 31, 36, 37, and 41 to 49, Appendix B). It should be noted that one sample (20-AS-15) was separated into two distinct layers (20-AS-15-Joint Compound 1 and 20-AS-15-Joint Compound 2) by the laboratory prior to analysis. Chrysotile asbestos was detected in drywall joint compound samples 20-AS-14 (2%), 20-AS-15-Joint Compound 2 (2%), and 20-AS-36 (2%) at concentrations above the applicable NL Asbestos Abatement Regulations (111/98) (i.e., >1%); and are considered to be a ACMs. Drywall joint compound sample 20-AS-14 was collected from the exterior wall of Hallway 300, sample 20-AS-15-Joint Compound 2 was collected from an exterior wall of Office 319, and sample 20-AS-36 was collected from an

unfinished Gyproc wall underlying an a finished Gyproc exterior wall in Office 325. Asbestos was not detected in any other drywall joint compound samples collected during the current HBMA.

3.2.2.2 Caulking

During the current HBMA, one (1) sample of grey caulking (PCB-3 Fibres) was collected from the wall of the Janitor's Room (Room 249) and analyzed for asbestos content, asbestos was not detected in the caulking sample.

One (1) sample of black sealant (20-AS-34) was collected from the cinderblock wall of Office 263 and analyzed for asbestos content, asbestos was not detected in the sealant sample.

3.2.2.3 Roofing Products and Tar Sealants

During the current HBMA, three (3) roofing material core samples (CORE-1, CORE-2 and CORE-3) were collected from the roof of the Administration Building (refer to Photos 57 to 59, Appendix B). It should be noted that the core samples were split into distinct layers (CORE-1-Roof Tar, CORE-1-Particle Board, CORE-1-Foam, CORE-1-Roof Felt, CORE-2-Roof Tar, CORE-2-Foam, CORE-2-Tar Paper, CORE-3-Roof Tar, CORE-3-Particle Board, CORE-3-Foam, and CORE-3-Roof Felt) by the laboratory prior to asbestos content analyses. Asbestos was not detected in any core sample layer analyzed as part of the current HBMA.

Nine (9) samples of tar paper (20-AS-18, 20-AS-19, and EX-1 to EX-7) were collected from the current and former exterior walls of the Administration Building for asbestos content analysis (refer to Photos 19, 20, and 60 to 66, Appendix B). Chrysotile asbestos was detected in tar paper samples 20-AS-18 (16.5%), 20-AS-19 (17.5%), EX-1 (19.6%), EX-2 (10.5%), EX-3 (22.4%), EX-5 (8.7%), EX-6 (13.3%) and EX-7 (13.5%) at concentrations above the applicable NL Asbestos Abatement Regulations (111/98) (i.e., >1%); and are considered to be a ACMs. Tar paper samples 20-AS-18 and 20-AS-19 were collected beneath the suspended floor tiles of the Operations Centre (Room 326) from a former exterior wall of the Administration Building. Tar paper samples EX-1 to EX-3 and EX-5 to EX-7 were collected from behind the outer layer of brick on the exterior walls of the Administration Building. Asbestos was not detected in tar paper sample EX-4.

Two (2) samples of tar with foil backing (20-AS-38 and 20-AS-39) were collected during cavity inspections of the walls of Offices 305 and 402, respectively, and analyzed for asbestos content (refer to Photos 39 and 40, Appendix B). Sample 20-AS-38 was collected from behind a plywood wall underlying finished Gyproc and sample 20-AS-39 was collected from behind a wood panel wall underlying finished Gyproc. Asbestos was not detected in either tar with foil backing sample collected during the current HBMA.

Two (2) samples of tar (20-AS-21 and 20-AS-22) were collected from beneath the suspended floor in the Operation Centre (Room 326) for asbestos content analysis (refer to Photos 22 and 23, Appendix B). Asbestos was not detected in either tar sample collected during the current HBMA.

3.2.2.4 Mortar, Grout and Other Cementitious Materials

During the current HBMA, two (2) samples of Gyproc (20-AS-37 and 20-AS-48) were collected from the walls of Office 314 and 129, respectively, for asbestos content analysis. Sample 20-AS-37 was collected from an unfinished Gyproc wall underlying a finished Gyproc wall, encountered during a cavity inspection. Asbestos was not detected in both Gyproc samples collected during the current HBMA.

3.2.2.5 Paint

During the current HBMA, four (4) paint samples (20-PS-12, 20-PS-14, 20-PS-22, and 20-PS-23) were selected for asbestos content analysis in addition to lead, mercury and PCB content analyses (refer to Photos 80, 82, 90, and 91, Appendix B). Chrysotile asbestos was detected in paint sample 20-PS-23 (1-5%) at a concentration above the applicable NL Asbestos Abatement Regulations (111/98) (i.e., >1%); and is considered to be an ACM. Paint sample 20-PS-23 was beige in colour and collected from the concrete ceiling of the elevator storage room. Asbestos was not detected in any of the other paint samples analyzed as part of the current HBMA.

3.3 Paint Additives

Lead compounds have been used in paint as pigment and durability additives since the early 1800s. Mercury compounds have been used in paint as anti-microbial additives up until the 1990s. PCBs have been used in paint as plasticizers and corrosion resistance additives from the 1950s to the 1970s.

During the current HBMA, a total of 26 samples (20-PS-01 to 20-PS-03, 20-PS-03A, 20-PS-04 to 20-PS-19, 20-PS-19A and 20-PS-20 to 20-PS-24) were collected from painted surfaces of the Administration Building and analyzed for lead, mercury and PCBs (refer to Photos 69 to 91, Appendix B). It should be noted that PCB content analyses were only completed for paint samples 20-PS-01, 20-PS-02, 20-PS-03A, 20-PS-08, 20-PS-09, 20-PS-12, 20-PS-14, 20-PS-15, and 20-PS-21 to 20-PS-23. Paint sample descriptions and lead, mercury and PCB analytical results are summarized in Tables C-2 to C-4, Appendix C. Sample locations and analytical results are graphically illustrated on Figures A-2 to A-6, Appendix A.

3.3.1 Lead in Paint

The concentrations of lead in the paint samples collected from the Administration Building during the 2020 additional HBMA ranged from non-detect (i.e., <10 mg/kg) to 2,230 mg/kg (refer to Table C2, Appendix C). In total 13 paint samples (20-PS-02, 20-PS-03, 20-PS-03A, 20-PS-04, 20-PS-05, 20-PS-09, 20-PS-12, 20-PS-13, 20-PS-18, 20-PS-19A, 20-PS-21, 20-PS-22, and 20-PS-24) contained lead at concentrations above the Federal HPA criterion of 90 mg/kg, but below the former Federal HPA criterion of 5,000 mg/kg (refer to Photos 70 to 74, 77, 80, 81, 86, 88, and 90, Appendix B, note that photographs of paint samples 20-PS-21 or 20-PS-24 are not available). No paint samples analyzed as part of the current HBMA contained lead at

concentrations exceeding the former Federal HPA criterion of 5,000 mg/kg; and therefore, lead leachate analysis was not required for the assessment of disposal options.

3.3.2 Mercury in Paint

Concentrations of mercury detected in the paint samples collected from the Administration Building during the current HBMA ranged from 0.01 mg/kg to 19 mg/kg (refer to Table C3, Appendix C).Three (3) paint samples (20-PS-11, 20-PS-21 and 20-PS-23) contained mercury at concentrations above the Federal HPA criterion of 10 mg/kg, but below the CCME CSQG industrial criterion of 50 mg/kg (refer to Photos 79 and 91, Appendix B, note that a photograph of paint sample 20-PS-21 is not available.) No paint samples analyzed as part of the current HBMA contained mercury at concentrations exceeding the CCME CSQG of 50 mg/kg; and therefore, mercury leachate analysis was not required to assess disposal options.

3.3.3 PCBs in Paint

Concentrations of PCBs in the paint samples collected from the Administration Building during the current HBMA ranged from non-detect (i.e., <0.5 mg/kg) to 1.8 mg/kg (refer to Table C-4, Appendix C). No paint samples analyzed during the current additional HBMA contained PCBs at concentrations above the CCME CSQG of 33 mg/kg; and therefore, PCB leachate analysis was not required for disposal options.

3.4 PCB-Containing Materials

According to the USEPA, PCBs may be present in caulking used in windows, door frames, masonry columns and other building materials in buildings built or renovated between 1950 and 1979. During the current HBMA, eight (8) samples of caulking (PCB-2 to PCB-8 and PCB-10) were collected from the interior and exterior surfaces of the Administration Building for PCB analysis. Two (2) samples of tar (PCB-1 and PCB-9) were also collected from the exterior of the Administration Building and analyzed for PCB content (refer to Photos 92 to 101, Appendix B). Bulk sample descriptions and PCB analytical results are summarized in Table C-5, Appendix C. Sample locations and analytical results are graphically illustrated in Figures A-2 to A-6, Appendix A.

Concentrations of PCBs in the bulk samples ranged from non-detect (i.e., <0.5 mg/kg) to 6.5 mg/kg, and were therefore below the CCME CSQG criterion of 33 mg/kg for PCBs in soil at an industrial site and the criterion of 50 mg/kg for PCB solid provided in the NL Department of Environment, 2003 Guidance Document for Leachable Toxic Waste, Testing and Disposal (GD-PPD-26.1).

4.0 QA/QC DISCUSSION

Details regarding the assessment of surrogate recoveries, laboratory blank samples and laboratory duplicates are presented in this section. The QA/QC results are reported on the laboratory certificates of analyses included in Appendix D.

4.1 Laboratory Blank Samples

Laboratory method blank samples were analyzed for lead, mercury and total PCBs. The purpose of the laboratory blank samples was to assess the quality of the laboratory results with respect to the presence/absence of instrument cross contamination at the laboratory. Analysis of the laboratory blank samples indicated non-detectable concentrations of lead, mercury and PCBs; therefore, no evidence of cross contamination at the laboratory was identified during the laboratory analytical program.

4.2 Laboratory Duplicates

Laboratory duplicates consist of an aliquot from a randomly chosen sample within an analytical batch that is processed through the entire analytical method to evaluate analytical precision and sample homogeneity. The analytical data for the laboratory duplicates were also compared as RPDs. These evaluations are generally only applicable when both results are at least 5x the RDL. The results of the analysis of the original and duplicate samples were compared as relative percent differences (RPDs). The RPD is defined as the absolute value of the variation between a sample and its duplicate, when compared to the average concentration of the original and the duplicate calculated using the following equation:

$$\text{RPD} = \left(\frac{(\text{Original Concentration} - \text{Duplicate Concentration})}{(\text{Original Concentration} + \text{Duplicate Concentration})/2}\right)(100)$$

The laboratory duplicate RPDs were below 5% for all parameters analyzed, a review of the laboratory duplicate data is summarized in Table 4-1.

Table 4-1: Laboratory Duplicate RPDs

Parameter	RPD
Lead	3.7%
Lead	4.1%
Mercury	0.0%
Mercury	2.8%
PCBs	NA
PCBs	NA

Notes:
NA denotes not applicable because PCBs were not detected above the reportable detection limit (RDL).

4.3 Laboratory Surrogate Recoveries

During the analysis of organic compounds, losses of target analytes can occur due to matrix interference, volatilization, vessel transfer, and photo degradation. The purpose of surrogate recoveries is to assess whether analyte losses have occurred as a result of laboratory errors or sample matrix effects. Surrogates are deuterated analogues or compounds not normally found in nature but behave chemically and physically similar to the target analytes in the analysis. Known surrogate concentrations are added to samples prior to analysis and recovery is calculated and

expressed as a percentage. Surrogates are employed to monitor the efficiency of organic extractions, instrument performance and provide within-run quality control. The results are reported as percentage recoveries based on the known concentrations added to the sample.

Surrogate recoveries were reviewed to evaluate the effectiveness and accuracy of the method on a sample-specific basis. A summary of the surrogate recovery data is provided in Table 4-2.

Table 4-2: Laboratory Surrogate Recovery Summary

Parameter	Surrogate	Surrogate Recovery (%)	Acceptable Range (%)
PCBs	Decachlorobiphenyl	60-99	50-130

A review of the data indicated that all surrogate recoveries for PCBs in paint and bulk material samples analyzed were within the acceptable range of 50-130%.

4.4 Summary of QA/QC Discussion

Overall, based on these QA/QC reviews, the analytical results are considered representative of the site conditions in the immediate vicinity of the sample locations.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on observations made and information gathered during the current HBMA, the following conclusions and recommendations are made with respect to the potential and actual presence of hazardous building materials at the site building:

5.1 Asbestos-Containing Materials (ACMs)

Building materials containing greater than 1% asbestos by dry weight, which are considered to be ACMs, were identified in the form of drywall joint compound, tar paper, pipe insulation parging, and paint in the following locations in the Administration Building:

- Drywall joint compound collected from the exterior wall of Hallway 300 (20-AS-14)
- Drywall joint compound collected from the exterior wall of Office 319 (20-AS-15-Joint Compound 2)
- Drywall joint compound collected from unfinished Gyproc layer, underlying a finished Gyproc layer on the exterior wall of Office 325 (20-AS-36)
- Tar paper collected from the former exterior wall (covered by renovations) of the Operation Centre Room 326 (20-AS-18 and 20-AS-19)
- Tar paper collected from behind the brick wall exterior of the Administration Building (EX-1 to EX-3 and EX-5 to EX-7)
- Parging pipe insulation collected from a pipe in Office 401(20-AS-51)
- Beige paint collected from the ceiling of the Elevator Storage Room (20-PS-23)
- Pipe elbow insulation with signage indicating that it was an ACM was observed above the ceiling tile in Room M07 (no sample collected, confirmed ACM)

It should be noted that one sample of rough coat parging on the wall of Office 202 had detectable levels of actinolite asbestos. However, the concentration of actinolite asbestos was <1% and is therefore not considered to be an ACM. Due to the known variability of asbestos concentrations in materials such as parging, the wall containing rough coat parging should be treated as an asbestos containing material.

If other potential ACMs that were not sampled as part of this assessment or the previous assessments are encountered in the future, these materials should be treated as ACMs or samples should be collected and tested to verify asbestos content. This should be done as soon as these materials are encountered and before these materials are disturbed. This includes materials that are currently concealed by walls and ceiling systems.

In accordance with the NL Asbestos Abatement Regulations (Reg. 111/98), which provide the legislative requirements for safe handling of ACMs in workplaces in the Province of NL, the following is recommended:

- Safe work procedures shall be established.
- All buildings constructed during the period when asbestos was readily used in construction must have a written assessment and management plan (where applicable) for potential ACMs.
- Prior to general disturbance activity (e.g., demolition, renovation or removal), all ACMs must be safely removed from the building and disposed of in accordance with appropriate environmental guidelines by an asbestos abatement contractor registered with the Department of Labour, Occupational Health and Safety Branch.

ACMs in good condition should be inspected on an annual basis. ACMs in poor condition should be removed from the building and transported off-site for proper disposal in accordance with the NL Asbestos Abatement Regulations (Reg. 111/98). ACMs can be disposed of at a Regional Solid Waste Landfill, provided permission is obtained from the facility.

5.2 Lead, Mercury and PCBs in Paint

Results of the paint sampling and analytical program revealed the following:

<u>Lead</u>

During the current HBMA, 13 paint samples collected from the Administration Building contained lead at concentrations above the Federal HPA criterion of 90 mg/kg, but below the Former Federal HPA criterion of 5,000 mg/kg. Paint samples with lead concentrations exceeding the Federal HPA criterion of 90 mg/kg include:

- Black paint collected from the concrete floor of the Boiler Room 136 (20-PS-02)
- Grey paint collected from the concrete floor of Machine Shop 149 (20-PS-03)

- Grey paint collected from the concrete floor of Main Transformer Primary Voltage Room 139 (20-PS-03A)
- Dark blue paint collected from the metal door of Office 150 (20-PS-04)
- White paint on pipe insulation from Piping and Telephone Equipment Room 103 (20-PS-05)
- Beige paint collected from a wooden windowsill in Lunchroom 245 (20-PS-09)
- Burgundy paint collected from a metal fire rated door in Hallway 200 (20-PS-12)
- Beige paint collected from a wooden windowsill in Lunchroom M03 (20-PS-13)
- White paint collected from a wooden windowsill in Office 320 (20-PS-18)
- Dark blue paint collected from the wall of the Traffic Services Kitchen Room 326 (20-PS-19A)
- Grey paint collected from the concrete stairs in the fourth floor stairwell near the elevator room near the roof (20-PS-21)
- Black over light brown paint collected from a metal door in the fourth floor elevator room (20-PS-22)
- Light grey paint collected from a wooden windowsill in the Systems Engineer Room 406 (20-PS-24)

Since no paint samples analyzed as part of the current HBMA contained lead at concentrations exceeding the Former Federal HPA of 5,000 mg/kg, these paints are not considered to be hazardous waste and may be disposed of at an approved waste disposal site provided that the owner/operator provides permission to do so.

Mercury

During the current HBMA, three (3) paint samples collected from the Administration Building contained mercury at concentrations above the Federal HPA criterion of 10 mg/kg, but below the Industrial CCME CSQG of 50 mg/kg. Paint samples exceeding the Federal HPA criterion of 10 mg/kg include

- Off-white paint collected from the wall of Office 228 (20-PS-11)
- Grey paint collected from the concrete stairs in the fourth floor stairwell near the elevator room (20-PS-21)
- Beige paint collected from a steel beam in the fourth floor elevator room by the roof (20-PS-23)

Since these paint samples contained mercury concentrations less than 50 mg/kg (i.e., CCME CSQG criterion for mercury in soil at an industrial site), the paints are not likely to be leachable for mercury; therefore, these paints may be disposed of at an approved landfill facility, pending landfill and Provincial regulatory approval.

PCBs

No paint samples collected during the current HBMA contained concentrations of PCBs above the CCME CSQG of 33 mg/kg for an industrial site, and therefore, these paints may be disposed of at an approved landfill facility, pending landfill and Provincial regulatory approval.

As described above, a number of paint samples collected during the current HBMA contained detectable concentrations of lead and mercury and PCBs. There are potential adverse human health impacts associated with disturbing (e.g., scraping) lead, mercury and PCB containing paint finishes. As a precautionary measure, Wood recommends handling these paint finishes, as follows:

- In areas of minor peeling or flaking, the paint should be removed using wet scraping techniques.
- In areas of extensive peeling and flaking, the paint should be removed and more extensive particulate control measures may be required.
- In areas where lead containing paint finishes are present and in poor condition, an experienced contractor should be utilized for decommissioning/demolition activities. Given that the site is still active, prior to demolition or renovation activities, any areas of extensive peeling and flaking of lead containing paint finishes should be removed and/or remediated to ensure that building occupants are protected from associated dust/particulate.
- Steps should be taken to ensure that workers and anyone present in and around areas being dismantled or demolished are protected. The contractor should also ensure that dust generation and migration is minimized.

If potential lead, mercury, or PCB containing paint finishes that were not sampled during this assessment are encountered in future, samples should be obtained and tested to verify concentrations of lead. This should be done as soon as the paint is encountered and before it is disturbed. This includes materials that are currently concealed by walls and ceiling systems.

6.0 DISCUSSION OF FINDINGS

A summary of the hazardous and potentially hazardous building materials identified during the current and previous HBMAs completed at the Administration Building is provided in this section.

6.1 Asbestos Containing Materials

ACMs encountered during the current and previous HBMAs are summarized as follows:

6.1.1 Friable Materials

Friable ACMs identified during the current and previous HBMAs at the Administration Building include:

- Parging pipe insulation collected from a pipe in Office 401 (70% chrysotile asbestos)
- Parging pipe elbow insulation observed above the ceiling tile in Room M07 (not sampled, signage confirmed presence of asbestos)
- Actinolite asbestos was detected in the rough coat parging finish on the wall of Office 202 at a concentration >1% and is not considered an ACM. However, it was noted that it was common for the asbestos content in troweled on materials, such as parging finishes within an older building, to vary in concentration depending on the methods used to mix and place these

materials. Therefore, it was recommended that these materials (i.e., parging finish) should be treated as ACMs.

Through discussion with PSPC it was revealed that much of the pipe insulation in the Administration Building had been previously abated and replaced with non-asbestos containing pipe insulation. However, visual and analytical evidence demonstrated that asbestos containing parging was still present on some piping within the Administration Building. Therefore, it is recommended that all pipe insulation be treated as an ACM unless it can be proven that the materials were previously abated and do not contain asbestos.

6.1.2 Non-Friable and Potentially Friable Materials

Non-friable and potentially friable ACMs identified during the current and previous HBMAs at the Administration Building include:

- Tar paper collected from the interior wall of Room 326 (5% chrysotile asbestos)
- Tar/fibre mesh collected from between the foundation and brick exterior of the Administration Building (4% chrysotile asbestos)
- Tar paper collected from the former exterior wall (covered by renovations) of the Operation Centre Room 326 (16.5% and 17.5% chrysotile asbestos)
- Tar paper collected from behind the brick wall exterior of the Administration Building (8.7% to 22.4% chrysotile asbestos)
- White caulking collected from an interior wall in Room 119-A (2% chrysotile asbestos)
- Chrysotile asbestos was detected in white caulking collected from the wall of the exterior of the Administration Building at a concentration >1%.
- Drywall joint compound collected from the exterior wall of Hallway 300 (2% chrysotile asbestos)
- Drywall joint compound collected from the exterior wall of Office 319 (2% chrysotile asbestos)
- Drywall joint compound collected from unfinished Gyproc layer, underlying a finished Gyproc layer on the exterior wall of Office 325 (2% chrysotile asbestos)
- Beige paint collected from the ceiling of the Elevator Storage Room (1-5% chrysotile asbestos)
- 82 fire rated doors/frames and potential fire rated doors/frames were identified in the site building (refer to Figures A-7 to A-11, Appendix A). It was noted that some doors were inaccessible during the site visit (locked and no key, obstructed, etc.), or the tag that typically indicates the fire rating appeared to have been painted over or removed on a number of doors/frames. These doors and frames were assumed to be fire rated. It was recommended that the fire rated doors/frames should be treated as ACMs unless proven otherwise through sampling and analysis.

Asbestos containing tar paper was observed around the exterior of the Administration Building and can be assumed to encompass the entirety of the building. Any tar paper encountered should be assumed to contain asbestos and should be treated as an ACM.

Two white caulking samples had detectable concentrations of asbestos, and, although there was some variability in the concentrations (>1% to 2%) of chrysotile asbestos, any white caulking encountered should be treated as an ACM.

Based on sampling and testing conducted at the Administration Building, it is apparent that some drywall joint compound in the site building contains chrysotile asbestos. It is common for the asbestos content in troweled on materials, such as drywall compounds within older buildings, to vary in concentration depending on the methods used to mix and place these materials. In addition, most buildings undergo renovations on a frequent basis, including the removal and replacement of plaster finishes, drywall partitions and installation of new partitions. As a result, distinguishing and delineating asbestos-containing drywall compound from non-asbestos drywall compound is often very difficult, particularly when good documentation of repairs, construction and historical testing is not available. For this reason, any drywall joint compound or plaster should be treated as ACMs unless proven otherwise through sampling and analysis.

6.2 Paint Additives

A summary of lead, mercury and PCB containing paints encountered during the current and previous HBMAs at the Administration Building is as follows:

6.2.1 Lead in Paint

Table 6-1 provides a summary of paint lead content results which are higher than Federal HPA criterion of 90 mg/kg but below the former Federal HPA criterion of 5000 mg/kg. These materials may be disposed of at an approved landfill facility, pending landfill and Provincial regulatory approval.

Table 6-1: Summary of above Current Federal HPA and below Former Federal HPA

Location	Description	Concentration (mg/kg)
Room 101	Beige paint on a Gyproc wall	2800
Room 102	Grey paint on a concrete wall	1300
Near Room 100	Black paint on a metal beam in the stairwell	2800
Wall in the SAR North Stairwell	Beige paint on a concrete wall	270
Wall in the SAR North Stairwell	Green paint on a concrete wall	180
Metal door in the SAR South Stairwell	Grey over green paint on a metal door	280
Room 325	Light grey paint on a Gyproc wall	1200
Boiler Room 136	Black paint collected from the concrete floor	997
Machine Shop 149	Grey paint collected from the concrete floor	1500
Main Transformer Primary Voltage Room 139	Grey paint collected from the concrete floor	140
Office 150	Dark blue paint collected from the metal door	863
Telephone Equipment Room 103	White paint on pipe insulation from Piping	192
Lunchroom 245	Beige paint collected from a wooden windowsill	312
Hallway 200	Burgundy paint collected from a metal fire rated door	406
Lunchroom M03	Beige paint collected from a wooden windowsill	265
Office 320	White paint collected from a wooden windowsill	179
Traffic Services Kitchen Room 326	Dark blue paint collected from the wall	98
Fourth floor stairwell near the elevator room	Grey paint collected from the concrete stairs	2230
Fourth floor elevator room	Black over light brown paint collected from a metal door	558
Systems Engineer Room 406	Light grey paint collected from a wooden windowsill	179

The following provides a description of paint lead content results that are higher than both the Federal HPA criterion of 90 mg/kg and former Federal HPA criterion of 5000 mg/kg. Due to the high concentrations of lead in these paint samples, a lead leachate analysis was conducted to determine disposal options.

- Grey paint on the concrete floor in Room 160: 44,000 mg/kg; and
- White over green over grey paint on a wooden windowsill on the building exterior: 5,100 mg/kg.

6.2.2 Leachable Lead in Paint

Historical sampling performed for lead content determined the concentration of leachable lead in the grey paint sample collected from the concrete floor of Room 160 (710 mg/L) exceeded the Schedule II leachate criterion for lead of 5.00 mg/L, therefore, was considered to be hazardous, and if removed from the site building, is required to be disposed of at a hazardous waste treatment facility. As a result, additional sampling was performed in other areas of the basement that included collecting composite paint samples and composite paint and substrate (concrete) samples and performing additional leachate analysis to determine the proper disposal options for these materials. A composite paint sample of visually similar grey paint was collected from the concrete floors in Rooms 138, 153 and 159-A. The composite sample contained leachable lead at a concentration of 1.8 mg/L, which was below the Schedule II leachate criterion of 5.00 mg/L for lead, therefore, was not considered hazardous, and if removed from the site building, it was determined could be disposed of at an approved landfill facility, pending regulatory and landfill operator approval. Five concrete core samples were also collected from the painted floors in Rooms 159-B, 149, 144, 118 and 262. The concentrations of leachable lead in the five concrete core samples were not detected (<0.005 mg/L) above the RDL, and therefore, were below the Schedule II leachate criterion for lead (5.00 mg/L). For three of the cores (Rooms 159-B, 149, and 118) the paint layer was removed from the concrete substrate and lead leachate analysis was performed on the concrete. For the remaining samples, the paint layer was left intact on the concrete and a lead leachate analysis was performed on the paint and substrate samples. All results were below the Schedule II leachate criterion. As a result, it was determined all painted concrete can be disposed of at an approved facility, pending regulatory and landfill operator approval. Prior to the painted concrete foundation being demolished, any deteriorated or flaking grey paint in Room 160 should be removed and disposed of at a hazardous waste treatment facility. Flaking and deteriorated grey paint in other areas tested can be disposed of at an approved landfill facility, pending regulatory and operator approval.

The concentration of leachable lead in one composite white over green paint sample with wood substrate, collected from the exterior of window frames in Rooms 158, 233, 241 and 243, contained leachable lead at a concentration of 14 mg/L, which was above the Schedule II leachate criterion of 5.00 mg/L for lead. Since the concentration of leachable lead in this composite paint sample, which included the wood substrate, was at a level considered to be hazardous, it was determined that this paint and the wood substrate, if removed from the site, must be disposed of at a hazardous waste treatment facility. All interior and exterior wood window frames are to be assumed to be hazardous waste and must be disposed of at a hazardous waste treatment facility.

6.2.3 Mercury in Paint

Table 6-2 provides a summary of paint lead content results which are higher than Federal HPA criterion of 10 mg/kg but below the CCME CSQG for an industrial site of 50 mg/kg. These materials may be disposed of at an approved landfill facility, pending landfill and Provincial regulatory approval.

Table 6-2: Summary of above Current Federal HPA and below CCME CSQG

Location	Description	Concentration (mg/kg)
SAR North Stairwell	Green paint on a concrete wall	11
Room 325	Light grey paint on a Gyproc wall	19
Building exterior	White over green over grey paint on a wooden windowsill	11
Room 228	Off-white paint collected from Gyproc	17
Elevator Room	Grey paint on concrete stairs from the Stairwell	17
Elevator Room near the Roof	Beige paint on a steel beam	19

6.3 Lead and Mercury Containing Materials/Equipment

Several potential lead-acid battery containing devices (i.e., emergency light fixtures), mercury-containing thermostats, and suspected mercury-containing high intensity discharge (HID) and fluorescent light tubes and bulbs were observed at the site. It was recommended that the disturbance, control or disposal of lead-containing material/equipment (e.g., solder on copper piping, batteries, etc.) or mercury-containing material/equipment (e.g., light tubes, bulbs, thermostats, etc.) should be carried out in accordance with applicable criteria/regulations. The presence/ absence of lead or mercury in these materials should be confirmed through a mechanical contractor or consultant prior to disturbance or disposal of these materials. Typically, these materials are sent to a recycling facility and not a landfill. Removal of lead-containing batteries should be completed in a manner that ensures structural integrity and no loss of fluid from the batteries. Disposal of lead-containing batteries should be completed in accordance with hazardous waste procedures/guidelines (i.e. at an approved facility). Mercury-containing thermostat tubes, fluorescent light tubes and HID light bulbs should be removed intact and returned to the manufacturer for recycling or disposed of at an approved facility.

6.4 PCB Containing Materials/Equipment

A review of documentation revealed that three Westinghouse transformers inside the electrical room vault of the site building had been previously sampled and analyzed for PCB content. The results indicated that these transformers contained PCBs at concentrations less than 10 ppm. Based on the reported date of construction of the site building (i.e. early 1960s), it was reported that the light ballasts observed throughout the site building may contain PCBs since the use of PCBs in light ballasts was not discontinued until the early 1980s. It was recommended that the PCB content in all light ballasts should be confirmed prior to removal and disposal. Through discussions with PSPC it was revealed that all PCB containing light ballasts have been removed from the Administration Building prior to the most current HBMA.
All PCB-containing equipment (if present) should be handled, decontaminated, transported and disposed of as per current Federal and Provincial acts and regulations. Any PCB-containing

equipment removed from the site building should be transported and disposed of by a registered hazardous waste transporter in accordance with applicable regulations.

6.5 Ozone Depleting Substances

Potential sources of ozone depleting substances (ODS) identified during the 2013 HBMS included 114 air conditioners, one heating, ventilation and air conditioning (HVAC) unit, 27 refrigerators, 22 water bottle coolers and two drink coolers. ODS were identified at the site in the form of refrigerants R-12 and R 22 contained in some of the air conditioners, mini-refrigerators, refrigerators and water bottle coolers. These refrigerants are chlorofluorocarbons (CFCs) and are regulated under the Federal Halocarbon Regulations (2003). Air conditioners, mini-refrigerators, refrigerators, water bottle coolers and a drink cooler that contained R-134A and R410A were also identified at the site. Refrigerants R-134A and R410A are hydrofluorcarbons (HFCs) and are regulated under the Federal Halocarbon Regulations (2003); however, these substances were not considered to be ODS. Although several fire extinguishers were identified in the site building, the labels on these units, where observed, did not indicate the presence of halon or other ODS ingredients. It was recommended that all ODS should be removed by an approved contractor prior to disposing of the refrigeration/cooling equipment and appliances. The use, storage, operation, maintenance, decommissioning, and disposal of ODS containing equipment in general is regulated at both a Provincial and Federal level and must comply with the most recent NL Halocarbon Regulations and the Federal Halocarbon Regulations. The status of the potential ODS containing equipment should be confirmed through a mechanical contractor or consultant.

6.6 Ash

Based on the results of the ash sampling and analytical program, the concentrations of nickel, selenium, vanadium and zinc were above the CCME CSQG criteria for these metals, therefore, the ash was analyzed for metals leachability to determine disposal options. Based on the ash leachate data, the chimney ash present on-site was not considered hazardous, and if removed from the site, it was determined could be disposed of at an approved landfill facility, pending regulatory and landfill operator approval. However, since the analysis of the ash determined that there were some levels of metals present in the ash, it was recommended that workers handling the ash should don proper personal protective equipment (PPE) to prevent/reduce exposure to these metals.

6.7 Fuel Storage Tanks

Two steel, horizontal, double walled, diesel aboveground storage tanks (ASTs) (960 litre (L) and 494 L), one steel, horizontal, double walled, used oil AST (2,273 L) and one steel, horizontal, double walled, fuel oil AST (15,500 L) were observed at the site. The diesel ASTs were located inside the diesel generator room and the used oil and fuel oil ASTs were located on the northwest side of the building exterior. The requirements for regulatory compliance of the ASTs on-site were not determined by the assessment. At the time of the assessment, the tanks appeared to be in good condition; however, it was noted that the condition and status of the ASTs could only be confirmed through test methods, such as magnetic testing, pressure testing or visual inspection. It was recommended, prior to demolition of the site building, any petroleum products in the on-

site ASTs and associated fuel lines/equipment should be removed and the ASTs and associated fuel lines/equipment at the site should be purged of all vapours, cleaned and then removed from the site in accordance with applicable regulations.

6.8 Sources of PAHs

Potential sources of PAHs identified during the 2013 HBMS included two oil-fired boilers and a chimney (containing soot/ash) in the boiler room and a diesel generator in the diesel generator room. It was also concluded that PAHs may also be present in roofing tars on the site building. The requirements for regulatory compliance of the boilers on-site were not determined by the assessment.

6.9 Silica

Based on the building materials observed during the site reconnaissance, silica is expected to be present in concrete, brick, drywall joint compound and mortar at the site.

7.0 CLOSURE AND LIMITATIONS

This report was prepared for the exclusive use of PSPC and DFO. The findings of this report are based solely on the conditions of the building encountered at the time of the site visits, and are limited by the availability of information at the time of the current HBMA, lack of accessibility to areas within the building, project scope and budget. The findings of this assessment are based on the interpretation of data from a limited number of areas investigated and analytical results pertaining to specific samples. It is possible that materials exist which could not be reasonably identified within the scope of the current HBMA or which were not apparent or accessible during the site visits. This Report is also subject to the further limitations contained in Appendix E.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of the third party. Should additional parties require reliance on this report, written authorization from Wood is required. With respect to third parties, Wood has no liability or responsibility for losses of any kind whatsoever, including direct or consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. This assessment has been carried out using commercially reasonable best efforts consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions.

Except when otherwise specified, Wood disclaims any obligation to update this report for events taking place, or with respect to information that becomes available to Wood after the time during which Wood conducted the hazardous building materials assessment.

In evaluating the property, Wood has relied in good faith on information provided by other individuals noted in this report. Wood has assumed that the information provided is factual and accurate. In addition, some of the findings in this report are based upon information provided by the current owner/occupant. Wood accepts no responsibility for any deficiency, misstatement or

inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted.

Wood makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and change. Such interpretations and regulatory changes should be reviewed with legal counsel.

We trust that the information presented in this report meets your current requirements. Should you have any questions, or concerns, please do not hesitate to contact the undersigned.

Yours truly,

Wood Environment & Infrastructure Solutions,
A Division of Wood Canada Limited

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Environmental Scientist

Reviewed by:

Gary Warren, M.A.Sc
Senior Reviewer

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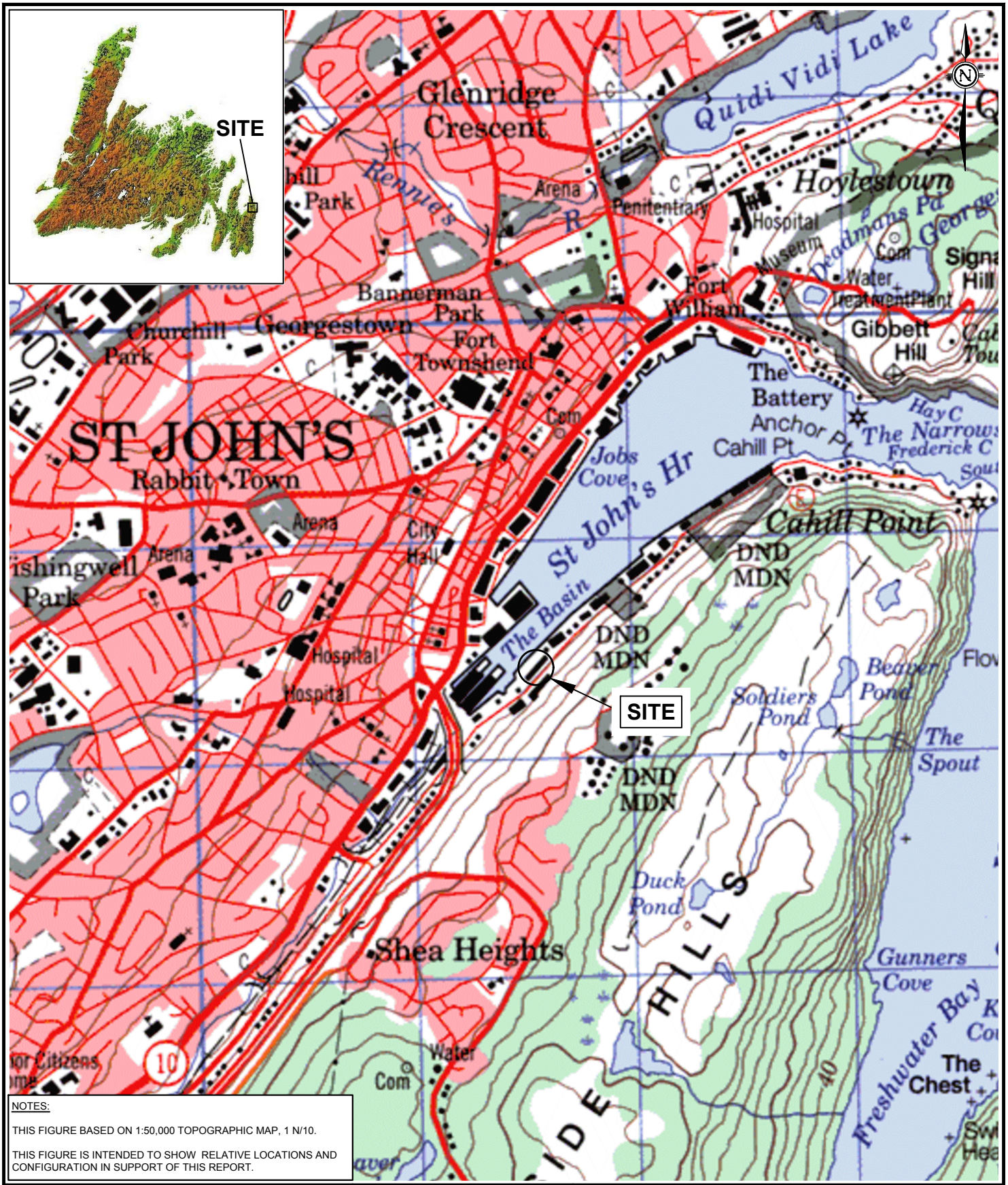
APPENDIX A

FIGURES



NOTES:

THIS FIGURE BASED ON 1:50,000 TOPOGRAPHIC MAP, 1 N/10.

THIS FIGURE IS INTENDED TO SHOW RELATIVE LOCATIONS AND CONFIGURATION IN SUPPORT OF THIS REPORT.

wood.

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Environment & Infrastructure Solutions
133 Crosbie Road
St. John's, NL A1B 4A5
709-722-7023

Public Services and Procurement Canada | Services publics et Approvisionnement Canada

Date:	Project:
March 2020	Supplementary Hazardous Building Materials Assessment Administration Building Pre-Deconstruction CCG Southside Base 280 Southside Road, St. John's, NL
Drawn by:	Title:
T. Rideout	Site Location Plan

Approved by:	Scale:	Project No.:	Figure No.:
G. Warren	NTS	TF20076860	A-1

LEGEND:

- ASBESTOS SAMPLE LOCATION - ASBESTOS NOT DETECTED
- ASBESTOS SAMPLE LOCATION - RESULTS > 1% FOR ASBESTOS
- PAINT SAMPLE LOCATION - NO CRITERIA EXCEEDANCES
- PAINT SAMPLE LOCATION - RESULTS EXCEED 90 mg/kg AND LESS THAN 5000 mg/kg FOR LEAD AND NO CRITERIA EXCEEDANCES FOR MERCURY OR PCBs WHERE APPLICABLE
- BULK MATERIAL SAMPLE LOCATION - NO CRITERIA EXCEEDANCES

SCALE: 0 m 10 m

NOTES:

1. ALL DIMENSIONS ARE IN METERS.
2. DO NOT SCALE FROM FIGURE.
3. THIS FIGURE IS INTENDED TO SHOW RELATIVE LOCATIONS AND CONFIGURATION OF THE STUDY AREA IN SUPPORT OF THIS REPORT.
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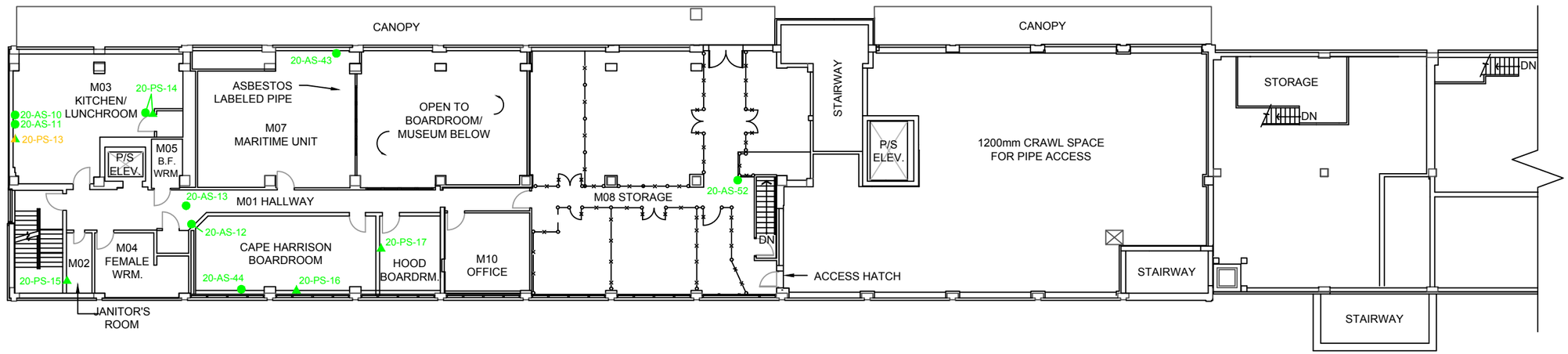
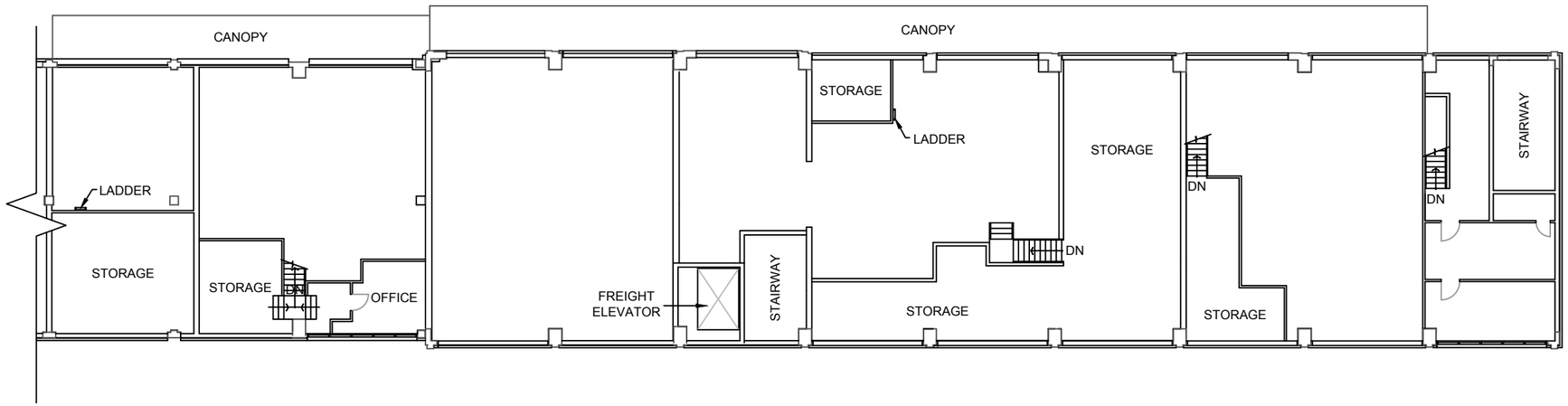
Drawn by: T. Rideout
Approved by: G. Warren
Scale: As Shown

Project: Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title: Sample Location Plan - First Floor

Date: March 2020
Project No. TF200767860
Rev. No. 1
Figure No. A-2





LEGEND:

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- PAINT SAMPLE LOCATION - NO CRITERIA EXCEEDANCES
- PAINT SAMPLE LOCATION - RESULTS EXCEED 90 mg/kg AND LESS THAN 5000 mg/kg FOR LEAD AND NO CRITERIA EXCEEDANCES FOR MERCURY OR PCBs WHERE APPLICABLE

SCALE: 0 m 10 m

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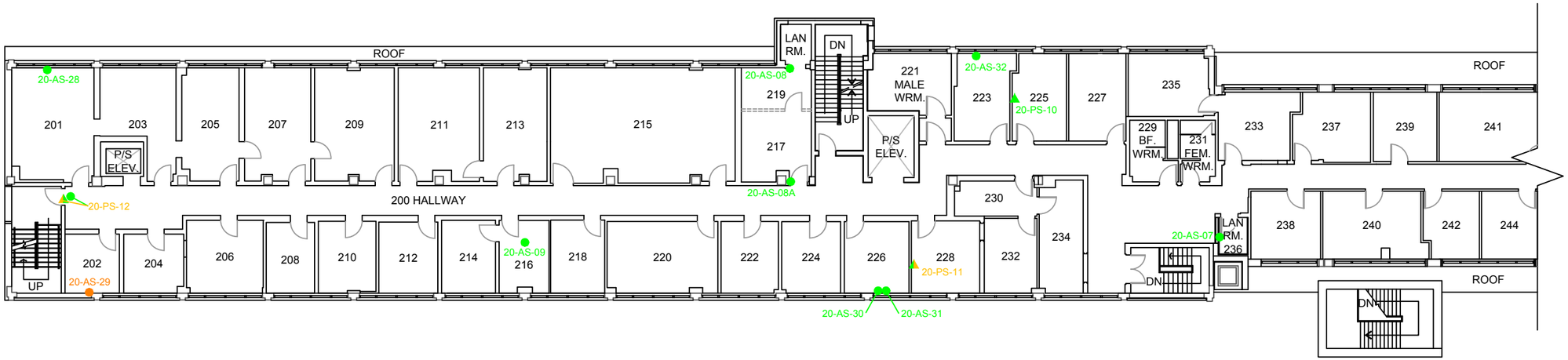
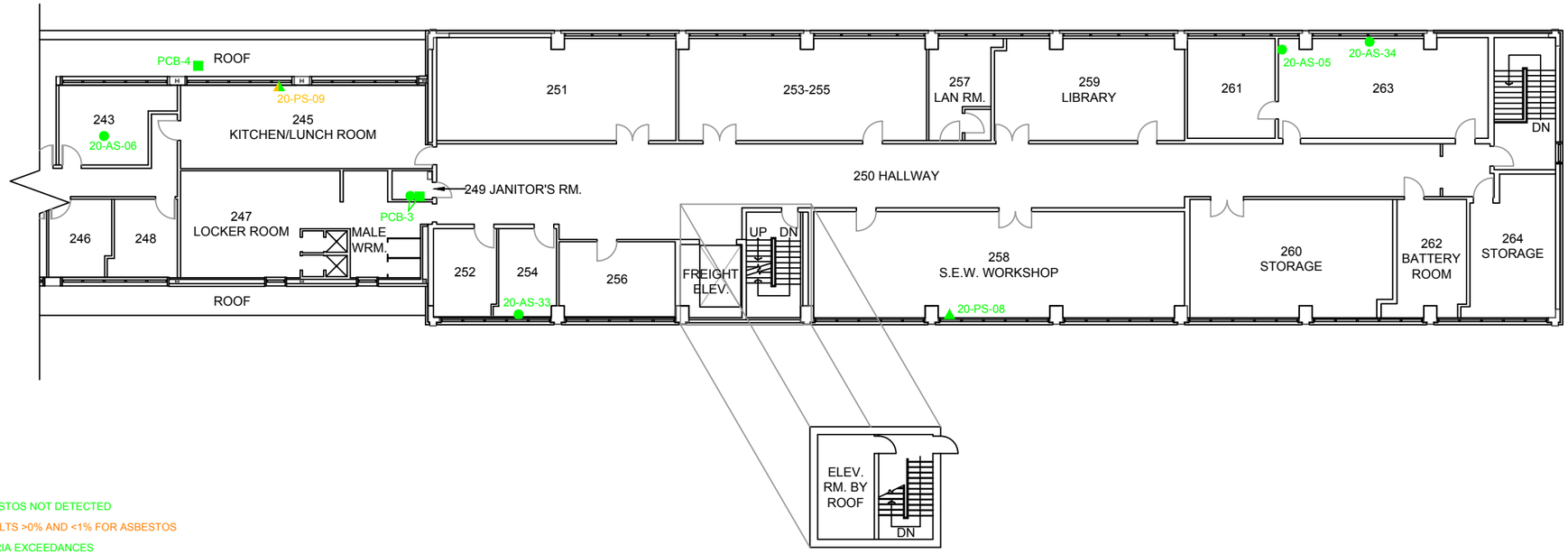
Project:
Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title:
Sample Location Plan - Mezzanine Floor

Date: March 2020
Project No. TF200767860
Rev. No. 1
Figure No. A-3





LEGEND:

- ASBESTOS SAMPLE LOCATION - ASBESTOS NOT DETECTED
- ASBESTOS SAMPLE LOCATION - RESULTS >0% AND <1% FOR ASBESTOS
- PAINT SAMPLE LOCATION - NO CRITERIA EXCEEDANCES
- PAINT SAMPLE LOCATION - RESULTS EXCEED 90 mg/kg AND LESS THAN 5000 mg/kg FOR LEAD AND NO CRITERIA EXCEEDANCES FOR MERCURY OR PCBs WHERE APPLICABLE
- PAINT SAMPLE LOCATION - RESULTS EXCEED 10 mg/kg AND LESS THAN 50 mg/kg FOR MERCURY AND NO CRITERIA EXCEEDANCES FOR LEAD OR PCBs WHERE APPLICABLE
- BULK MATERIAL SAMPLE LOCATION - NO CRITERIA EXCEEDANCES

SCALE: 0 m 10 m

NOTES:

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wood.

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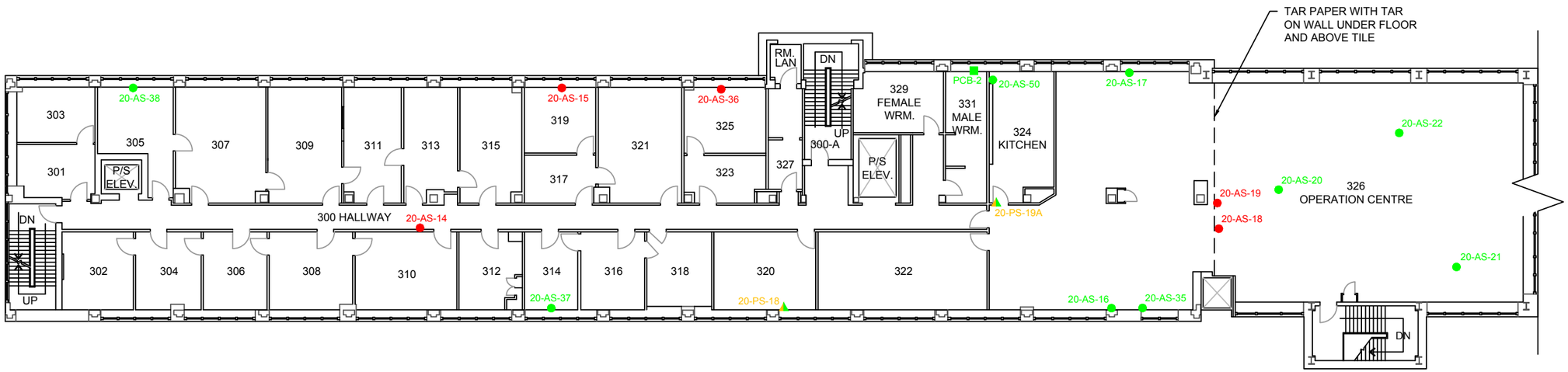
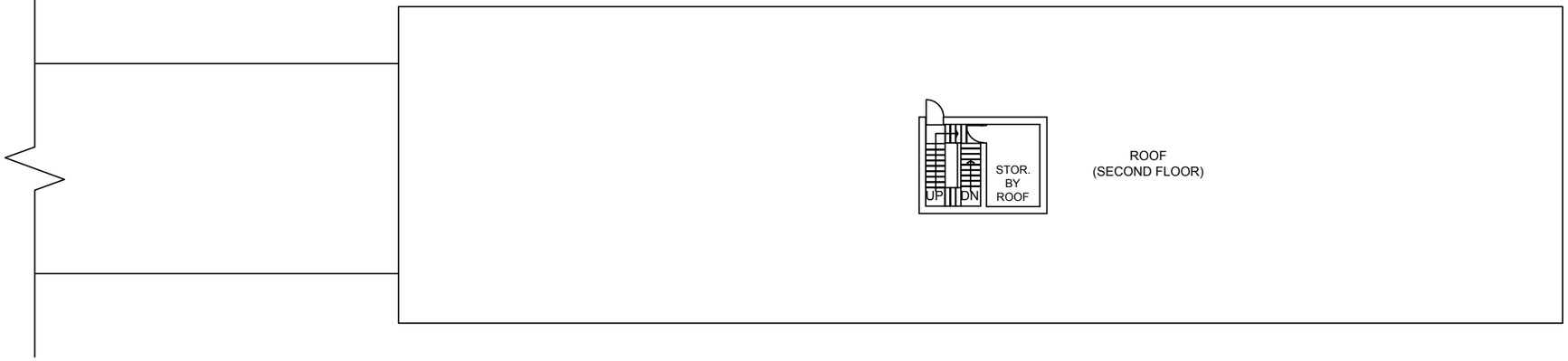
Approved by: G. Warren
Scale: As Shown

Project:
Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title:
Sample Location Plan - Second Floor

Date: March 2020
Project No. TF200767860
Rev. No. 1
Figure No. A-4





LEGEND:

- ASBESTOS SAMPLE LOCATION - ASBESTOS NOT DETECTED
- ASBESTOS SAMPLE LOCATION - RESULTS >1% FOR ASBESTOS
- PAINT SAMPLE LOCATION - NO CRITERIA EXCEEDANCES
- PAINT SAMPLE LOCATION - RESULTS EXCEED 90 mg/kg AND LESS THAN 5000 mg/kg FOR LEAD AND NO CRITERIA EXCEEDANCES FOR MERCURY OR PCBs WHERE APPLICABLE
- BULK MATERIAL SAMPLE LOCATION - NO CRITERIA EXCEEDANCES

SCALE: 0 m 10 m

NOTES:

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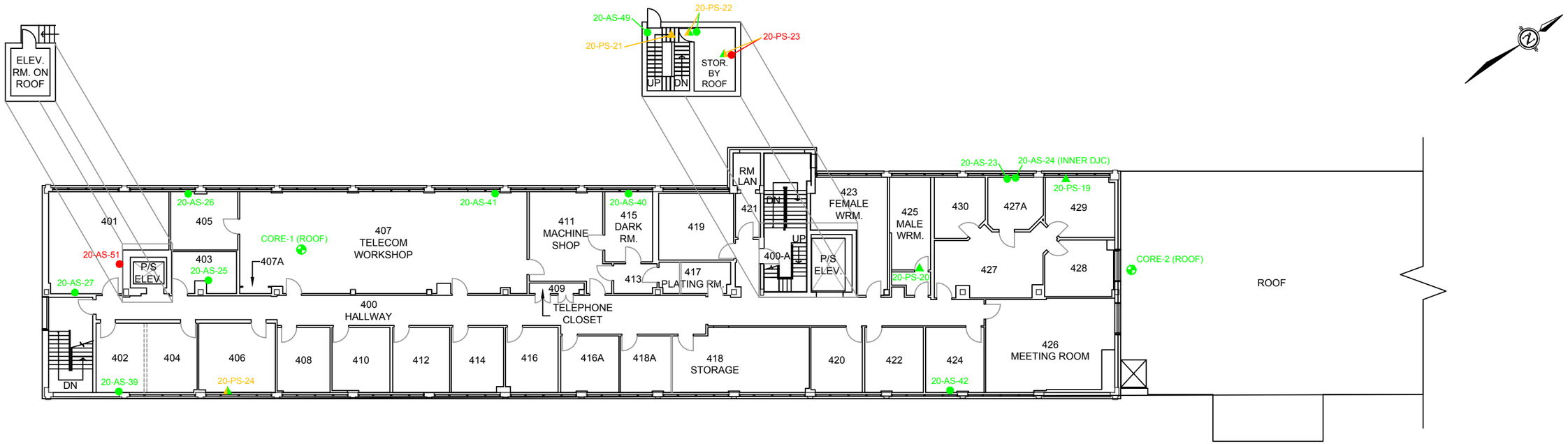
wood.

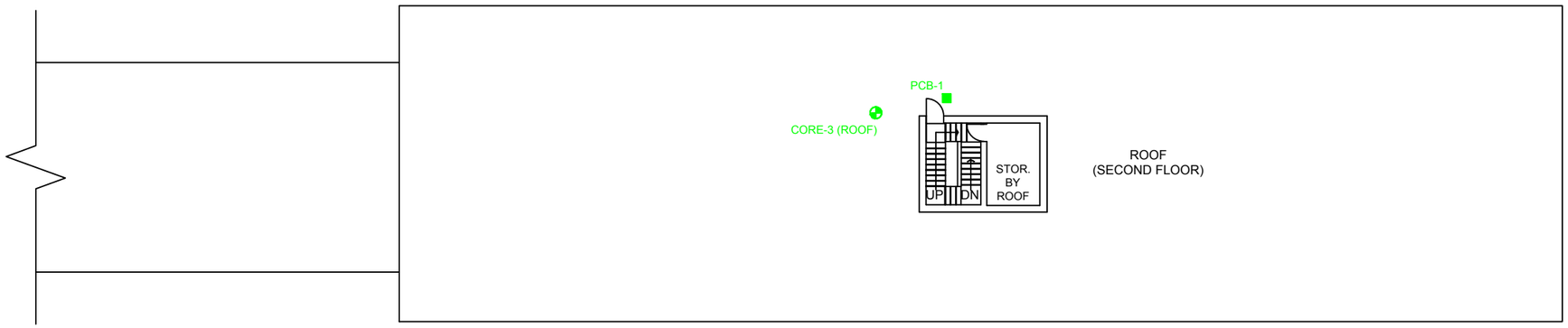
Drawn by: T. Rideout
Approved by: G. Warren
Scale: As Shown

Project: Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title: Sample Location Plan - Third Floor

Date: March 2020
Project No. TF200767860
Rev. No. 1
Figure No. A-5





LEGEND:

- ASBESTOS SAMPLE LOCATION - ASBESTOS NOT DETECTED
- ASBESTOS SAMPLE LOCATION - RESULTS >1% FOR ASBESTOS
- PAINT SAMPLE LOCATION - NO CRITERIA EXCEEDANCES
- PAINT SAMPLE LOCATION - RESULTS EXCEED 90 mg/kg AND LESS THAN 5000 mg/kg FOR LEAD AND NO CRITERIA EXCEEDANCES FOR MERCURY OR PCBs WHERE APPLICABLE
- PAINT SAMPLE LOCATION - RESULTS EXCEED 10 mg/kg AND LESS THAN 50 mg/kg FOR MERCURY AND NO CRITERIA EXCEEDANCES FOR LEAD OR PCBs WHERE APPLICABLE
- PAINT SAMPLE LOCATION - RESULTS EXCEED 90 mg/kg AND LESS THAN 5000 mg/kg FOR LEAD AND EXCEED 10 mg/kg AND LESS THAN 50 mg/kg FOR MERCURY AND NO EXCEEDANCES FOR PCBs WHERE APPLICABLE
- BULK MATERIAL SAMPLE LOCATION - NO CRITERIA EXCEEDANCES
- ROOF CORE SAMPLE LOCATION

SCALE:
0 m 10 m

NOTES:

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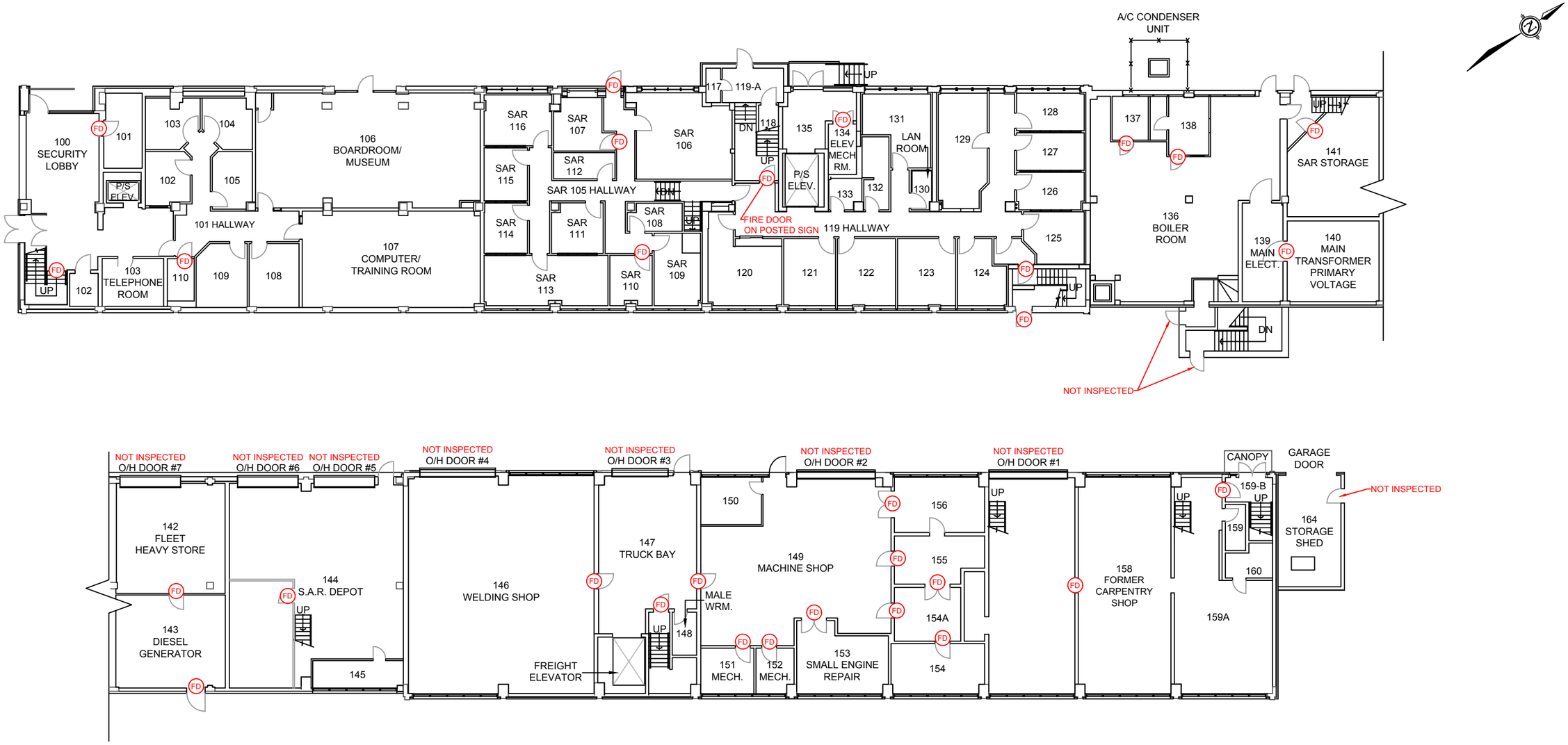
wood.

Drawn by: T. Rideout
Approved by: G. Warren
Scale: As Shown

Project:
Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title:
Sample Location Plan - Fourth Floor

Date: March 2020
Project No. TF200767860
Rev. No. 1
Figure No. A-6



LEGEND:

FD FIRE DOOR/FRAME LOCATION

SCALE: 0 m 10 m

NOTES:

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Drawn by: T. Rideout

Approved by: G. Warren

Scale: As Shown

Project: Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

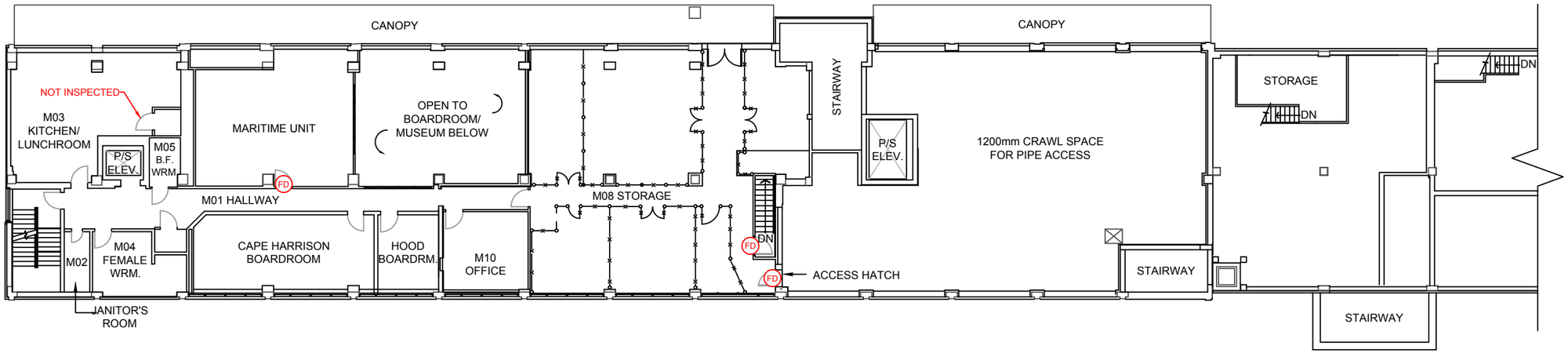
Title: Fire Door/Frame Location Plan - First Floor

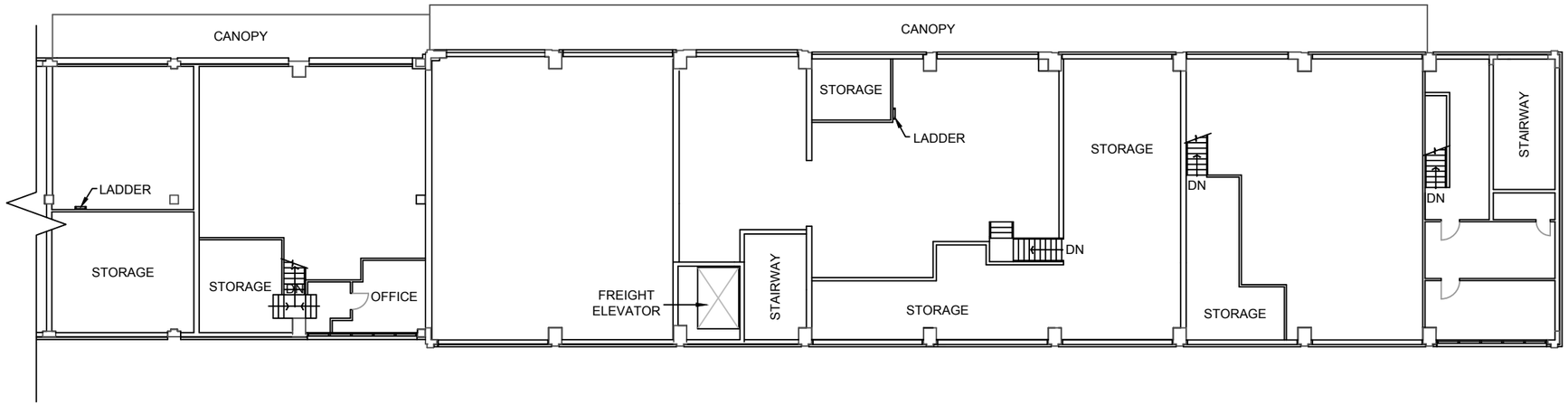
Date: March 2020

Project No. TF200767860

Rev. No. 1

Figure No. A-7





LEGEND:

FD FIRE DOOR/FRAME LOCATION

SCALE:

0 m 10 m

NOTES:

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Drawn by: T. Rideout

Approved by: G. Warren

Scale: As Shown

Project:
Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

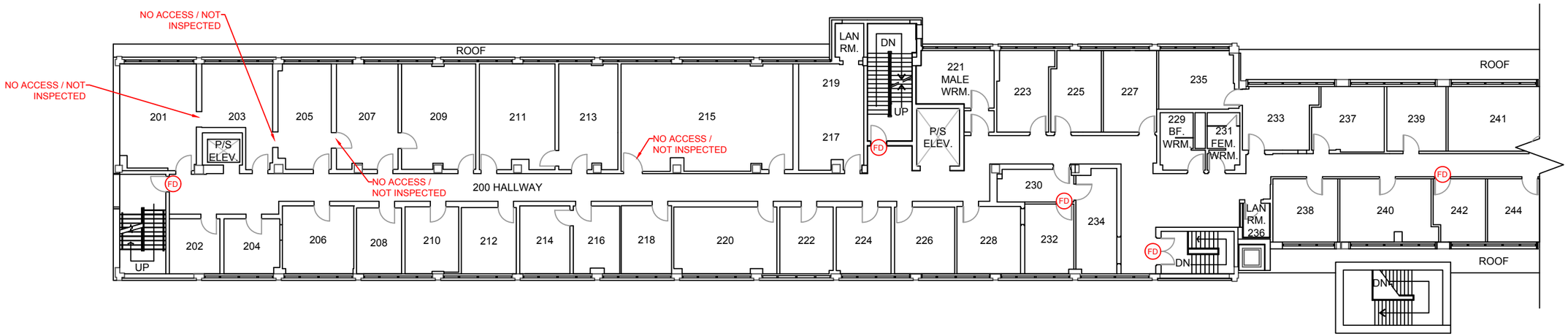
Title:
Fire Door/Frame Location Plan - Mezzanine Floor

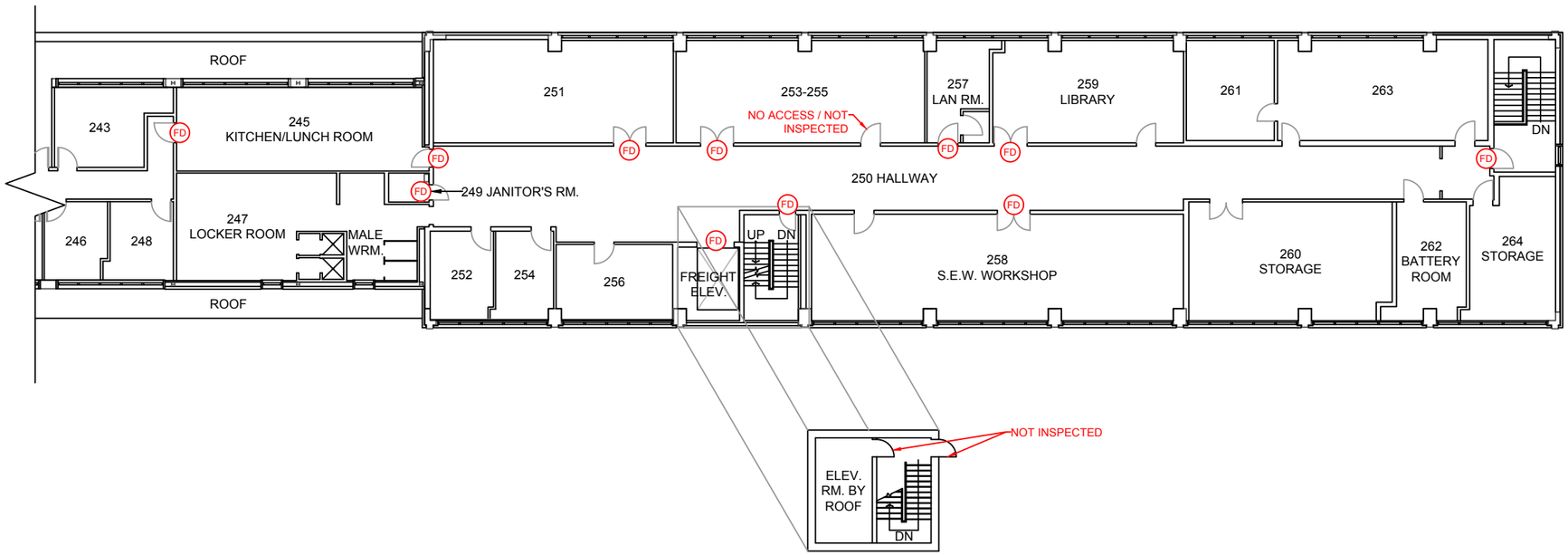
Date: March 2020

Project No. TF200767860

Rev. No. 1

Figure No. A-8


NO ACCESS / NOT INSPECTED
NO ACCESS / NOT INSPECTED
ROOF
201
203
205
207
209
211
213
215
219
217
LAN RM.
DN
UP
221 MALE WRM.
223
225
227
235
229 BF. WRM.
231 FEM. WRM.
233
237
239
241
ROOF
P/S ELEV.
FD
NO ACCESS / NOT INSPECTED
NO ACCESS / NOT INSPECTED
200 HALLWAY
P/S ELEV.
230
234
LAN RM. 236
238
240
242
244
ROOF
UP
202
204
206
208
210
212
214
216
218
220
222
224
226
228
232
DN
DN



LEGEND:

FD FIRE DOOR/FRAME LOCATION

SCALE: 0 m 10 m

NOTES:

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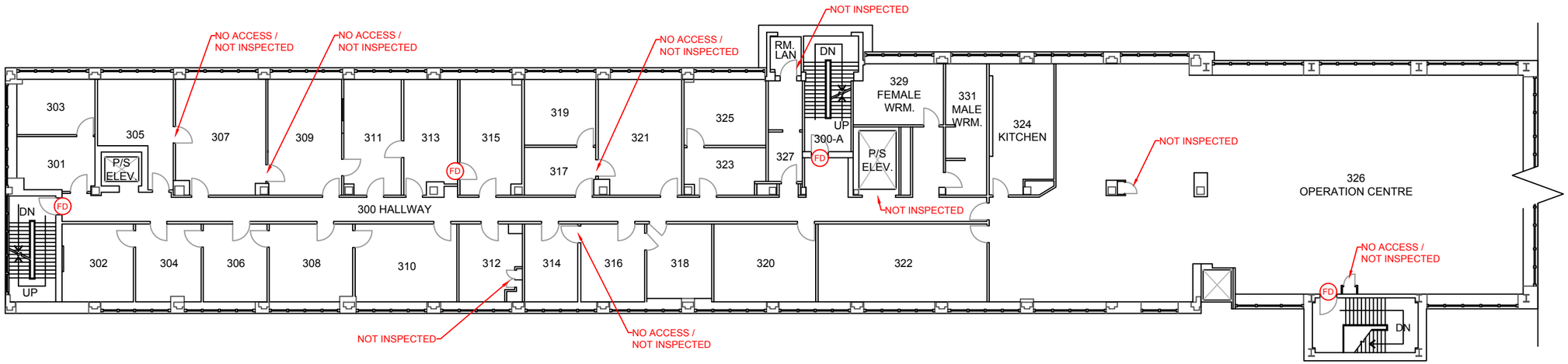
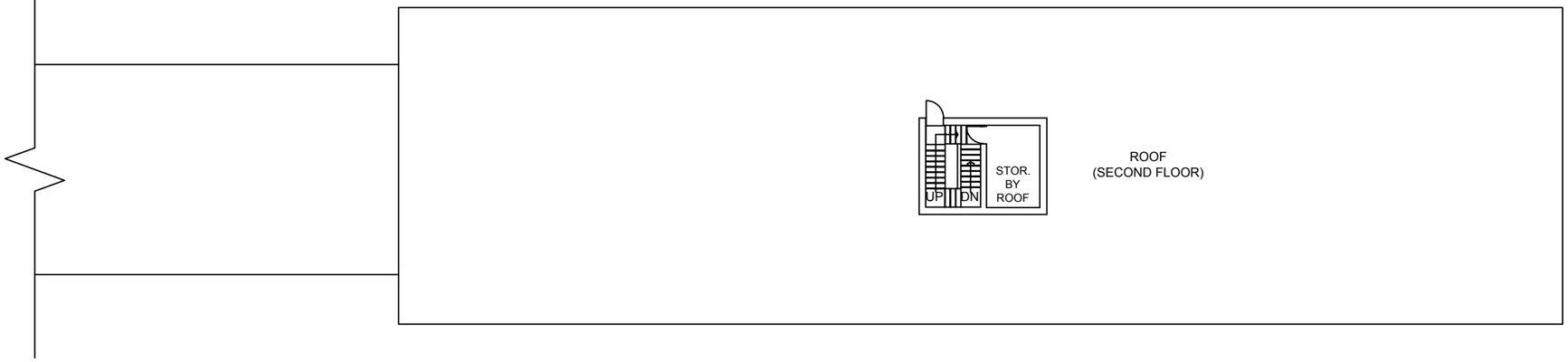
Drawn by: T. Rideout
Approved by: G. Warren
Scale: As Shown

Project:
Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title:
Fire Door/Frame Location Plan - Second Floor

Date: March 2020
Project No. TF200767860
Rev. No. 1
Figure No. A-9





LEGEND:

FD FIRE DOOR/FRAME LOCATION

SCALE:

0 m 10 m

NOTES:

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wood.

Drawn by: T. Rideout

Approved by: G. Warren

Scale: As Shown

Project: Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

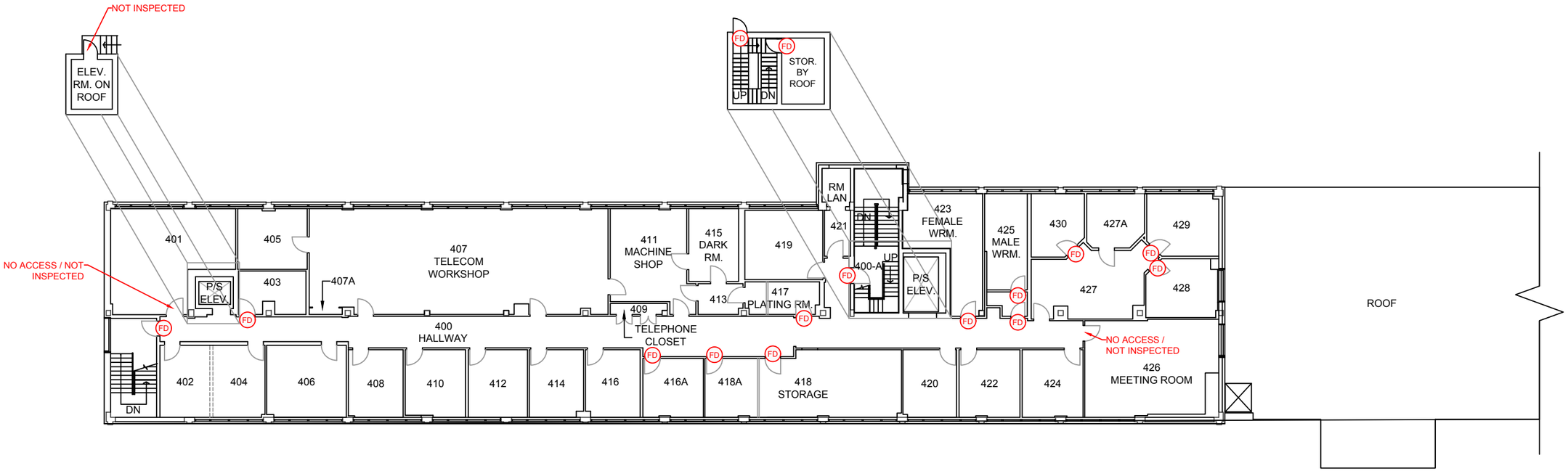
Title: Fire Door/Frame Location Plan - Third Floor

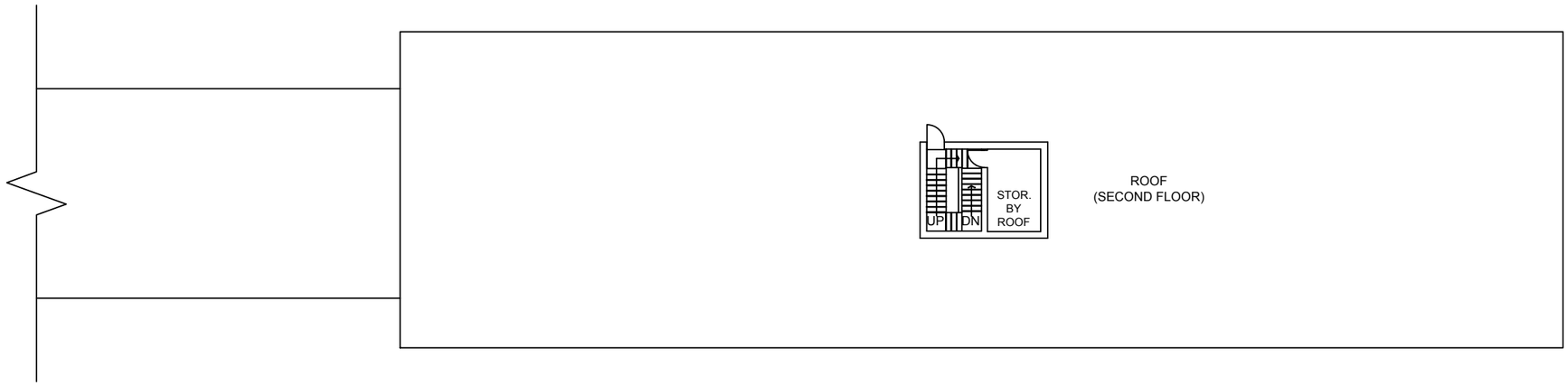
Date: March 2020

Project No. TF200767860

Rev. No. 1

Figure No. A-10





LEGEND:

FD FIRE DOOR/FRAME LOCATION

SCALE:

0 m 10 m

NOTES:

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wood.

Drawn by: T. Rideout

Approved by: G. Warren

Scale: As Shown

Project: Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title: Fire Door/Frame Location Plan - Fourth Floor

Date: March 2020

Project No. TF200767860

Rev. No. 1

Figure No. A-11

LEGEND:

CAVITY INSPECTION LOCATION (DRILLED OR HAMMERED HOLE IN WALL)

SCALE: 0 m 10 m

NOTES:

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Approved by: G. Warren

Scale: As Shown

Project: Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

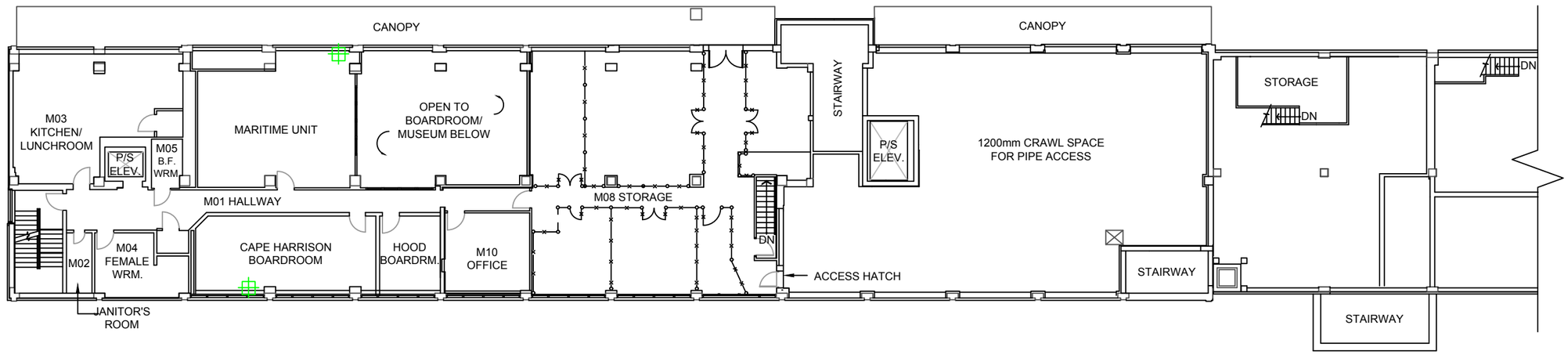
Title: Cavity Inspection Location Plan - First Floor

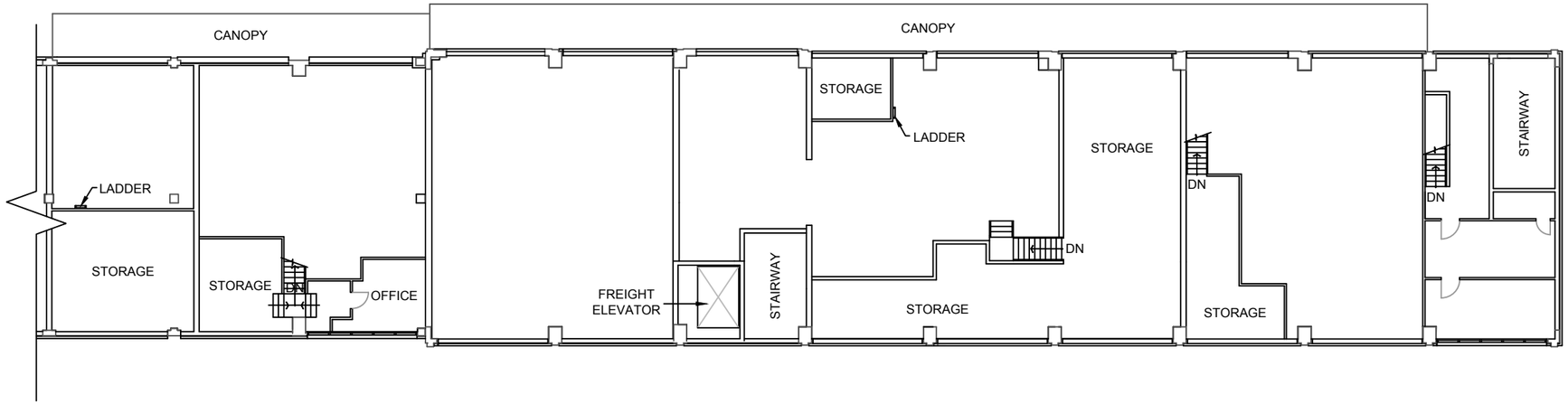
Date: March 2020

Project No. TF200767860

Rev. No. 1

Figure No. A-12





LEGEND:

CAVITY INSPECTION LOCATION (DRILLED OR HAMMERED HOLE IN WALL)

SCALE:

0 m 10 m

NOTES:

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wood.

Drawn by: T. Rideout

Approved by: G. Warren

Scale: As Shown

Project:
Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

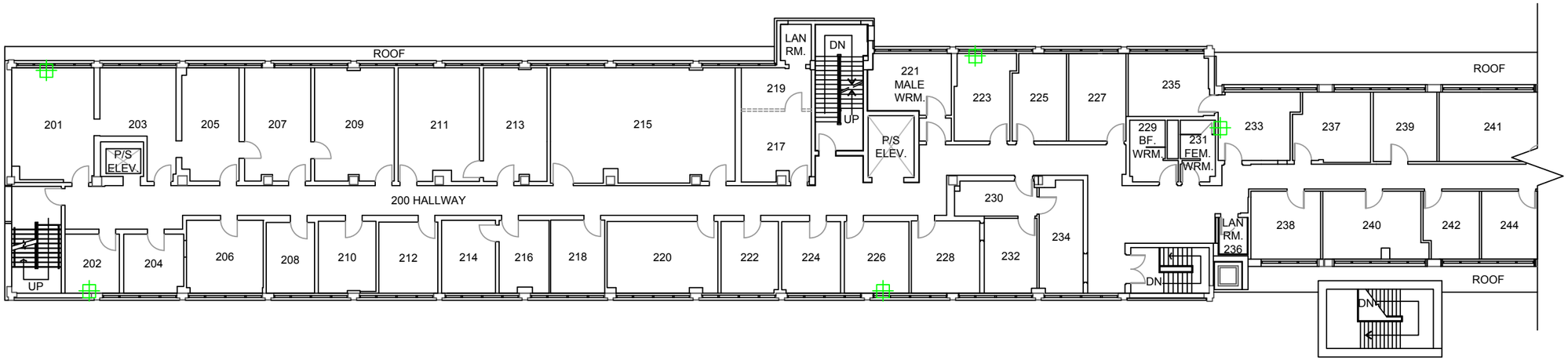
Title:
Cavity Inspection Location Plan - Mezzanine Floor

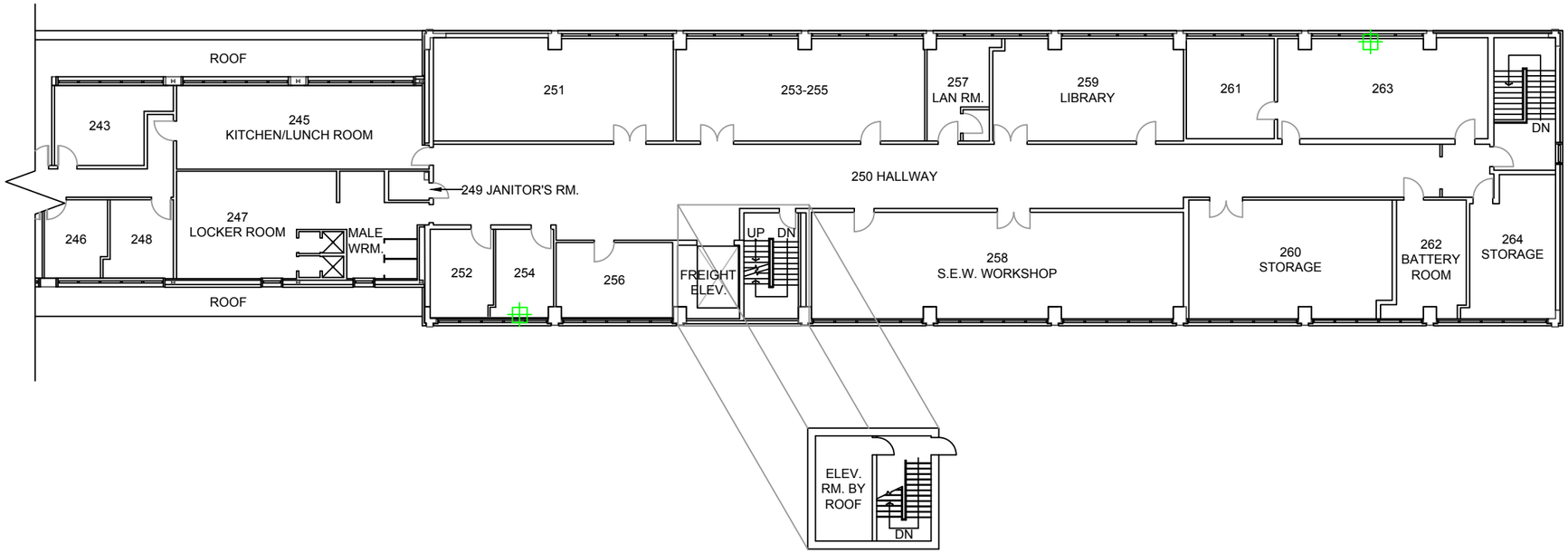
Date: March 2020

Project No. TF200767860

Rev. No. 1

Figure No. A-13





LEGEND:

CAVITY INSPECTION LOCATION (DRILLED OR HAMMERED HOLE IN WALL)

SCALE:
0 m 10 m

NOTES:

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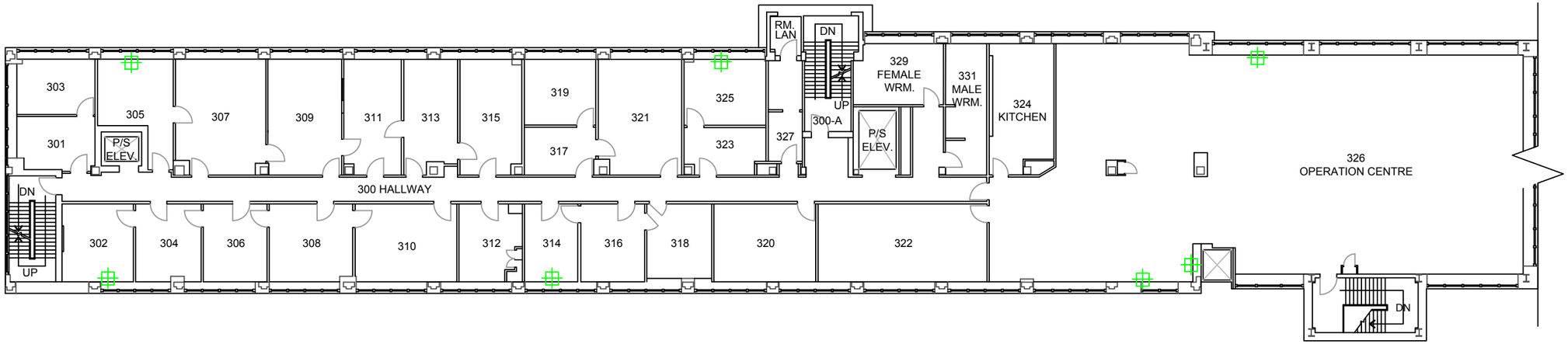
wood.

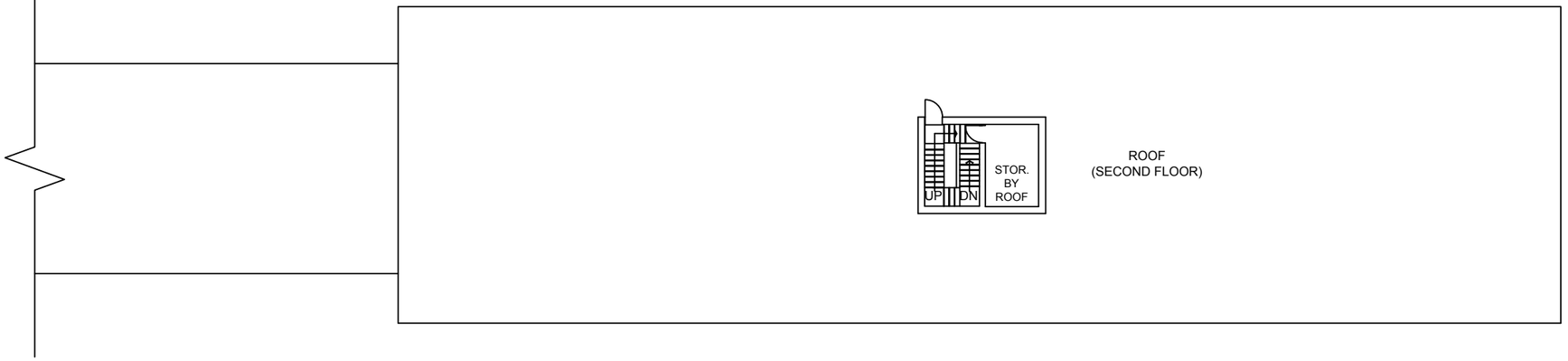
Drawn by: T. Rideout
Approved by: G. Warren
Scale: As Shown

Project:
Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title:
Cavity Inspection Location Plan - Second Floor

Date: March 2020
Project No. TF200767860
Rev. No. 1
Figure No. A-14





LEGEND:

CAVITY INSPECTION LOCATION (DRILLED OR HAMMERED HOLE IN WALL)

SCALE:
0 m 10 m

NOTES:

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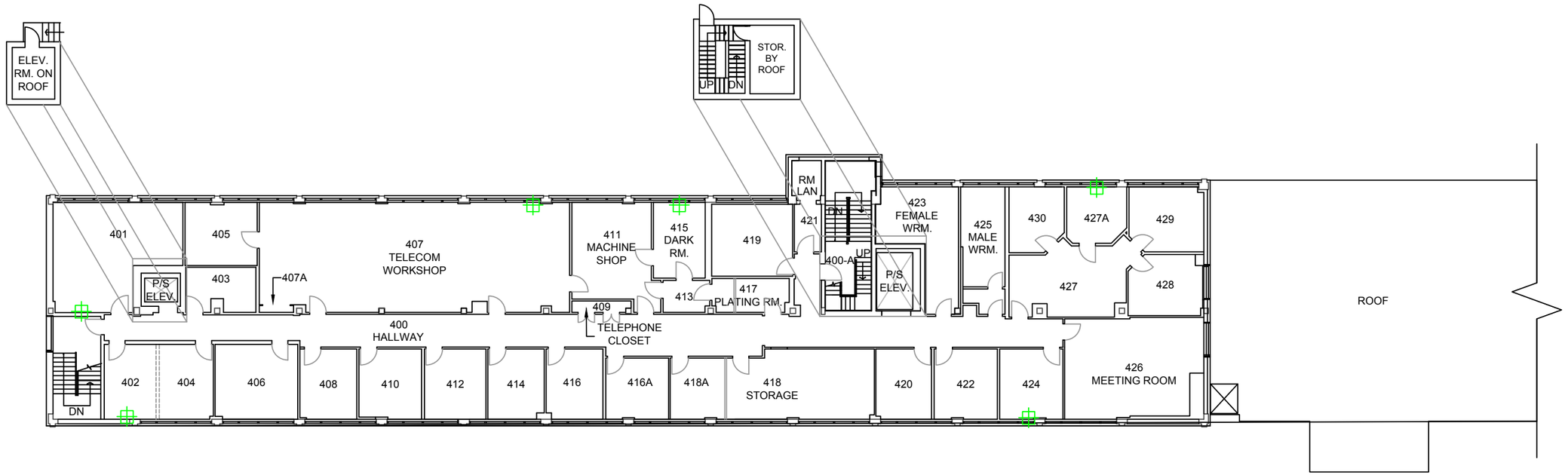
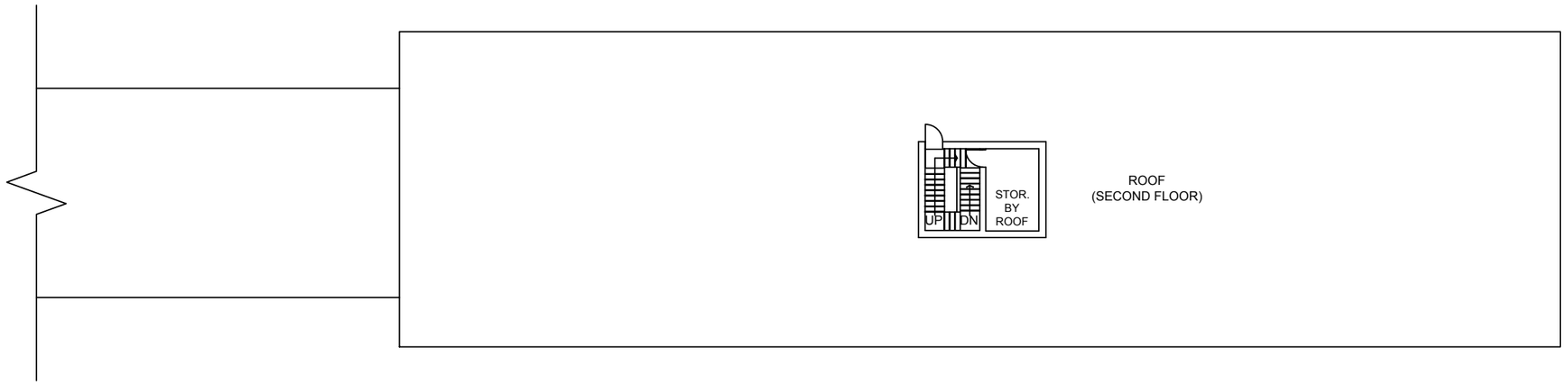
Scale: As Shown

Project:
Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title:
Cavity Inspection Location Plan - Third Floor

Date: March 2020
Project No. TF200767860
Rev. No. 1
Figure No. A-15





LEGEND:

CAVITY INSPECTION LOCATION (DRILLED OR HAMMERED HOLE IN WALL)

SCALE:

0 m 10 m

NOTES:

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wood.

Drawn by: T. Rideout

Approved by: G. Warren

Scale: As Shown

Project: Supplementary Hazardous Building Materials Assessment
Administration Building Pre-Deconstruction CCG Southside Base
280 Southside Road, St. John's, NL

Title: Cavity Inspection Location Plan - Fourth Floor

Date: March 2020

Project No. TF200767860

Rev. No. 1

Figure No. A-16

APPENDIX B

PHOTOGRAPHIC RECORD

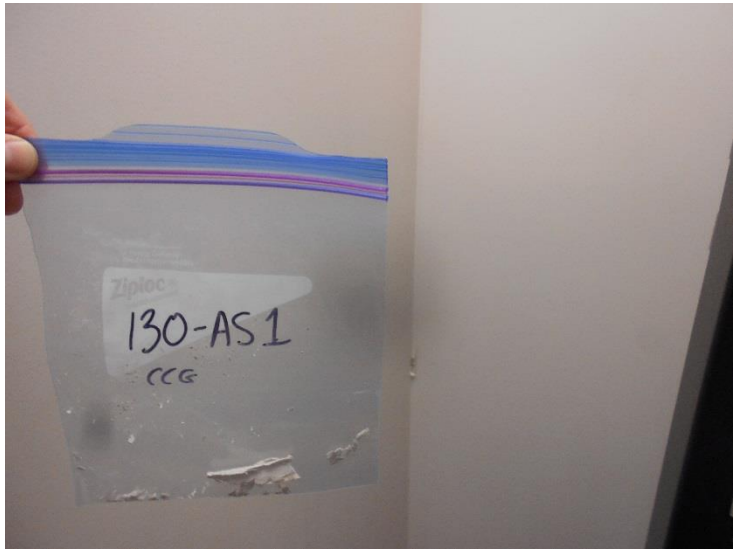

Photo 1: View of bulk material sample 20-AS-01 (renamed after sampling).

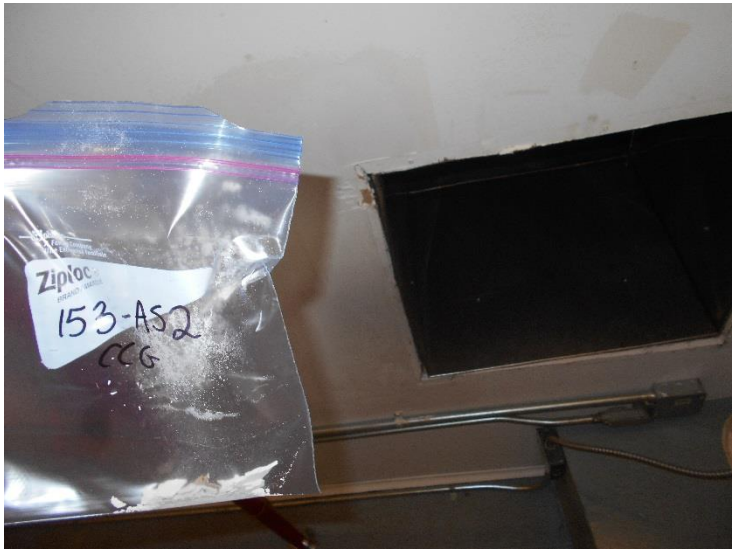

Photo 2: View of bulk material sample 20-AS-02 (renamed after sampling).

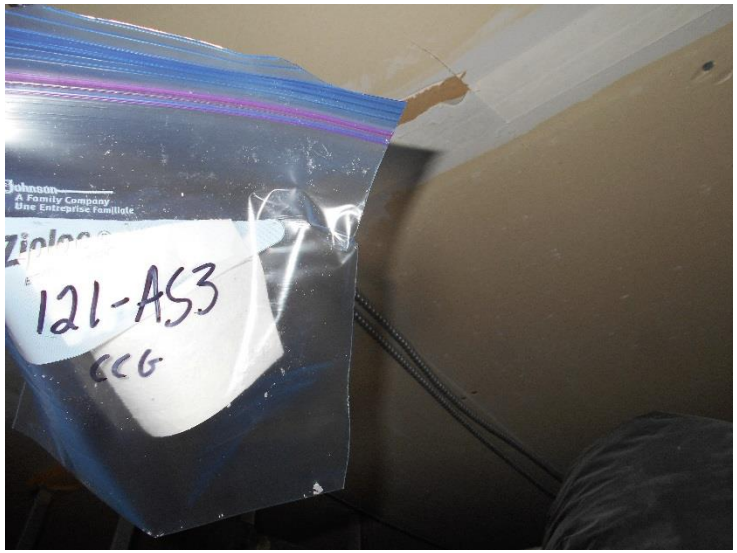

Photo 3: View of bulk material sample 20-AS-03 (renamed after sampling).

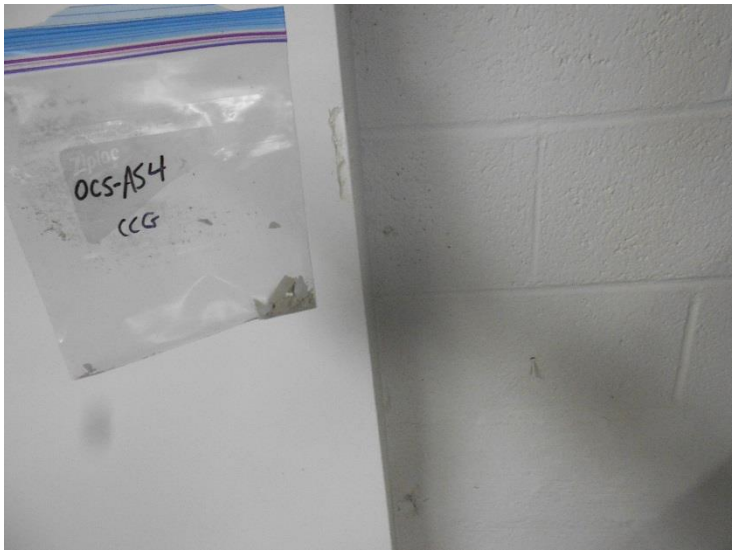

Photo 4: View of bulk material sample 20-AS-04 (renamed after sampling).

Photo 5: View of bulk material sample 20-AS-05 (renamed after sampling).

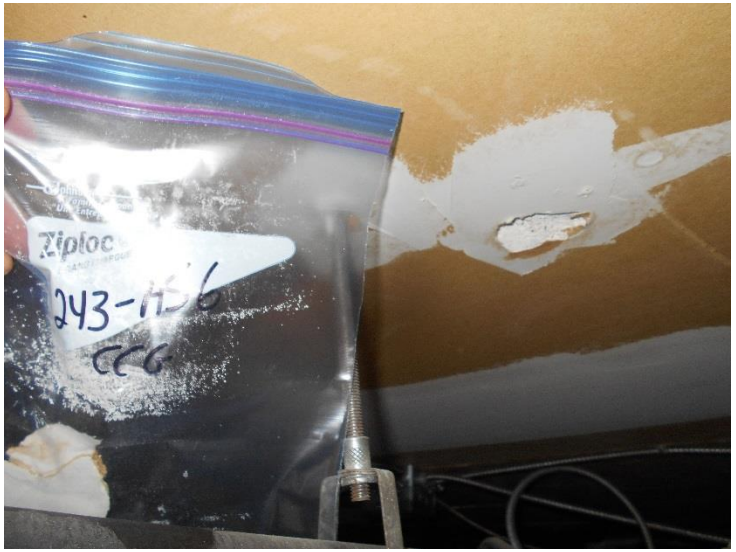

Photo 6: View of bulk material sample 20-AS-06 (renamed after sampling).

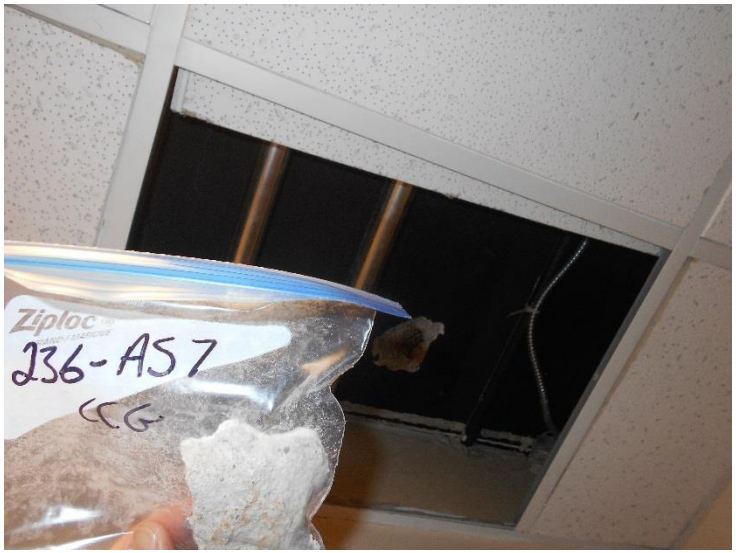

Photo 7: View of bulk material sample 20-AS-07 (renamed after sampling).

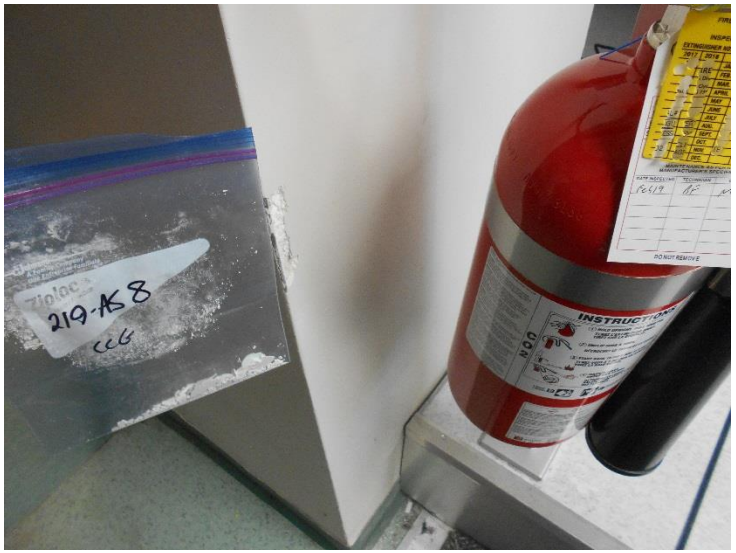

Photo 8: View of bulk material sample 20-AS-08 (renamed after sampling).

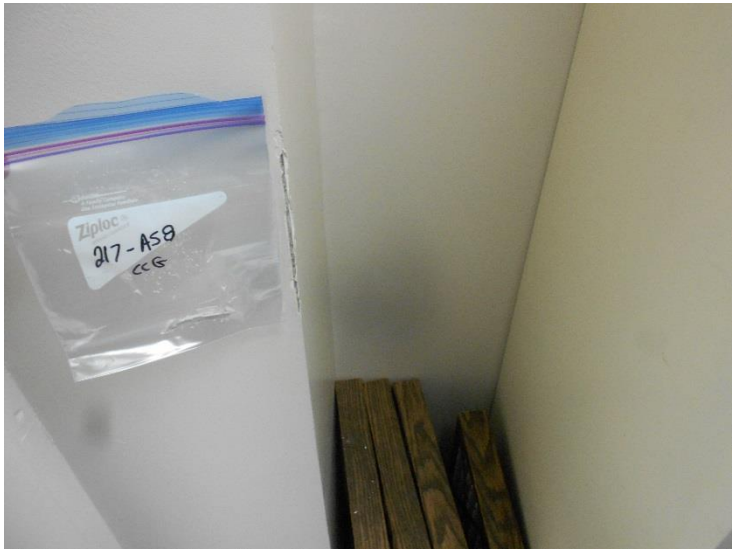

Photo 9: View of bulk material sample 20-AS-08A (renamed after sampling).

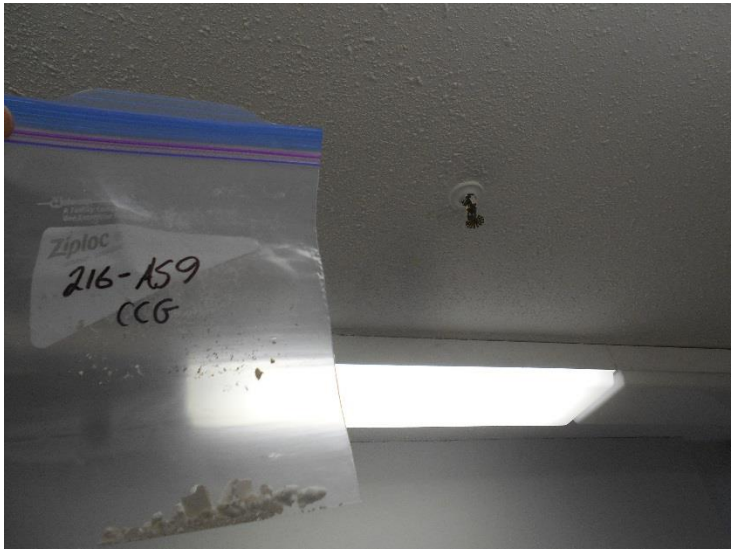

Photo 10: View of bulk material sample 20-AS-09 (renamed after sampling).

Photo 11: View of bulk material sample 20-AS-10 (renamed after sampling).

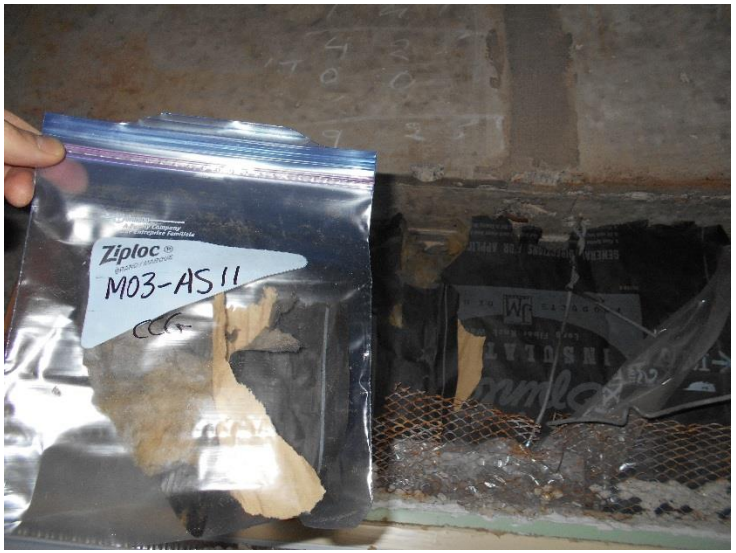

Photo 12: View of bulk material sample 20-AS-11 (renamed after sampling).

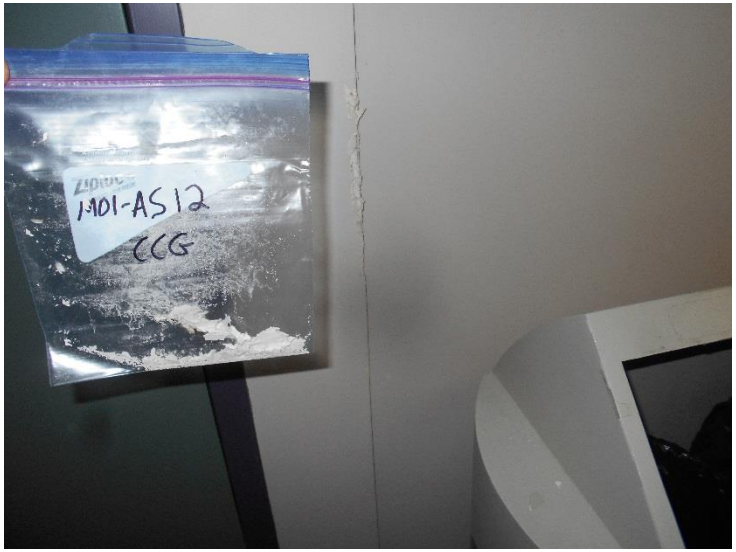

Photo 13: View of bulk material sample 20-AS-12 (renamed after sampling).

Photo 14: View of bulk material sample 20-AS-13 (renamed after sampling).

Photo 15: View of bulk material sample 20-AS-14 (renamed after sampling).

Photo 16: View of bulk material sample 20-AS-15 (renamed after sampling).

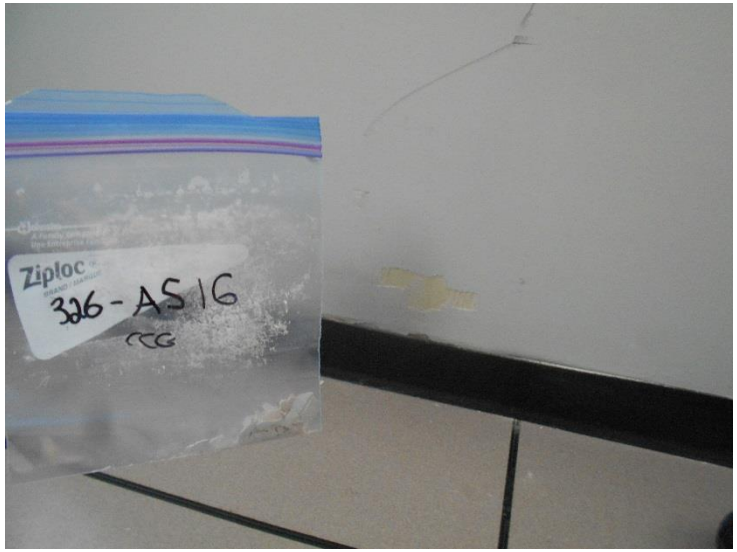

Photo 17: View of bulk material sample 20-AS-16 (renamed after sampling).

Photo 18: View of bulk material sample 20-AS-17 (renamed after sampling).

Photo 19: View of bulk material sample 20-AS-18 (renamed after sampling).

Photo 20: View of bulk material sample 20-AS-19 (renamed after sampling).

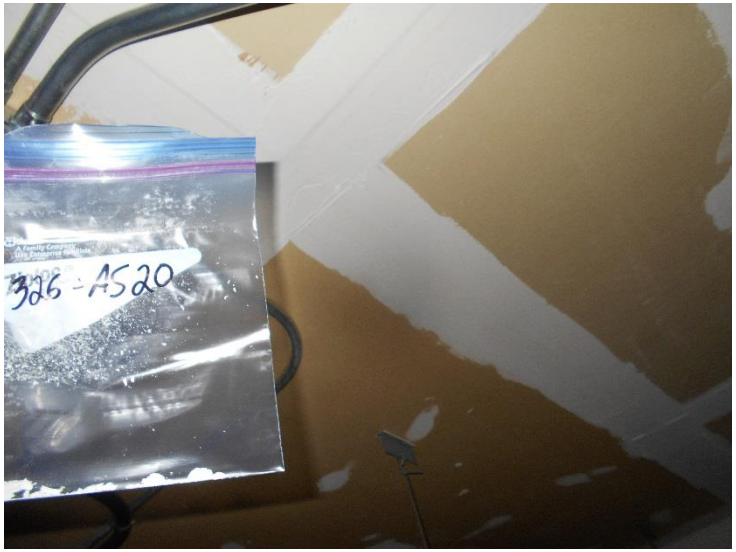

Photo 21: View of bulk material sample 20-AS-20 (renamed after sampling).

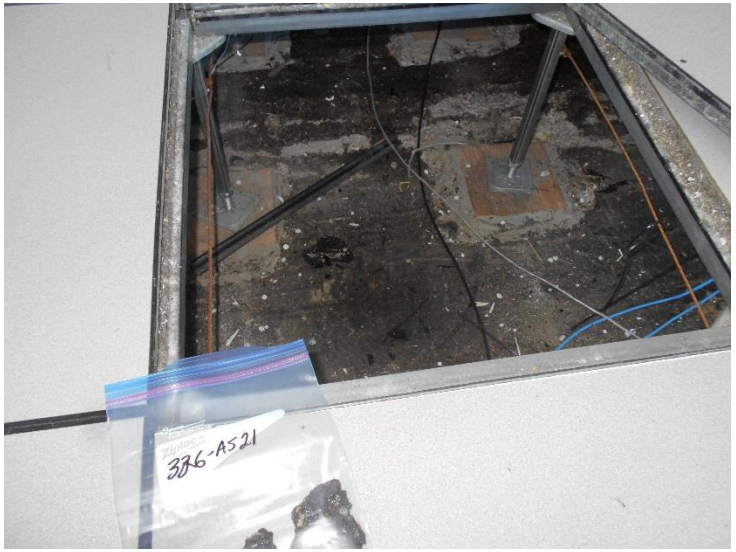

Photo 22: View of bulk material sample 20-AS-21 (renamed after sampling).

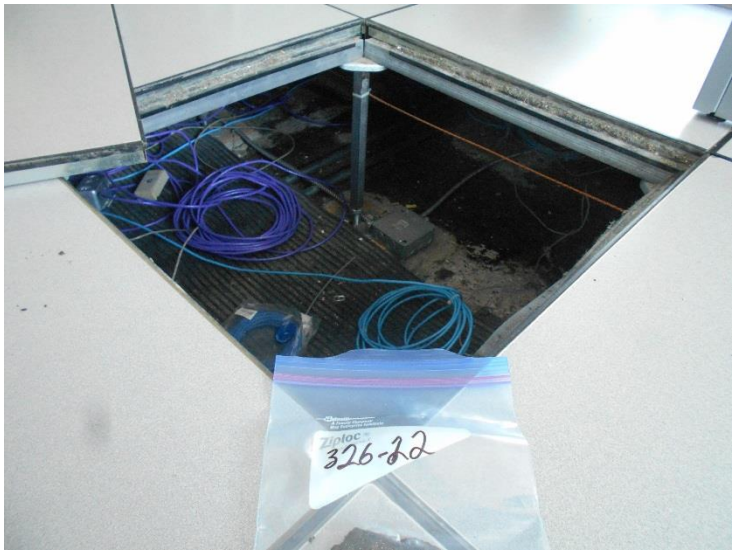

Photo 23: View of bulk material sample 20-AS-22 (renamed after sampling).

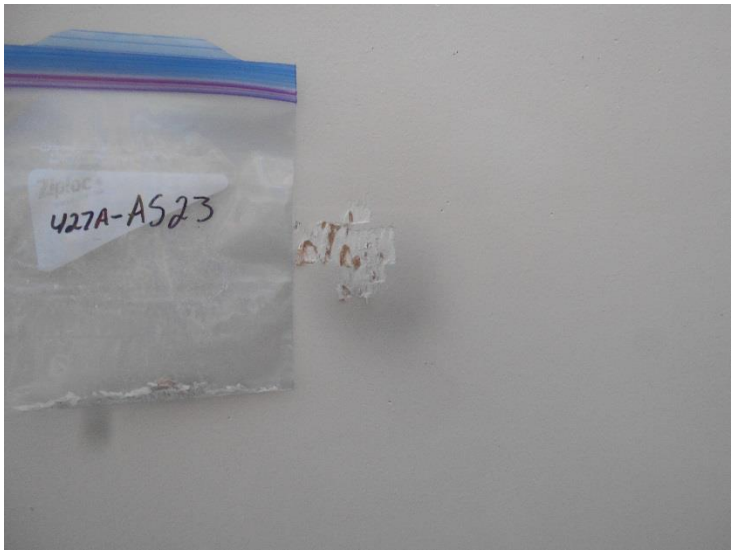

Photo 24: View of bulk material sample 20-AS-23 (renamed after sampling).

Photo 25: View of bulk material sample 20-AS-24 (renamed after sampling).

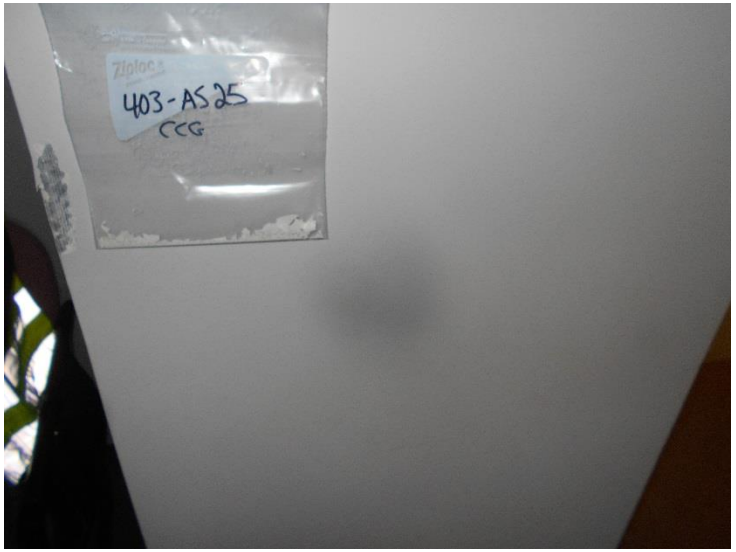

Photo 26: View of bulk material sample 20-AS-25 (renamed after sampling).

Photo 27: View of bulk material sample 20-AS-26 (renamed after sampling).

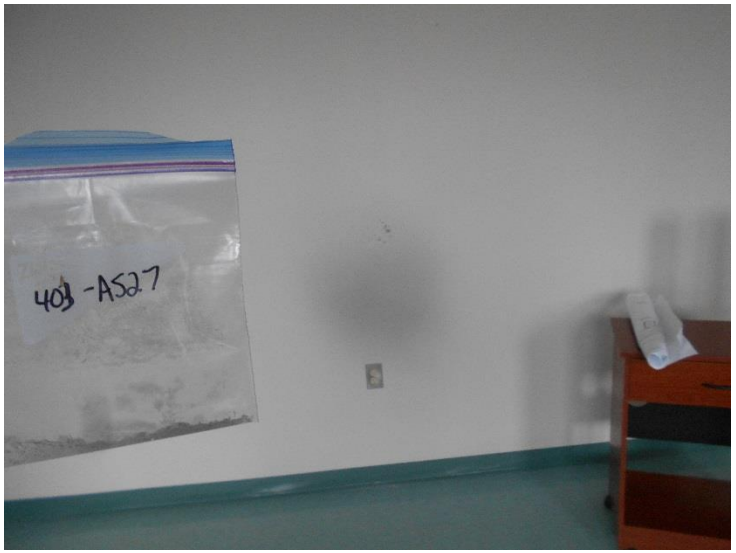

Photo 28: View of bulk material sample 20-AS-27 (renamed after sampling).

Photo 29: View of bulk material sample 20-AS-28 (renamed after sampling).

Photo 30: View of bulk material sample 20-AS-29 (renamed after sampling).

Photo 31: View of bulk material sample 20-AS-30 (renamed after sampling).

Photo 32: View of bulk material sample 20-AS-31 (renamed after sampling).

Photo 33: View of bulk material sample 20-AS-32 (renamed after sampling).

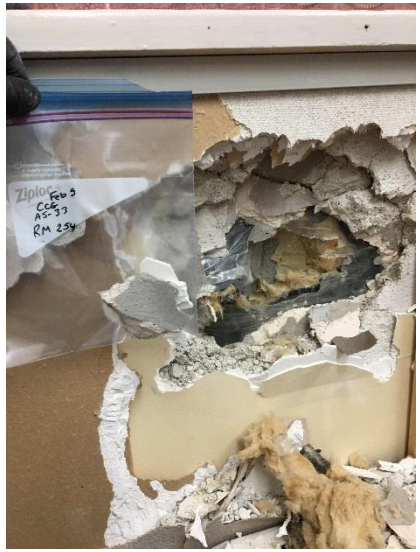

Photo 34: View of bulk material sample 20-AS-33 (renamed after sampling).

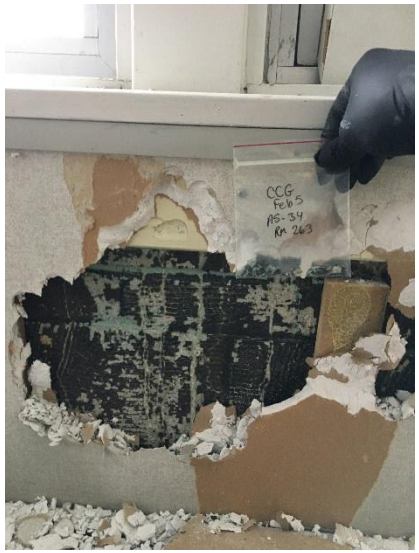

Photo 35: View of bulk material sample 20-AS-34 (renamed after sampling).

Photo 36: View of bulk material sample 20-AS-35 (renamed after sampling).

Photo 37: View of location of bulk material sample 20-AS-36.

Photo 38: View of bulk material sample 20-AS-37 (renamed after sampling).

Photo 39: View of bulk material sample 20-AS-38 (renamed after sampling).

Photo 40: View of bulk material sample 20-AS-39 (renamed after sampling).

Photo 41: View of bulk material sample 20-AS-40 (renamed after sampling).

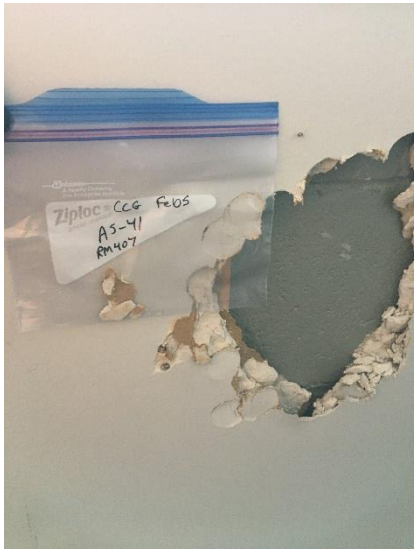

Photo 42: View of bulk material sample 20-AS-41 (renamed after sampling).

Photo 43: View of bulk material sample 20-AS-42 (renamed after sampling).

Photo 44: View of bulk material sample 20-AS-43 (renamed after sampling).

Photo 45: View of bulk material sample 20-AS-44 (renamed after sampling).

Photo 46: View of bulk material sample 20-AS-45 (renamed after sampling).

Photo 47: View of bulk material sample 20-AS-46 (renamed after sampling).

Photo 48: View of bulk material sample 20-AS-47 (renamed after sampling).

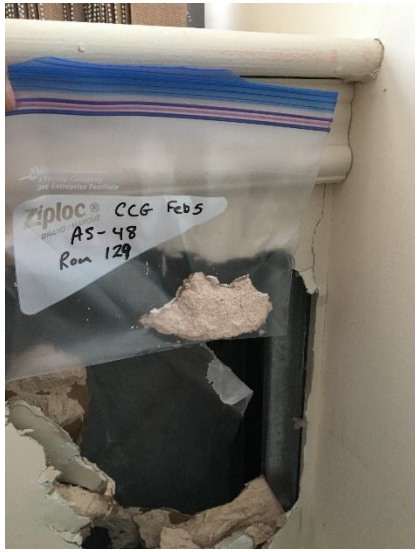

Photo 49: View of bulk material sample 20-AS-48 (renamed after sampling).

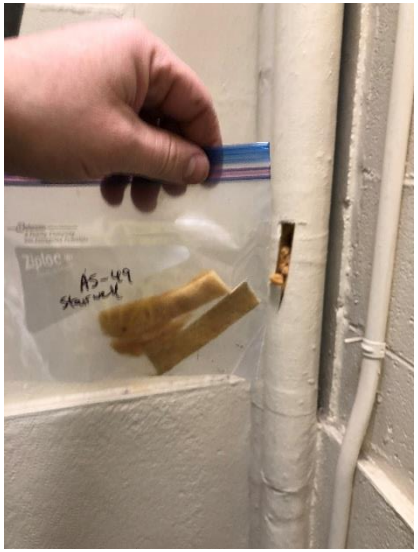

Photo 50: View of bulk material sample 20-AS-49 (renamed after sampling).

Photo 51: View of bulk material sample 20-AS-50 (renamed after sampling).

Photo 52: View of bulk material sample 20-AS-51 (renamed after sampling).

Photo 53: View of bulk material sample 20-AS-52 (renamed after sampling).

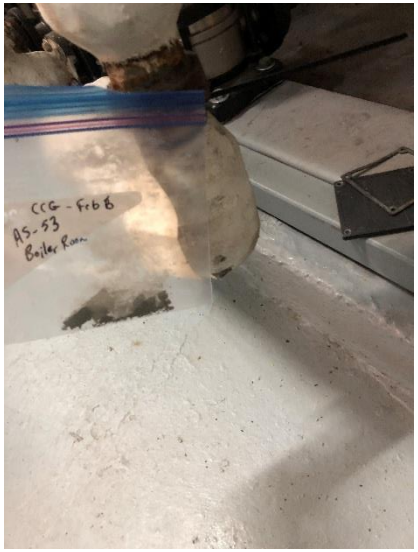

Photo 54: View of bulk material sample 20-AS-53 (renamed after sampling).

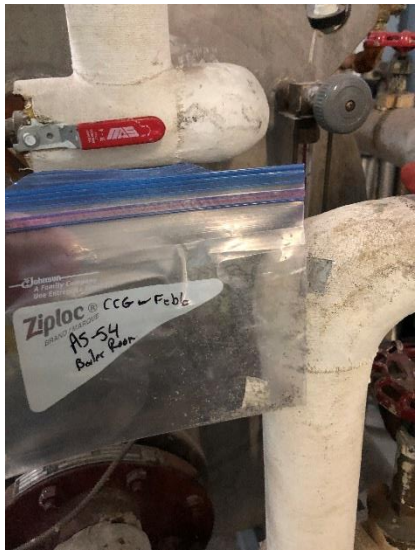

Photo 55: View of bulk material sample 20-AS-54 (renamed after sampling).

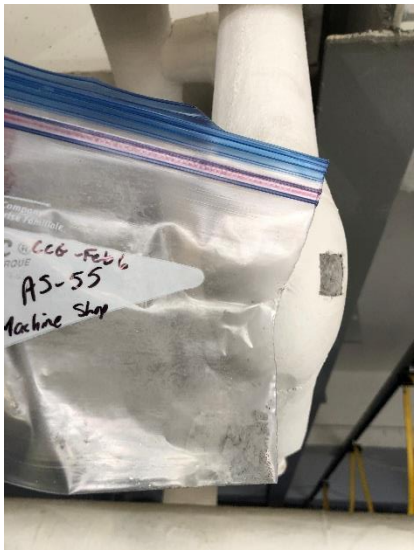

Photo 56: View of bulk material sample 20-AS-55 (renamed after sampling).

Photo 57: View of bulk material CORE-1.

Photo 58: View of bulk material sample CORE-2.

Photo 59: View of bulk material sample CORE-3.

Photo 60: View of bulk material sample EX-1.

Photo 61: View of bulk material sample EX-2.

Photo 62: View of bulk material sample EX-3.

Photo 63: View of bulk material sample EX-4.

Photo 64: View of bulk material sample EX-5.

Photo 65: View of bulk material sample EX-6.

Photo 66: View of bulk material sample EX-7.

Photo 67: View of asbestos containing pipe insulation on pipe above ceiling tile in the “Maritime Unit” Room M07

Photo 68: View of asbestos containing pipe insulation on pipe above ceiling tile in the “Maritime Unit” Room M07

Photo 69: View of paint sample 20-PS-01 (renamed after sampling).


Photo 70: View of paint sample 20-PS-02 (renamed after sampling).

Photo 71: View of paint sample 20-PS-03 (renamed after sampling).

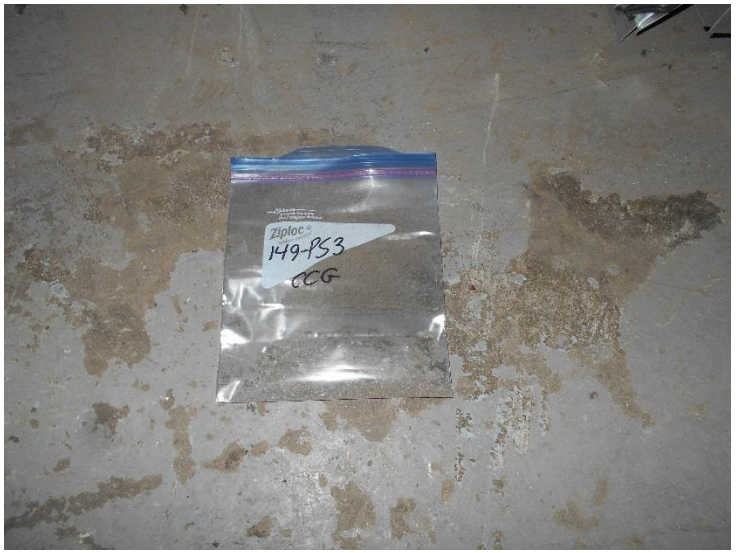

Photo 72: View of paint sample 20-PS-03A (renamed after sampling).

Photo 73: View of paint sample 20-PS-04 (renamed after sampling).

Photo 74: View of paint sample 20-PS-05 (renamed after sampling).

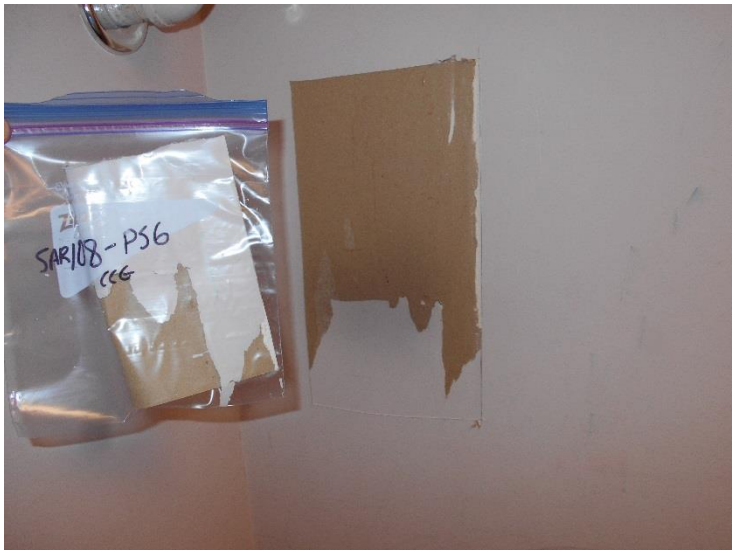

Photo 75: View of paint sample 20-PS-06 (renamed after sampling).

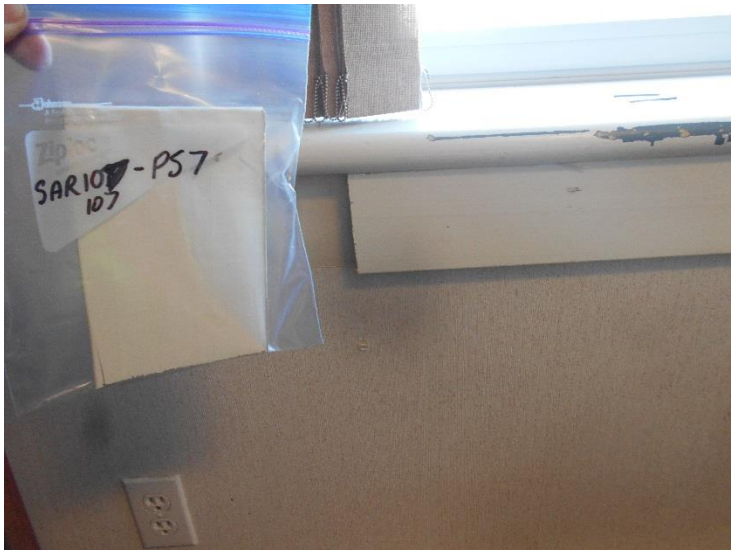

Photo 76: View of paint sample 20-PS-07 (renamed after sampling).

Photo 77: View of paint sample 20-PS-09 (renamed after sampling).

Photo 78: View of paint sample 20-PS-10 (renamed after sampling).

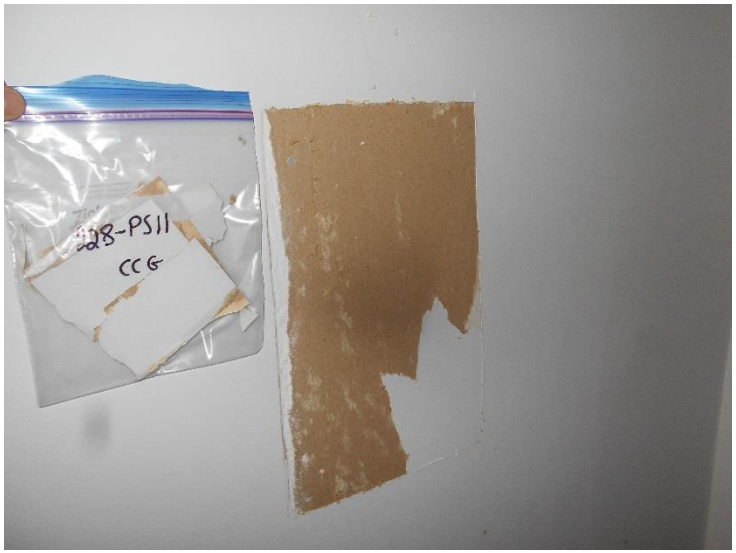

Photo 79: View of paint sample 20-PS-11 (renamed after sampling).

Photo 80: View of paint sample 20-PS-12 (renamed after sampling).

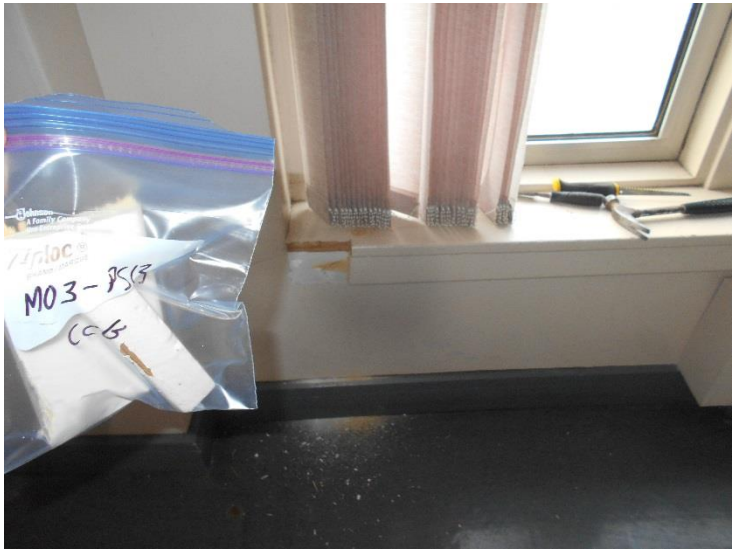

Photo 81: View of paint sample 20-PS-13 (renamed after sampling).

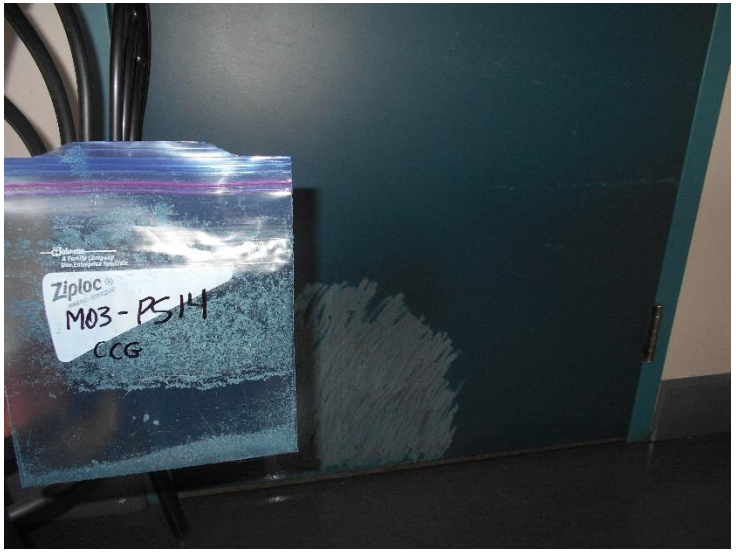

Photo 82: View of paint sample 20-PS-14 (renamed after sampling).

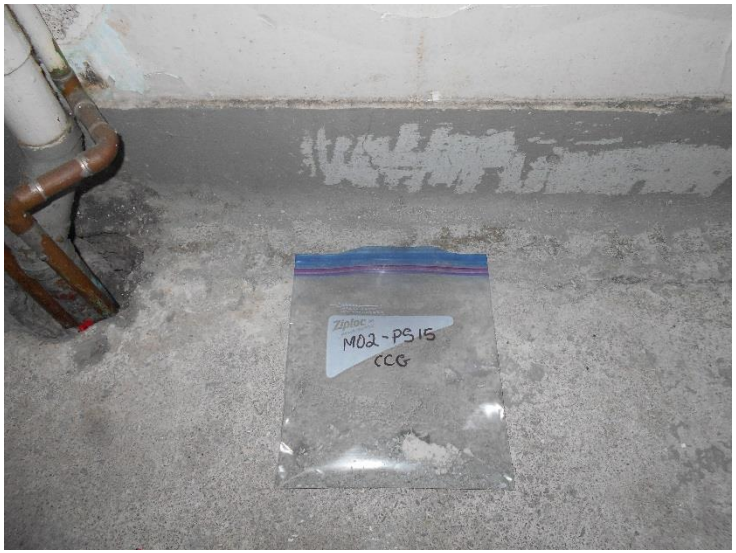

Photo 83: View of paint sample 20-PS-15 (renamed after sampling).

Photo 84: View of paint sample 20-PS-16 (renamed after sampling).

Photo 85: View of paint sample 20-PS-17 (renamed after sampling).

Photo 86: View of paint sample 20-PS-18 (renamed after sampling).

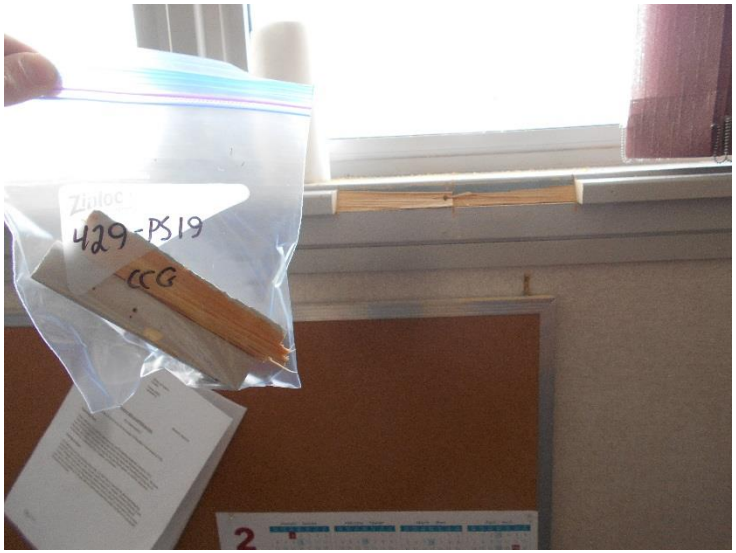

Photo 87: View of paint sample 20-PS-19 (renamed after sampling).

Photo 88: View of paint sample 20-PS-19A (renamed after sampling).

Photo 89: View of paint sample 20-PS-20 (renamed after sampling).

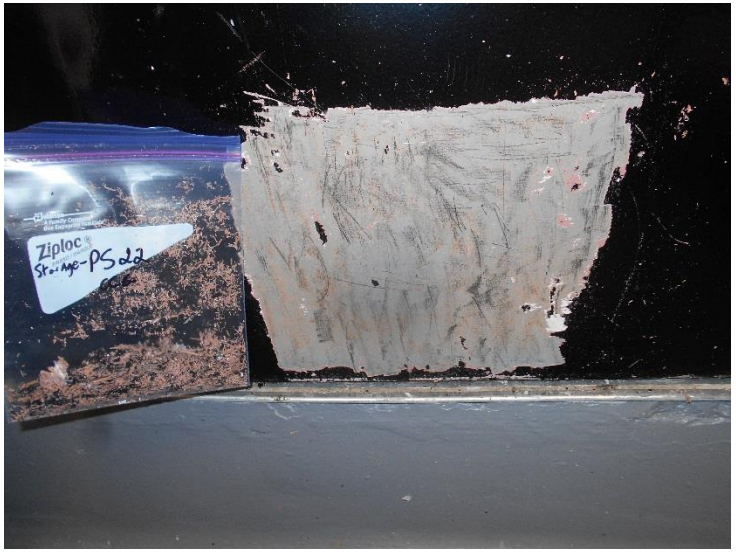

Photo 90: View of paint sample 20-PS-22 (renamed after sampling).

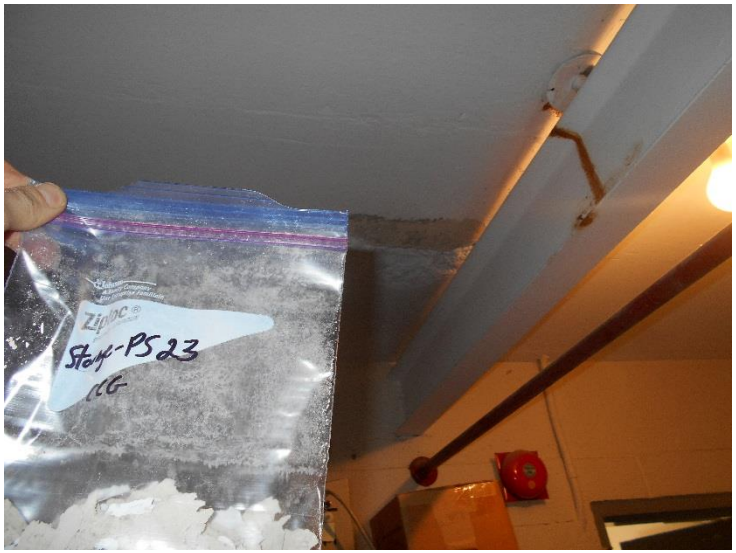

Photo 91: View of paint sample 20-PS-23 (renamed after sampling).31


Photo 92: View of location of PCB sample PCB 1.

Photo 93: View of PCB sample PCB 2.

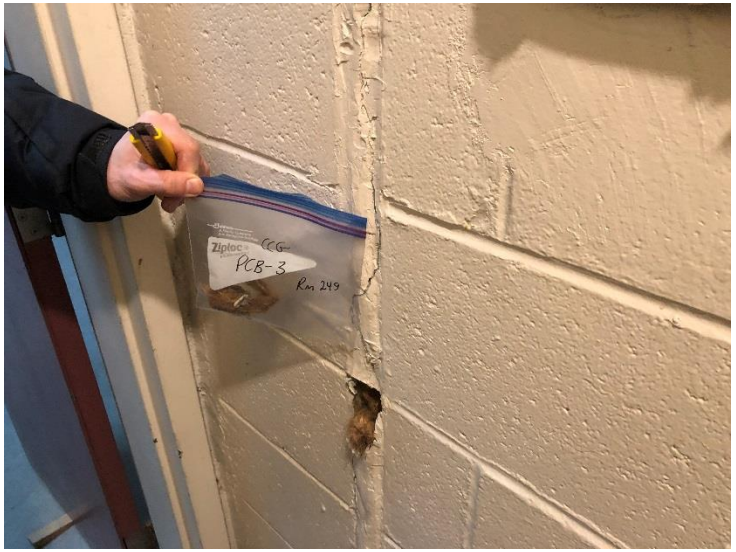

Photo 94: View of PCB sample PCB 3.

Photo 95: View of PCB sample PCB 4.

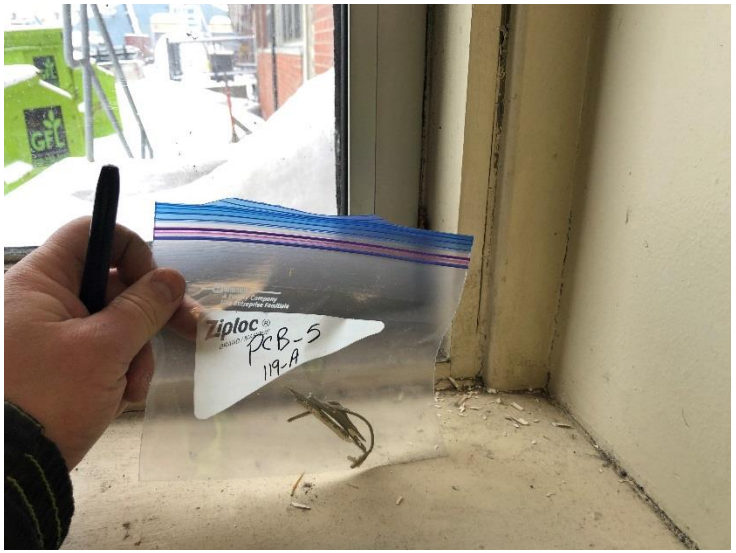

Photo 96: View of PCB sample PCB 5.

Photo 97: View of PCB sample PCB 6.

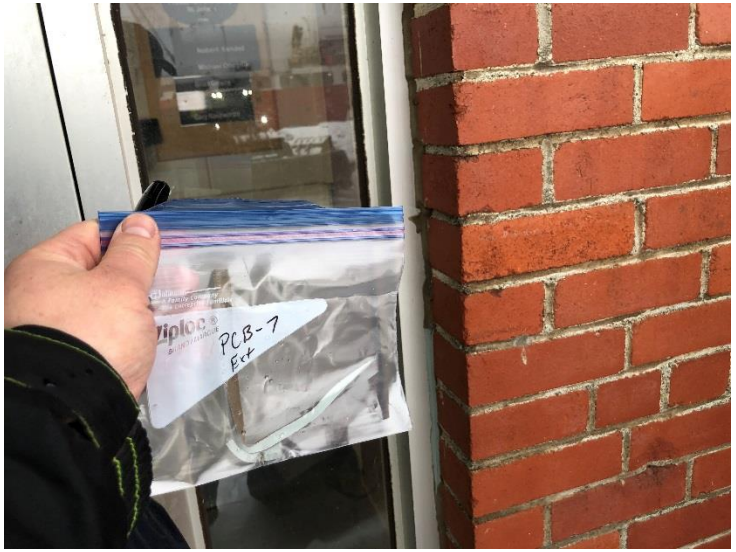

Photo 98: View of PCB sample PCB 7.

Photo 99: View of PCB sample PCB 8.

Photo 100: View of PCB sample PCB 9.

Photo 101: View of PCB sample PCB 10.


Photo 102: View of cavity inspection in Room 233.


Photo 103: View of cavity inspection in Room 263.


Photo 104: View of cavity inspection in Room 326.

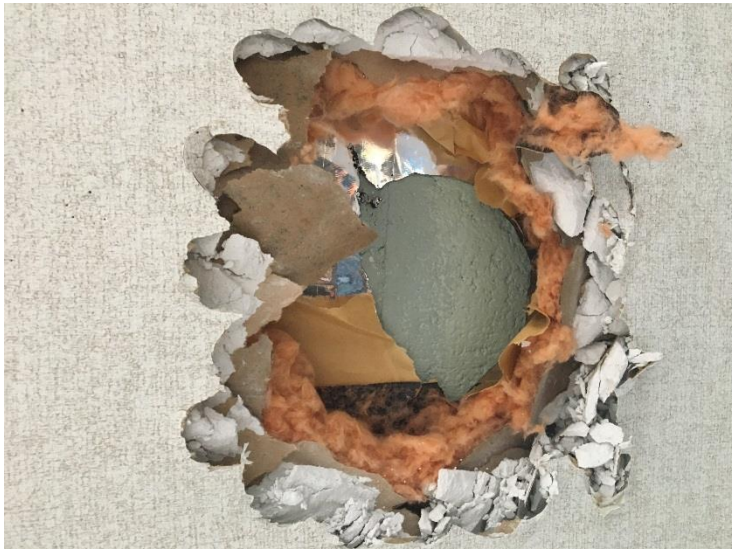

Photo 105: View of cavity inspectino in Room 305.

Photo 106: View of cavity inspection in Room 401.

Photo 107: View of cavity inspection in Room 103.

Photo 108: View of cavity inspection in John Cabot Room.

APPENDIX C

SAMPLE AND ANALYTICAL SUMMARY TABLES

Table C-1: Bulk Sample Descriptions and Asbestos Analytical Results

Sample ID	Material (Layer) Analyzed	Detailed Material Description	Sample Location	Room No.	Photo No.	Analytical Result
20-AS-01	Drywall Joint Compound	Drywall joint compound on interior wall	Interior wall of Lan Room	130	1	ND
20-AS-02	Drywall Joint Compound	Drywall joint compound on ceiling	Ceiling of Small Engine Repair Room	153	2	ND
20-AS-03	Drywall Joint Compound	Drywall joint compound on ceiling above suspended ceiling tile	Ceiling	121	3	ND
20-AS-04	Drywall Joint Compound	Drywall joint compound on exterior wall	Exterior wall of Carpentry Shop	-	4	ND
20-AS-05	Drywall Joint Compound	Drywall joint compound on exterior wall	Exterior wall of Office Cubicle Area	263	5	ND
20-AS-06	Drywall Joint Compound	Drywall joint compound on ceiling above suspended ceiling tile	Ceiling of Office	243	6	ND
20-AS-07-Skim Coat	Skim Coat Parging	Parging finish	Ceiling above acoustic ceiling tile	236	7	ND
20-AS-07-Rough Coat	Rough Coat Parging	Parging finish	Ceiling above acoustic ceiling tile	236	7	ND
20-AS-08	Drywall Joint Compound	Drywall joint compound wall	Wall of Lan Room	219	8	ND
20-AS-08A	Drywall Joint Compound	Drywall joint compound	Wall of Office	217	9	ND
20-AS-09	Stucco	Stucco texture finish on ceiling	Ceiling of Office	216	10	ND
20-AS-10-Skim Coat	Skim Coat Parging	Parging finish	Ceiling above acoustic ceiling tile in Kitchen/Lunch Room	M03	11	ND
20-AS-10-Rough Coat	Rough Coat Parging	Parging finish	Ceiling above acoustic ceiling tile in Kitchen/Lunch Room	M03	11	ND
20-AS-11	Rock Wool Insulation	Long fiber rock wool insulation (Johns-Manville Spintex Insulation) above suspended ceiling tile	Ceiling above acoustic ceiling tile in Kitchen/Lunch Room	M03	12	ND
20-AS-12	Drywall Joint Compound	Drywall joint compound on interior wall	Interior wall in Hallway	M01	13	ND
20-AS-13	Drywall Joint Compound	Drywall joint compound on ceiling	Ceiling in Hallway	M01	14	ND
20-AS-14	Drywall Joint Compound	Drywall joint compound on exterior wall	Exterior wall of Hallway	300	15	**2% Chrysotile**
20-AS-15-Joint Compound 1	Drywall Joint Compound	Drywall joint compound on exterior wall	Exterior wall of Office	319	16	ND
20-AS-15-Joint Compound 2	Drywall Joint Compound	Drywall joint compound on exterior wall	Exterior wall of Office	319	16	**2% Chrysotile**
20-AS-16	Drywall Joint Compound	Drywall joint compound on exterior wall (south wall)	Exterior wall (south) of Operation Centre	326	17	ND
20-AS-17	Drywall Joint Compound	Drywall joint compound on exterior wall (north wall)	Exterior wall (north) of Operation Centre	326	18	ND
20-AS-18	Tar Paper	Tar paper on former exterior wall	Former exterior wall of Operation Centre	326	19	**16.5% Chrysotile**
20-AS-19	Tar Paper	Tar paper on former exterior wall	Former exterior wall of Operation Centre	326	20	**17.5% Chrysotile**
20-AS-20	Drywall joint compound	Drywall joint compound on ceiling	Ceiling above ceiling tile in Operation Centre	326	21	ND
20-AS-21	Tar	Tar on former roof below suspended floor	Floor beneath suspended floor tile in Operation Centre	326	22	ND
20-AS-22	Tar	Tar on former roof below suspended floor	Floor beneath suspended floor tile in Operation Centre	326	23	ND
20-AS-23	Drywall Joint Compound	Drywall joint compound on exterior wall	Exterior wall of Office	427A	24	ND
20-AS-24	Drywall Joint Compound	Drywall joint compound from underlying Gyproc on exterior wall	Exterior wall of Office	427A	25	ND
20-AS-25	Drywall Joint Compound	Drywall joint compound on interior wall	Exterior wall of Office	403	26	ND

Notes:

ND: Non-detect

*Paint sample included substrate

ACM: Asbestos-containing material

Shaded value >1% asbestos (dry weight) is considered to be an ACM as per NL Asbestos Abatement Regulations (Reg. 111/98)

Table C-1: Bulk Sample Descriptions and Asbestos Analytical Results

Sample ID	Material (Layer) Analyzed	Detailed Material Description	Sample Location	Room No.	Photo No.	Analytical Result
20-AS-26	Drywall Joint Compound	Drywall joint compound on interior wall	Exterior wall of Office	405	27	ND
20-AS-27	Drywall Joint Compound	Drywall joint compound on interior wall (south side)	Interior wall of Office	401	28	ND
20-AS-28-Beige Adhesive	Beige Adhesive	Biege adhesive / parging behind Gyproc wall	Exterior wall of Office	201	29	ND
20-AS-28-Parging on Gyproc	Parging on Gyproc	Biege adhesive / parging behind Gyproc wall	Exterior wall of Office	201	29	ND
20-AS-28-Rough Coat	Rough Coat Parging	Biege adhesive / parging behind Gyproc wall	Exterior wall of Office	201	29	ND
20-AS-28-Skim Coat	Skim Coat Parging	Biege adhesive / parging behind Gyproc wall	Exterior wall of Office	201	29	ND
20-AS-29-Skim Coat	Skim Coat Parging	Parging over Gyproc	Wall of Office	202	30	ND
20-AS-29-Rough Coat	Rough Coat Parging	Parging over Gyproc	Wall of Office	202	30	<1% Actinolite
20-AS-30	Drywall Joint Compound	Drywall joint compound from Gyproc	Exterior wall of Office	226	31	ND
20-AS-31-Skim Coat	Skim Coat Parging	Parging with grey adhesive underlying Gyproc	Wall of Office	226	32	ND
20-AS-31-Rough Coat	Rough Coat Parging	Parging with grey adhesive underlying Gyproc	Wall of Office	226	32	ND
20-AS-32-Skim Coat	Skim Coat Parging	Parging over unfinsihed Gyproc	Wall of Office	223	33	ND
20-AS-32-Rough Coat	Rough Coat Parging	Parging over unfinsihed Gyproc	Wall of Office	223	33	ND
20-AS-33-Skim Coat	Skim Coat Parging	Parging over unfinsihed Gyproc	Wall of Office	254	34	ND
20-AS-33-Rough Coat	Rough Coat Parging	Parging over unfinsihed Gyproc	Wall of Office	254	34	ND
20-AS-34	Sealant	Black sealant on cinderblock underlying finished Gyproc	Wall of Office	263	35	ND
20-AS-35	Drywall Joint Compound	Drywall joint compound from painted Gyproc, over cinderblock on exterior wall	Exterior wall of Operation Centre	326	36	ND
20-AS-36	Drywall Joint Compound	Drywall joint compound from unfinished Gyproc underlying finished Gyproc	Exterior wall of Office	325	37	**2% Chrysotile**
20-AS-37	Gyproc	Unfinished Gyproc underlying finished Gyproc	Wall of Office	314	38	ND
20-AS-38	Tar on Foil Barrier	Foil barrier with tar underlying plywood	Wall of Office	302	39	ND
20-AS-39	Tar on Foil with Paper Backing	Foil with paper backing and tar underlying wood panel	Wall of Office	402	40	ND
20-AS-40	Drywall Joint Compound	Drywall joint compound with Gyproc	Wall of Dark Room	415	41	ND
20-AS-41	Drywall Joint Compound	Drywall joint compound	Wall of Telecom Workshop	407	42	ND
20-AS-42	Drywall Joint Compound	Drywall joint compound with Gyproc from underlying unfinished Gyproc	Wall of Office	424	43	ND
20-AS-43	Drywall Joint Compound	Drywall joint compound with Gyproc	Wall of Maritime Unit	M7	44	ND
20-AS-44	Drywall Joint Compound	Drywall joint compound with Gyproc	Wall of Cape Harris Room	-	45	ND
20-AS-45	Drywall Joint Compound	Drywall joint compound with Gyproc with pink paper and white paper	Wall of Office	116	46	Layer Not Present
20-AS-46	Drywall Joint Compound	Drywall joint compound with Gyproc with pink paper and white paper	Wall of Office	113	47	ND
20-AS-47	Drywall Joint Compound	Drywall joint compound with Gyproc with pink paper and white paper	Wall of Office	124	48	ND

Notes:

ND: Non-detect

*Paint sample included substrate

ACM: Asbestos-containing material

Shaded value >1% asbestos (dry weight) is considered to be an ACM as per NL Asbestos Abatement Regulations (Reg. 111/98)

Table C-1: Bulk Sample Descriptions and Asbestos Analytical Results

Sample ID	Material (Layer) Analyzed	Detailed Material Description	Sample Location	Room No.	Photo No.	Analytical Result
20-AS-48	Gyproc	3/4" fire rated Gyproc (pink) with drywall joint compound	Wall of Office	129	49	ND
20-AS-49	Wrap	3" pipe wrap with pink fibre insulation	Pipe in Stairwell	Stairwell	50	ND
20-AS-50	Parging	3" elbow white wrap with grey parging	Pipe in Kitchen	324	51	ND
20-AS-51	Parging	Paper over pipe wrap over grey parging near valve	Pipe in Office	401	52	**70% Chrysotile**
20-AS-52	Parging	White wrap over dark grey parging on 3" elbow	Pipe in Storage Room	M08	53	ND
20-AS-53	Parging	White wrap over grey parging on 3" elbow	Pipe in Boiler Room	136	54	ND
20-AS-54	Parging	White wrap over grey parging on 2" elbow	Pipe in Boiler Room	136	55	ND
20-AS-55	Parging	White wrap over grey parging on 2" elbow	Pipe in Machine Shop	149	56	ND
20 PS 12	Paint on Metal Door	Burgandy metal fire rated door	Fire Door in Hallway	200	80	ND
20 PS 14	Paint on Metal Door	Dark green metal door	Door in Lunch Room	M03	82	ND
20 PS 22*	Paint on Metal Door	Black over light brown painted metal door	Door in Elevator Storage Room on Fourth Floor	-	90	ND
20 PS 23	Paint on Concrete Ceiling	Beige on ceiling	Elevator Storage Room on Fourth Floor	-	91	**1-5% Chrysotile**
CORE-1-Roof Tar	Tar	1" asphalt tar roofing / particle board / 1" foam with black backing / 4" foam / tar on concrete	Roof	Exterior	57	ND
CORE-1-Particle Board	Particle Board	1" asphalt tar roofing / particle board / 1" foam with black backing / 4" foam / tar on concrete	Roof	Exterior	57	ND
CORE-1-Foam	Foam	1" asphalt tar roofing / particle board / 1" foam with black backing / 4" foam / tar on concrete	Roof	Exterior	57	ND
CORE-1-Roof Felt	Roof Felt	1" asphalt tar roofing / particle board / 1" foam with black backing / 4" foam / tar on concrete	Roof	Exterior	57	ND
CORE-2-Roof Tar	Tar	1" asphalt tar roofing /4 " foam with light brown tar paper backing / paper barrier with tar on metal	Roof	Exterior	58	ND
CORE-2-Foam	Foam	1" asphalt tar roofing /4 " foam with light brown tar paper backing / paper barrier with tar on metal	Roof	Exterior	58	ND
CORE-2-Tar Paper	Tar Paper	1" asphalt tar roofing /4 " foam with light brown tar paper backing / paper barrier with tar on metal	Roof	Exterior	58	ND
CORE-3-Roof Tar	Roof Tar	1" asphalt tar roofing / particle board / 3 layers of 2" foam with black backing / tar on concrete	Roof	Exterior	59	ND
CORE-3-Particle Board	Particle Board	1" asphalt tar roofing / particle board / 3 layers of 2" foam with black backing / tar on concrete	Roof	Exterior	59	ND
CORE-3-Foam	Foam	1" asphalt tar roofing / particle board / 3 layers of 2" foam with black backing / tar on concrete	Roof	Exterior	59	ND
CORE-3-Roof Felt	Roof Felt	1" asphalt tar roofing / particle board / 3 layers of 2" foam with black backing / tar on concrete	Roof	Exterior	59	ND
EX-1	Tar Paper	Tar paper barrier behind brick wall	Exterior wall	Exterior	60	**19.6% Chrysotile**
EX-2	Tar Paper	Tar paper barrier behind brick wall	Exterior wall	Exterior	61	**10.5% Chrysotile**
EX-3	Tar Paper	Tar paper barrier behind brick wall	Exterior wall	Exterior	62	**22.4% Chrysotile**
EX-4	Tar Paper	Tar paper barrier behind brick wall	Exterior wall	Exterior	63	ND
EX-5	Tar Paper	Tar paper barrier behind brick wall	Exterior wall	Exterior	64	**8.7% Chrysotile**
EX-6	Tar Paper	Tar paper barrier behind brick wall	Exterior wall	Exterior	65	**13.3% Chrysotile**
EX-7	Tar Paper	Tar paper barrier behind brick wall	Exterior wall	Exterior	66	**13.5% Chrysotile**
PCB-3 Fibers	Fibres	Grey Caulking With Brown Material	Wall of Janitor's Room	249	94	ND

Notes:

ND: Non-detect

*Paint sample included substrate

ACM: Asbestos-containing material

Shaded value >1% asbestos (dry weight) is considered to be an ACM as per NL Asbestos Abatement Regulations (Reg. 111/98)

Table C-2: Paint Sample Descriptions and Lead Analytical Results

Sample ID	Colour Description	Substrate	Sample Location	Room No.	Photo No.	RDL (mg/kg)	Total Lead (mg/kg)
20-PS-01*	Light green	Concrete	Wall of Loading Area	135	69	10	67
20-PS-02*	Black	Concrete	Floor of Boiler Room	136	70	10	**997**
20-PS-03*	Grey	Concrete	Floor of Machine Shop	149	71	10	**1,500**
20-PS-03A*	Grey	Concrete	Floor of Main Transformer Primary Voltage (High Voltage)	139	72	10	**140**
20-PS-04*	Dark blue	Metal	Door of Office	150	73	10	**863**
20-PS-05*	White	Pipe Insulation	Piping inTelephone Equipment Room	103	74	10	**192**
20-PS-06*	Light Peach	Drywall	Wall of SAR	108	75	10	<10
20-PS-07*	White over Blue	Wood	Window Sill of Office	107	76	10	<10
20-PS-08	Grey	Concrete	Wall of S.E.W. Workshop	258	-	10	53
20-PS-09*	Beige	Wood	Window Sill of Lunch Room	245	77	10	**312**
20-PS-10*	Olive Green	Drywall	Wall of Office	225	78	10	<10
20-PS-11*	Off-white	Drywall	Wall of Office	228	79	10	17
20-PS-12	Burgundy	Metal	Fire Rated Door in Hallway	200	80	10	**406**
20-PS-13*	Beige	Wood	Window Sill of Lunch Room	M03	81	10	**265**
20-PS-14	Dark Green	Metal	Door in Lunch Room	M03	82	10	<10
20-PS-15	Grey	Concrete	Floor of Janitor's Room	M02	83	10	74
20-PS-16*	Purple	Wood	Baseboard in Cape Harrison Boardroom	-	84	10	<10
20-PS-17*	Dark Beige	Drywall	Wall of Hood Boardroom	-	85	10	<10
20-PS-18*	White	Wood	Window Sill in Office	320	86	10	**179**
20-PS-19*	White	Wood	Window Sill in Office	429	87	10	22
20-PS-19A*	Dark Blue	Drywall	Wall of Traffic Services Kitchen	326	88	10	**98**
20-PS-20	Light Purple	Metal	Door in Male Washroom	425	89	10	<10
20-PS-21	Grey	Concrete	Stairs in Stairwell near Elevator Room on Fourth Floor	-	-	10	**2,230**
20-PS-22*	Black over Light Brown	Metal	Door in Elevator Room on Fourth Floor	-	90	10	**558**
20-PS-23	Beige	Metal	Steel Beam in Elevator Room on Fourth Floor	-	91	10	27
20-PS-24	Light Grey	Wood	Window Trim in Systems Engineer	406	-	10	**179**

Notes

*Paint sample included substrate

RDL: Reportable detection limit

<X: Not detected

HPA: Hazardous Products Act

Bold and underlined value exceeds Federal HPA criterion (90 mg/kg)

Shaded value exceeds former Federal HPA criterion (5,000 mg/kg)

Table C-3: Paint Sample Descriptions and Mercury Analytical Results

Sample ID	Colour Description	Substrate	Sample Location	Room No.	Photo No.	RDL (mg/kg)	Total Mercury (mg/kg)
20-PS-01*	Light green	Concrete	Wall of Loading Area	135	69	0.01	0.02
20-PS-02*	Black	Concrete	Floor of Boiler Room	136	70	0.01	0.39
20-PS-03*	Grey	Concrete	Floor of Machine Shop	149	71	0.01	0.73
20-PS-03A*	Grey	Concrete	Floor of Main Transformer Primary Voltage (High Voltage)	139	72	0.01	0.08
20-PS-04*	Dark blue	Metal	Door of Office	150	73	0.01	1.3
20-PS-05*	White	Pipe Insulation	Piping inTelephone Equipment Room	103	74	0.01	0.13
20-PS-06*	Light Peach	Drywall	Wall of SAR	108	75	0.01	0.05
20-PS-07*	White over Blue	Wood	Window Sill of Office	107	76	0.01	0.02
20-PS-08	Grey (wall)	Concrete	Wall of S.E.W. Workshop	258	-	0.01	0.28
20-PS-09*	Beige	Wood	Window Sill of Lunch Room	245	77	0.01	4.3
20-PS-10*	Olive Green	Drywall	Wall of Office	225	78	0.01	0.01
20-PS-11*	Off-white	Drywall	Wall of Office	228	79	0.01	**17**
20-PS-12	Burgundy	Metal	Fire Rated Door in Hallway	-	80	0.01	0.19
20-PS-13*	Beige	Wood	Windoe Sill of Lunch Room	M03	81	0.01	0.2
20-PS-14	Dark Green	Metal	Door in Lunch Room	M03	82	0.01	0.03
20-PS-15	Grey	Concrete	Floor of Janitor's Room	M02	83	0.01	1.3
20-PS-16*	Purple	Wood	Baseboard in Cape Harrison Boardroom	-	84	0.01	0.01
20-PS-17*	Dark Beige	Drywall	Wall of Hood Boardroom	-	85	0.01	0.02
20-PS-18*	White	Wood	Window Sill in Office	320	86	0.01	0.68
20-PS-19*	White	Wood	Window Sill in Office	429	87	0.01	4.5
20-PS-19A*	Dark Blue	Drywall	Wall of Traffic Services Kitchen	326	88	0.01	5.9
20-PS-20	Light Purple	Metal	Door in Male Washroom	425	89	0.01	0.04
20-PS-21	Grey	Concrete	Stairs in Stairwell near Elevator Room by Roof	-	-	0.01	**17**
20-PS-22*	Black ove Light Brown	Metal	Door in Elevator Room by Roof	-	90	0.01	1.2
20-PS-23	Beige	Metal	Steel Beam in Elevator Room by Roof	-	91	0.01	**19**
20-PS-24	Light Grey	Wood	Window Trim in Systems Engineer	406	-	0.01	0.06

Notes

*Paint sample included substrate

RDL: Reportable detection limit

<X: Not detected

CCME: Canadian Council of Ministers of the Environment

CSQG: Canadian Soil Quality Guideline

HPA: Hazardous Products Act

Bold and underlined value exceeds Federal HPA criterion (10 mg/kg)

Shaded value exceeds CCME CSQG for an industrial site (50 mg/kg)

Table C-4: Paint and Bulk Material Sample Descriptions and PCB Analytical Results

		Paint										
Sample ID		20-PS-01*	20-PS-02*	20-PS-03A*	20-PS-08	20-PS-09*	20-PS-12	20-PS-14	20-PS-15	20-PS-21	20-PS-22*	20-PS-23
Room		135	136	139	258	245	-	M03	M02	-	-	-
Paint Colour Description		Light green	Black	Grey	Grey	Beige	Burgundy	Dark Green	Grey	Grey	Black	Beige
Substrate		Concrete	Concrete	Concrete	Concrete	Wood	Metal	Metal	Concrete	Concrete	Metal	Metal
Location (Photo No.)		Wall of Loading Area (69)	Floor of Boiler Room (70)	Floor of Main Transformer Primary Voltage (72)	Wall of S.E.W. Workshop (-)	Window Sill in Lunch Room (77)	Fire Rated Door in Hallway (80)	Door in Lunch Room (82)	Floor of Janitor's Room (83)	Stairs in Stairwell near Elevator Room by Roof (-)	Door in Elevator Room by Roof (90)	Steel Beam in Elevator Room by Roof (91)
Parameter	**RDL (mg/kg)**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Total PCBs	0.5	<0.5	<0.5	0.5	1.1	1.8	0.6	<0.5	1.1	1.3	<0.5	<0.5

Notes:

*Paint sample included substrate

RDL: Reportable detection limit

<X: Non-detect

CCME: Canadian Council of Ministers of the Environment

CSQG: Canadian Soil Quality Guideline

Shaded value exceeds CCME CSQG for an industrial site (33 mg/kg)

Table C-4: Paint and Bulk Material Sample Descriptions and PCB Analytical Results

		Bulk Materials									
Sample ID		PCB 1	PCB 2	PCB 3	PCB 4	PCB 5	PCB 6	PCB 7	PCB 8	PCB 9	PCB10
Room		-	331	249	-	119-A	164	-	-	-	-
Material/Layer Analyzed		Black Asphalt/Tar	Grey Caulking	Grey Caulking With Brown Material	White Caulking	White Caulking Painted Beige	White Caulking	Grey Caulking	Grey Caulking Painted Beige	Black Tar/Fibre Mesh	White Caulking
Substrate		Asphalt Roof/Particle Board/Tar Paper/Foam	Ceramic	Concrete	Wood	Drywall	Metal	Brick	Wood	Brick	Brick
Location (Photo No.)		Roof of Building Exterior (92)	Wall of Male Washroom 331 (93)	Wall of Janitor's Room 249 (94)	Window of Building Exterior (95)	Wall of Stairwell 119A (96)	Roof Eave of Attached Storage Shed Exterior (97)	Wall of Building Exterior (98)	Window Frame of Building Exterior (99)	Wall of Building Exterior (100)	Wall of Building Exterior (101)
Parameter	**RDL (mg/kg)**	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Total PCBs	5.0	<0.5	6.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

RDL: Reportable detection limit

<X: Non-detect

CCME: Canadian Council of Ministers of the Environment

CSQG: Canadian Soil Quality Guideline

Shaded value exceeds CCME CSQG for an industrial site (33 mg/kg)

APPENDIX D

LABORATORY CERTIFICATES OF ANALYSES

AGAT Laboratories

57 Old Pennywell Road, Unit I
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CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of Wood Canada Ltd.
133 CROSBIE ROAD
ST. JOHNS, NL A1B4A5
(709) 722-7023

ATTENTION TO: Andrea Lundrigan

PROJECT: TF20076860

AGAT WORK ORDER: 20K573911

ASBESTOS REVIEWED BY: Whenhong Zou, Lab Analyst

OCCUPATIONAL HYGIENE REVIEWED BY: Marta Manka, Data Reporter

SOIL ANALYSIS REVIEWED BY: Marta Manka, Data Reporter

TRACE ORGANICS REVIEWED BY: Amy Hunter, Trace Organics Supervisor, B.Sc.

DATE REPORTED: Feb 27, 2020

PAGES (INCLUDING COVER): 12

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (709)747-8573

*Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.*
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Certificate of Analysis

AGAT WORK ORDER: 20K573911

PROJECT: TF20076860

CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of Wood Canada Ltd. **ATTENTION TO: Andrea Lundrigan**

SAMPLING SITE: **SAMPLED BY:**

Bulk Asbestos

DATE RECEIVED: 2020-02-12 **DATE REPORTED: 2020-02-27**

		SAMPLE DESCRIPTION:		20 PS 12	20 PS 14	20 PS 22	20 PS 23	PCB-3 Fibers
		SAMPLE TYPE:		Paint	Paint	Paint	Paint	Other
		DATE SAMPLED:						
Parameter	Unit	G / S	RDL	936829	936831	936839	936840	954414
Asbestos (Bulk)	%	0.5	0.5	ND	ND	ND	1-5	ND

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON OHSA - Reg. 278
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

936829-936839 Condition of sample was satisfactory at time of arrival in laboratory.

"ND" - Not Detected

As per Reg 278/05 and AGAT SOP, all non-detect results have been analyzed and confirmed three times.

936840 Condition of sample was satisfactory at time of arrival in laboratory.

Asbestos Present: Chrysotile

954414 Condition of sample was satisfactory at time of arrival in laboratory.

"ND" - Not Detected

As per Reg 278/05 and AGAT SOP, all non-detect results have been analyzed and confirmed three times.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Wenhong Zou

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Certificate of Analysis

AGAT WORK ORDER: 20K573911

PROJECT: TF20076860

CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of Wood Canada Ltd. **ATTENTION TO: Andrea Lundrigan**

SAMPLING SITE: **SAMPLED BY:**

Mercury in Paint - CVAA

DATE RECEIVED: 2020-02-12 **DATE REPORTED: 2020-02-27**

			SAMPLE DESCRIPTION:	20 PS 01	20 PS 02	20 PS 03	20 PS 04	20 PS 05	20 PS 06	20 PS 07	20 PS 08
			SAMPLE TYPE:	Other	Paint	Paint	Other	Other	Other	Other	Other
			DATE SAMPLED:								
Parameter	Unit	G / S	RDL	936815	936819	936820	936821	936822	936823	936824	936825
Mercury	µg/g		0.01	0.02	0.39	0.73	1.3	0.13	0.05	0.02	0.28

			SAMPLE DESCRIPTION:	20 PS 09	20 PS 10	20 PS 11	20 PS 12	20 PS 13	20 PS 14	20 PS 15	20 PS 16
			SAMPLE TYPE:	Other	Other	Other	Paint	Other	Paint	Paint	Other
			DATE SAMPLED:								
Parameter	Unit	G / S	RDL	936826	936827	936828	936829	936830	936831	936832	936833
Mercury	µg/g		0.01	4.3	0.01	17	0.19	0.20	0.03	1.3	0.01

			SAMPLE DESCRIPTION:	20 PS 17	20 PS 18	20 PS 19	20 PS 20	20 PS 21	20 PS 22	20 PS 23	20 PS 24
			SAMPLE TYPE:	Other	Other	Other	Paint	Paint	Paint	Paint	Other
			DATE SAMPLED:								
Parameter	Unit	G / S	RDL	936834	936835	936836	936837	936838	936839	936840	936841
Mercury	µg/g		0.01	0.02	0.68	4.5	0.04	17	1.2	19	0.06

			SAMPLE DESCRIPTION:	20 PS 19A	20 PS 03A
			SAMPLE TYPE:	Paint	Other
			DATE SAMPLED:		
Parameter	Unit	G / S	RDL	936842	936843
Mercury	µg/g		0.01	5.9	0.08

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Marta Manka

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Certificate of Analysis

AGAT WORK ORDER: 20K573911

PROJECT: TF20076860

CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of Wood Canada Ltd. **ATTENTION TO: Andrea Lundrigan**

SAMPLING SITE: **SAMPLED BY:**

Metals in Paint (ICP-OES) - Lead

DATE RECEIVED: 2020-02-12 **DATE REPORTED: 2020-02-27**

		SAMPLE DESCRIPTION:		20 PS 01	20 PS 02	20 PS 03	20 PS 04	20 PS 05	20 PS 06	20 PS 07	20 PS 08
		SAMPLE TYPE:		Other	Paint	Paint	Other	Other	Other	Other	Other
		DATE SAMPLED:									
Parameter	Unit	G / S	RDL	936815	936819	936820	936821	936822	936823	936824	936825
Lead in Paint	mg/kg		10	67	997	1500	863	192	<10	<10	53

		SAMPLE DESCRIPTION:		20 PS 09	20 PS 10	20 PS 11	20 PS 12	20 PS 13	20 PS 14	20 PS 15	20 PS 16
		SAMPLE TYPE:		Other	Other	Other	Paint	Other	Paint	Paint	Other
		DATE SAMPLED:									
Parameter	Unit	G / S	RDL	936826	936827	936828	936829	936830	936831	936832	936833
Lead in Paint	mg/kg		10	312	<10	17	406	265	<10	74	<10

		SAMPLE DESCRIPTION:		20 PS 17	20 PS 18	20 PS 19	20 PS 20	20 PS 21	20 PS 22	20 PS 23	20 PS 24
		SAMPLE TYPE:		Other	Other	Other	Paint	Paint	Paint	Paint	Other
		DATE SAMPLED:									
Parameter	Unit	G / S	RDL	936834	936835	936836	936837	936838	936839	936840	936841
Lead in Paint	mg/kg		10	<10	179	22	<10	2230	558	27	179

		SAMPLE DESCRIPTION:		20 PS 19A	20 PS 03A
		SAMPLE TYPE:		Paint	Other
		DATE SAMPLED:			
Parameter	Unit	G / S	RDL	936842	936843
Lead in Paint	mg/kg		10	98	140

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By: Marta Manka

AGAT Laboratories
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Certificate of Analysis

AGAT WORK ORDER: 20K573911

PROJECT: TF20076860

CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of Wood Canada Ltd. **ATTENTION TO: Andrea Lundrigan**

SAMPLING SITE: **SAMPLED BY:**

Total Polychlorinated Biphenyls in Paint

DATE RECEIVED: 2020-02-12 **DATE REPORTED: 2020-02-27**

		SAMPLE DESCRIPTION:		20 PS 01	20 PS 02	20 PS 08	20 PS 09	20 PS 12	20 PS 14	20 PS 15	20 PS 21
		SAMPLE TYPE:		Other	Paint	Other	Other	Paint	Paint	Paint	Paint
		DATE SAMPLED:									
Parameter	**Unit**	**G / S**	**RDL**	**936815**	**936819**	**936825**	**936826**	**936829**	**936831**	**936832**	**936838**
Total PCBs	mg/kg		0.5	<0.5	<0.5	1.1	1.8	0.6	<0.5	1.1	1.3
Surrogate	**Unit**	**Acceptable Limits**									
Decachlorobiphenyl	%	50-130		91	90	95	98	93	99	93	91

		SAMPLE DESCRIPTION:		20 PS 22	20 PS 23	20 PS 03A	PCB 1	PCB 2	PCB 3	PCB 4	PCB 5
		SAMPLE TYPE:		Paint	Paint	Other	Other	Other	Other	Other	Other
		DATE SAMPLED:									
Parameter	**Unit**	**G / S**	**RDL**	**936839**	**936840**	**936843**	**936844**	**936845**	**936846**	**936847**	**936848**
Total PCBs	mg/kg		0.5	<0.5	<0.5	0.5	<0.5	6.5	0.7	<0.5	<0.5
Surrogate	**Unit**	**Acceptable Limits**									
Decachlorobiphenyl	%	50-130		93	89	77	60	74	76	83	91

		SAMPLE DESCRIPTION:		PCB 6	PCB 7	PCB 8	PCB 9	PCB10
		SAMPLE TYPE:		Other	Other	Other	Other	Other
		DATE SAMPLED:						
Parameter	**Unit**	**G / S**	**RDL**	**936849**	**936850**	**936851**	**936852**	**936853**
Total PCBs	mg/kg		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Surrogate	**Unit**	**Acceptable Limits**						
Decachlorobiphenyl	%	50-130		95	83	95	68	80

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Halifax (unless marked by *)

Certified By:

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Quality Assurance

CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of

AGAT WORK ORDER: 20K573911

PROJECT: TF20076860

ATTENTION TO: Andrea Lundrigan

SAMPLING SITE:

SAMPLED BY:

Occupational Hygiene Analysis

RPT Date: Feb 27, 2020			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Mercury in Paint - CVAA															
Mercury	936843	936843	0.08	0.08	0.0%	< 0.01	102%	90%	110%	103%	80%	120%	111%	70%	130%
Mercury in Paint - CVAA															
Mercury	936820	936820	0.73	0.71	2.8%	< 0.01	97%	90%	110%	101%	80%	120%	106%	70%	130%

Certified By: Marta Manka

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Quality Assurance

CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of

AGAT WORK ORDER: 20K573911

PROJECT: TF20076860

ATTENTION TO: Andrea Lundrigan

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Feb 27, 2020			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Metals in Paint (ICP-OES) - Lead															
Lead in Paint	963140	936838	210000	202000	3.7%	< 10	109%	80%	120%	101%	80%	120%	97%	70%	130%
Metals in Paint (ICP-OES) - Lead															
Lead in Paint	936838	936838	2230	2140	4.1%	< 10	112%	80%	120%	101%	80%	120%	109%	70%	130%

Certified By: Marta Manka

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Quality Assurance

CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of

AGAT WORK ORDER: 20K573911

PROJECT: TF20076860

ATTENTION TO: Andrea Lundrigan

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Feb 27, 2020			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Total Polychlorinated Biphenyls in Paint															
Total PCBs	1	936819	< 0.5	< 0.5	NA	< 0.5	103%	60%	140%	88%	60%	140%	68%	60%	140%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Total Polychlorinated Biphenyls in Paint															
Total PCBs	1	936815	< 0.5	< 0.5	NA	< 0.5	103%	60%	140%	86%	60%	140%	69%	60%	140%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.

Certified By:

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Method Summary

CLIENT NAME: WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, a div. of **AGAT WORK ORDER: 20K573911**

PROJECT: TF20076860 **ATTENTION TO: Andrea Lundrigan**

SAMPLING SITE: **SAMPLED BY:**

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Asbestos (Bulk)	INOR-249-6010	modified from EPA 600/R-93/116 & NIOSH 9002	PLM
Occupational Hygiene Analysis			
Mercury	MET-93-6101	EPA SW 846 7471B & 245.5	CVAAS
Soil Analysis			
Lead in Paint	MET-121-6103 and MET-121-6113	SM 3120B	ICP/OES
Trace Organics Analysis			
Total PCBs	ORG-120-5107	EPA SW-846 8082	GC/ECD
Decachlorobiphenyl	ORG-120-5106	EAP SW846 3510C/8080/8010	GC/ECD

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Chain of Custody Record

Laboratory Use Only
Arrival Condition: ☐ Good ☐ Poor (see notes)
Arrival Temperature: 19.9, 20.1, 21.8
Hold Time:
AGAT Job Number:
Notes:

Report Information
Company: WOOD
Contact: Andrea Lundrigan
Address: 133 Crosbie Road
St. John's NL
Phone: 722-7023 Fax:
Client Project #: TF 20076860
AGAT Quotation:
Please Note: If quotation number is not provided client will be billed full price for analysis.

Report Information (Please print):
1. Name:
Email:
2. Name:
Email:

Report Format
☐ Single Sample per page
☐ Multiple Samples per page
☐ Excel Format Included

Turnaround Time Required (TAT)
Regular TAT ☑ 5 to 7 working days
Rush TAT ☐ Same day ☐ 1 day ☐ 2 days ☐ 3 days
Date Required:

Regulatory Requirements (Check):
☐ List Guidelines on Report ☐ Do not list Guidelines on Report
☐ PIRI
☐ Tier 1 ☐ Res ☐ Pot ☐ Coarse
☐ Tier 2 ☐ Com ☐ N/Pot ☐ Fine
☐ Gas ☐ Fuel ☐ Lube
☐ CCME ☐ CDWQ
☐ Industrial ☐ NL DOEC GW
☐ Commercial
☐ Res/Park ☐ NLDOEC Discharge
☐ Agricultural
☐ FWAL
☐ Sediment ☐ Other

Drinking Water Sample: ☐ Yes ☐ No **Salt Water:** ☐ Yes ☐ No
Reg. No.:

Invoice To Same Yes ☐ / No ☐
Company:
Contact:
Address:
Phone: Fax:
PO/Credit Card#:

Sample Identification	Date/Time Sampled	Sample Matrix	# Containers	Comments – Site/Sample Info. Sample Containment
20-PS-01				Hold remaining sample
20-PS-02				for possible TCLP
20-PS-03				
20-PS-04				
20-PS-05				
20-PS-06				
20-PS-07				
20-PS-08				
20-PS-09				
20-PS-10				
20-PS-11				
20-PS-12				

Field Filtered/Preserved	Standard Water Analysis	Metals: ☐ Total ☐ Diss ☐ Available	Mercury	☐ BOD ☐ CBOD	pH	☐ TSS ☐ TDS ☐ VSS	TKN	Total Phosphorus	Phenols	Tier 1: TPH/BTEX (PIRI) ☐ low level	Tier 2: TPH/BTEX Fractionation	CCME-CWS TPH/BTEX	VOC	THM	Lead + Mercury	Asbestos	PCB	TC + EC ☐ P/A ☐ MPN ☐ MF	☐ HPC ☐ Pseudomonas	Fecal Coliform ☐ MPN ☐ MF	Other:	Other:	Hazardous (Y/N)
				1											✓		✓						
															✓		✓						
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															✓								
															✓	✓	✓						

Samples Relinquished By (Print Name):	Date/Time	Samples Received By (Print Name):	Date/Time
Craig Taylor	Feb 12		02/12/20
Samples Relinquished By (Sign):	Date/Time	Samples Received By (Sign):	Date/Time
			15:30

Pink Copy - Client
Yellow Copy - AGAT
White Copy- AGAT

Page ☐ of ☐
Nº:

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Chain of Custody Record

Laboratory Use Only
Arrival Condition: ☐ Good ☐ Poor (see notes)
Arrival Temperature: 19.9, 20.1, 21.8
Hold Time:
AGAT Job Number:
Notes:

Report Information
Company: WOOD
Contact: Andrea Lundrigan
Address:
Same
Phone: Fax:
Client Project #: TF20076860
AGAT Quotation:
Please Note: If quotation number is not provided client will be billed full price for analysis.

Report Information (Please print):
1. Name:
Email:
2. Name:
Email:

Report Format
☐ Single Sample per page
☐ Multiple Samples per page
☐ Excel Format Included

Turnaround Time Required (TAT)
Regular TAT ☐ 5 to 7 working days
Rush TAT ☐ Same day ☐ 1 day ☐ 2 days ☐ 3 days
Date Required:

Regulatory Requirements (Check):
☐ List Guidelines on Report ☐ Do not list Guidelines on Report
☐ PIRI
☐ Tier 1 ☐ Res ☐ Pot ☐ Coarse
☐ Tier 2 ☐ Com ☐ N/Pot ☐ Fine
☐ Gas ☐ Fuel ☐ Lube
☐ CCME ☐ CDWQ
☐ Industrial ☐ NL DOEC GW
☐ Commercial
☐ Res/Park ☐ NLDOEC Discharge
☐ Agricultural
☐ FWAL
☐ Sediment ☐ Other

Drinking Water Sample: ☐ Yes ☐ No Salt Water: ☐ Yes ☐ No
Reg. No.:

Invoice To Same Yes ☐ / No ☐
Company:
Contact:
Address:
Phone: Fax:
PO/Credit Card#:

Sample Identification	Date/Time Sampled	Sample Matrix	# Containers	Comments – Site/Sample Info. Sample Containment
20-PS-13				* Hold remaining sample for possible TCLP
20-PS-14				
20-PS-15				
20-PS-16				
20-PS-17				
20-PS-18				
20-PS-19				
20-PS-20				
20-PS-21				
20-PS-22				
20-PS-23				
20-PS-24				

Field Filtered/Preserved	Standard Water Analysis	Metals: ☐ Total ☐ Diss ☐ Available	Mercury	☐ BOD ☐ CBOD	pH	☐ TSS ☐ TDS ☐ VSS	TKN	Total Phosphorus	Phenols	Tier 1: TPH/BTEX (PIRI) ☐ low level	Tier 2: TPH/BTEX Fractionation	CCME-CWS TPH/BTEX	VOC	THM	Lead & Mercury	Asbestos	PCB	TC + EC ☐ MPN ☐ MF	☐ HPC ☐ Pseudomonas	Fecal Coliform ☐ MPN ☐ MF	Other:	Other:	Hazardous (Y/N)
															✓								
															✓	✓	✓						
															✓		✓						
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															✓	✓	✓						
															✓	✓	✓						

Samples Relinquished By (Print Name):	Date/Time	Samples Received By (Print Name):	Date/Time	
Craig Taylor	Feb 12		02/12/20	Pink Copy - Client
Samples Relinquished By (Sign):	Date/Time	Samples Received By (Sign):	Date/Time	Yellow Copy - AGAT
			15:30	White Copy- AGAT

Page ☐ of ☐
No:

Document ID: DIV-138-[illegible]2-002
Date revised: March 16, 2018

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Chain of Custody Record

Laboratory Use Only
Arrival Condition: ☐ Good ☐ Poor (see notes)
Arrival Temperature: 19.9, 20.1, 21.8
Hold Time:
AGAT Job Number:
Notes:

Report Information
Company:
Contact:
Address:
Phone: Fax:
Client Project #:
AGAT Quotation:
Please Note: If quotation number is not provided client will be billed full price for analysis.

Report Information (Please print):
1. Name:
Email:
2. Name:
Email:

Report Format
☐ Single Sample per page
☐ Multiple Samples per page
☐ Excel Format Included

Turnaround Time Required (TAT)
Regular TAT ☐ 5 to 7 working days
Rush TAT ☐ Same day ☐ 1 day ☐ 2 days ☐ 3 days
Date Required:

Invoice To Same Yes ☐ / No ☐
Company:
Contact:
Address:
Phone: Fax:
PO/Credit Card#:

Regulatory Requirements (Check):
☐ List Guidelines on Report ☐ Do not list Guidelines on Report
☐ PIRI
☐ Tier 1 ☐ Res ☐ Pot ☐ Coarse
☐ Tier 2 ☐ Com ☐ N/Pot ☐ Fine
☐ Gas ☐ Fuel ☐ Lube
☐ CCME ☐ CDWQ
☐ Industrial ☐ NL DOEC GW
☐ Commercial
☐ Res/Park ☐ NLDOEC Discharge
☐ Agricultural
☐ FWAL
☐ Sediment ☐ Other

Drinking Water Sample: ☐ Yes ☐ No **Salt Water:** ☐ Yes ☐ No
Reg. No.:

Sample Identification	Date/Time Sampled	Sample Matrix	# Containers	Comments – Site/Sample Info. Sample Containment
20-PS-19A				*Hold remaining Sample for possible TCLP
20-PS-03A				
PCB-1				
PCB-2				
PCB-3				
PCB-4				
PCB-5				
PCB-6				
PCB-7				
PCB-8				
PCB-9				
PCB-10				

Field Filtered/Preserved	Standard Water Analysis	Metals: ☐ Total ☐ Diss ☐ Available	Mercury	☐ BOD ☐ CBOD	pH	☐ TSS ☐ TDS ☐ VSS	TKN	Total Phosphorus	Phenols	Tier 1: TPH/BTEX (PIRI) ☐ low level	Tier 2: TPH/BTEX Fractionation	CCME-CWS TPH/BTEX	VOC	THM	Lead & Mercury	Asbestos	PCB	TC + EC ☐ P/A ☐ MPN ☐ MF	☐ HPC ☐ Pseudomonas	Fecal Coliform ☐ MPN ☐ MF	Other:	Other:	Hazardous (Y/N)
															✓							
															✓		✓					
																	✓					
																	✓					
																	✓					
																	✓					
																	✓					
																	✓					
																	✓					
																	✓					
																	✓					

Samples Relinquished By (Print Name): Craig Taylor
Date/Time: Feb 12
Samples Relinquished By (Sign):
Date/Time:
Samples Received By (Print Name):
Samples Received By (Sign):
Date/Time: 02/12/20
Date/Time: 15:30

Pink Copy - Client
Yellow Copy - AGAT
White Copy - AGAT

Page ____ of ____
N°:

Document ID: CIV-138-150-002

EMSL Canada Inc.

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Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com / torontolab@emsl.com

EMSL Canada Order 552001641
Customer ID: 55MEEN26
Customer PO: TF20076860
Project ID:

Attn: Andrea Lundrigan
Wood Env. & Infrastructure Solutions
PO Box 13216
133 Crosbie Road
Saint John's, NL A1B 4A5

Proj: TF20076860

Phone: (709) 722-7023
Fax: (709) 722-7353
Collected:
Received: 2/12/2020
Analyzed: 2/19/2020

Summary Test Report for Asbestos Analysis via EPA 600/R-93/116

Client Sample ID: 20-AS-03 ***Lab Sample ID:*** **552001641-0001**

Sample Description: OFFICE - 121/DJC ON CEILING ABOVE SUSPENDED CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-01 ***Lab Sample ID:*** **552001641-0002**

Sample Description: LAN ROOM -130/DJC ON INTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-04 ***Lab Sample ID:*** **552001641-0003**

Sample Description: OLD CARPENTRY SHOP/DJC ON EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-02 ***Lab Sample ID:*** **552001641-0004**

Sample Description: SMALL ENGINE REPAIR - 153/DJC ON CEILING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-12 ***Lab Sample ID:*** **552001641-0005**

Sample Description: HALLWAY - M01/DJC ON INTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-13 ***Lab Sample ID:*** **552001641-0006**

Sample Description: HALLWAY - M01/DJC ON CEILING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-08 ***Lab Sample ID:*** **552001641-0007**

Sample Description: LAN ROOM - 219/DJC ON EXTERIOR OR INTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

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EMSL Canada Order 552001641
Customer ID: 55MEEN26
Customer PO: TF20076860
Project ID:

Summary Test Report for Asbestos Analysis via EPA 600/R-93/116

Client Sample ID: 20-AS-06 ***Lab Sample ID:*** **552001641-0008**

Sample Description: OFFICE - 243/DJC ON CEILING ABOVE SUSPENDED CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-05 ***Lab Sample ID:*** **552001641-0009**

Sample Description: OFFICE CUBICLE AREA - 263/DJC ON EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-15-Joint Compound 1 ***Lab Sample ID:*** **552001641-0010**

Sample Description: OFFICE - 319/DJC ON EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-15-Joint Compound 2 ***Lab Sample ID:*** **552001641-0010A**

Sample Description: OFFICE - 319/DJC ON EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	98.0%	**2% Chrysotile**	

Client Sample ID: 20-AS-14 ***Lab Sample ID:*** **552001641-0011**

Sample Description: OFFICE - 300/DJC ON EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	98.0%	**2% Chrysotile**	

Client Sample ID: 20-AS-16 ***Lab Sample ID:*** **552001641-0012**

Sample Description: OPERATION CENTRE (NORTH WALL 17, SOUTH WALL 16) - 326/DJC ON EXTERIOR WALL (NORTH SIDE)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-17 ***Lab Sample ID:*** **552001641-0013**

Sample Description: OPERATION CENTRE (NORTH WALL 17, SOUTH WALL 16) - 326/DJC ON EXTERIOR WALL (NORTH SIDE)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-27 ***Lab Sample ID:*** **552001641-0014**

Sample Description: OFFICE - 401/DJC ON EXTERIOR WALL (SOUTH SIDE)

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

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http://www.EMSL.com / torontolab@emsl.com

EMSL Canada Order 552001641
Customer ID: 55MEEN26
Customer PO: TF20076860
Project ID:

Summary Test Report for Asbestos Analysis via EPA 600/R-93/116

Client Sample ID: 20-AS-25 ***Lab Sample ID:*** **552001641-0015**

Sample Description: FILE STORAGE ROOM - 403/DJC ON INTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-26 ***Lab Sample ID:*** **552001641-0016**

Sample Description: FILE STORAGE ROOM - 403/DJC ON INTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-23 ***Lab Sample ID:*** **552001641-0017**

Sample Description: REGIONAL OPERATIONS CENTRE - 427A/DJC ON EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-09 ***Lab Sample ID:*** **552001641-0018**

Sample Description: OFFICE - 216/STUCCO ON CEILING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-11 ***Lab Sample ID:*** **552001641-0019**

Sample Description: KITCHEN / LUNCHROOM - M03/LONG FIBER ROCK WOOL INSULATION (JOHNS-MANVILLE SPINTEX INSULATION) ABOVE SUSPENDED CEILING TILE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray/Beige	85.0%	15.0%	None Detected	

Client Sample ID: CORE-1-Roof Tar ***Lab Sample ID:*** **552001641-0020**

Sample Description: LEVEL 4 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / PARTICLE BOARD / 1" FOAM WITH BLACK BACKING / 4" FOAM / TAR ON CONCRETE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Black	0.0%	100%	None Detected	

Client Sample ID: CORE-1-Particle Board ***Lab Sample ID:*** **552001641-0020A**

Sample Description: LEVEL 4 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / PARTICLE BOARD / 1" FOAM WITH BLACK BACKING / 4" FOAM / TAR ON CONCRETE - Particle board

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown	0.0%	100%	None Detected	

Client Sample ID: CORE-1-Foam ***Lab Sample ID:*** **552001641-0020B**

Sample Description: LEVEL 4 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / PARTICLE BOARD / 1" FOAM WITH BLACK BACKING / 4" FOAM / TAR ON CONCRETE - Foam

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Yellow	0.0%	100%	None Detected	

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Client Sample ID: CORE-1-Roof Felt **Lab Sample ID:** **552001641-0020C**

Sample Description: LEVEL 4 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / PARTICLE BOARD / 1" FOAM WITH BLACK BACKING / 4" FOAM / TAR ON CONCRETE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Black	0.0%	100%	None Detected	

Client Sample ID: CORE-2-Roof Tar **Lab Sample ID:** **552001641-0021**

Sample Description: LEVEL 3 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / 4" FOAM WITH LIGHT BROWN TAR PAPER BACKING / PAPER BARRIER WITH TAR ON METAL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Black	0.0%	100%	None Detected	

Client Sample ID: CORE-2-Foam **Lab Sample ID:** **552001641-0021A**

Sample Description: LEVEL 3 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / 4" FOAM WITH LIGHT BROWN TAR PAPER BACKING / PAPER BARRIER WITH TAR ON METAL - Foam

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Yellow	0.0%	100%	None Detected	

Client Sample ID: CORE-2-Tar Paper **Lab Sample ID:** **552001641-0021B**

Sample Description: LEVEL 3 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / 4" FOAM WITH LIGHT BROWN TAR PAPER BACKING / PAPER BARRIER WITH TAR ON METAL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown	0.0%	100%	None Detected	

Client Sample ID: CORE-3-Roof Tar **Lab Sample ID:** **552001641-0022**

Sample Description: LEVEL 2 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / PARTICLE BOARD / 3 LAYERS OF 2" FOAM WITH BLACK BACKING / TAR ON CONCRETE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Black	0.0%	100%	None Detected	

Client Sample ID: CORE-3-Particle Board **Lab Sample ID:** **552001641-0022A**

Sample Description: LEVEL 2 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / PARTICLE BOARD / 3 LAYERS OF 2" FOAM WITH BLACK BACKING / TAR ON CONCRETE - Particle Board

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown	0.0%	100%	None Detected	

Client Sample ID: CORE-3-Foam **Lab Sample ID:** **552001641-0022B**

Sample Description: LEVEL 2 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / PARTICLE BOARD / 3 LAYERS OF 2" FOAM WITH BLACK BACKING / TAR ON CONCRETE - Foam

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Yellow	0.0%	100%	None Detected	

Client Sample ID: CORE-3-Roof Felt **Lab Sample ID:** **552001641-0022C**

Sample Description: LEVEL 2 ROOF - EXTERIOR/1" ASPHALT TAR ROOFING / PARTICLE BOARD / 3 LAYERS OF 2" FOAM WITH BLACK BACKING / TAR ON CONCRETE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Black	0.0%	100%	None Detected	

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Client Sample ID: EX-1 ***Lab Sample ID:*** **552001641-0023**
Sample Description: EXTERIOR/TAR PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	80.4%	**19.6% Chrysotile**	

Client Sample ID: EX-2 ***Lab Sample ID:*** **552001641-0024**
Sample Description: EXTERIOR/TAR PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	89.5%	**10.5% Chrysotile**	

Client Sample ID: EX-3 ***Lab Sample ID:*** **552001641-0025**
Sample Description: EXTERIOR/TAR PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	77.6%	**22.4% Chrysotile**	

Client Sample ID: EX-4 ***Lab Sample ID:*** **552001641-0026**
Sample Description: EXTERIOR/TAR PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	100%	None Detected	

Client Sample ID: EX-5 ***Lab Sample ID:*** **552001641-0027**
Sample Description: EXTERIOR/TAR PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	91.3%	**8.7% Chrysotile**	

Client Sample ID: EX-6 ***Lab Sample ID:*** **552001641-0028**
Sample Description: EXTERIOR/TAR PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	86.7%	**13.3% Chrysotile**	

Client Sample ID: EX-7 ***Lab Sample ID:*** **552001641-0029**
Sample Description: EXTERIOR/TAR PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	86.5%	**13.5% Chrysotile**	

Client Sample ID: 20-AS-10-Skim Coat ***Lab Sample ID:*** **552001641-0030**
Sample Description: MEZZANINE - M03/PARGING FINISH ON WALL OR OTHER BUILDING COMPONENTS

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

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Client Sample ID: 20-AS-10-Rough Coat ***Lab Sample ID:*** **552001641-0030A**

Sample Description: MEZZANINE - M03/PARGING FINISH ON WALL OR OTHER BUILDING COMPONENTS

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-07-Skim Coat ***Lab Sample ID:*** **552001641-0031**

Sample Description: OFFICE - 236/PARGING FINISH ON WALL OR OTHER BUILDING COMPONENTS

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-07-Rough Coat ***Lab Sample ID:*** **552001641-0031A**

Sample Description: OFFICE - 236/PARGING FINISH ON WALL OR OTHER BUILDING COMPONENTS

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-18 ***Lab Sample ID:*** **552001641-0032**

Sample Description: OPERATION CENTRE - 326/FORMER EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	83.5%	**16.5% Chrysotile**	

Client Sample ID: 20-AS-19 ***Lab Sample ID:*** **552001641-0033**

Sample Description: OPERATION CENTRE - 326/FORMER EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Black	0.0%	82.5%	**17.5% Chrysotile**	

Client Sample ID: 20-AS-20 ***Lab Sample ID:*** **552001641-0034**

Sample Description: OPERATION CENTRE - 326/DJC ON CEILING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-21 ***Lab Sample ID:*** **552001641-0035**

Sample Description: OPERATION CENTRE - 326/TAR ON FORMER ROOF BELOW SUSPENDED FLOOR

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Black	0.0%	100%	None Detected	

Client Sample ID: 20-AS-22 ***Lab Sample ID:*** **552001641-0036**

Sample Description: OPERATION CENTRE - 326/TAR ON FORMER ROOF BELOW SUSPENDED FLOOR

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Black	0.0%	100%	None Detected	

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Client Sample ID: 20-AS-24 ***Lab Sample ID:*** **552001641-0037**
Sample Description: OFFICE - 427A/DJC ON EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-08A ***Lab Sample ID:*** **552001641-0038**
Sample Description: OFFICE - 217/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-28-Beige Adhesive ***Lab Sample ID:*** **552001641-0039**
Sample Description: OFFICE - 201/BEIGE ADHESIVE / PARGING ON GYPROC - Adhesive

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Green/Beige	0.0%	100%	None Detected	

Client Sample ID: 20-AS-28-Parging on Gyproc ***Lab Sample ID:*** **552001641-0039A**
Sample Description: OFFICE - 201/BEIGE ADHESIVE / PARGING ON GYPROC - Parging on Gyproc

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Gray	0.0%	100%	None Detected	

Client Sample ID: 20-AS-28-Rough Coat ***Lab Sample ID:*** **552001641-0039B**
Sample Description: OFFICE - 201/BEIGE ADHESIVE / PARGING ON GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	White	0.0%	100%	None Detected	

Client Sample ID: 20-AS-28-Skim Coat ***Lab Sample ID:*** **552001641-0039C**
Sample Description: OFFICE - 201/BEIGE ADHESIVE / PARGING ON GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	White	0.0%	100%	None Detected	

Client Sample ID: 20-AS-29-Skim Coat ***Lab Sample ID:*** **552001641-0040**
Sample Description: OFFICE - 202/PARGING ON GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-29-Rough Coat ***Lab Sample ID:*** **552001641-0040A**
Sample Description: OFFICE - 202/PARGING ON GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	**<1% Actinolite**	

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Client Sample ID: 20-AS-30 ***Lab Sample ID:*** **552001641-0041**

Sample Description: OFFICE - 226/DJC ON GYPROC UNDER FINISHED GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-31-Skim Coat ***Lab Sample ID:*** **552001641-0042**

Sample Description: OFFICE - 226/PARGING WITH GREY ADHESIVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-31-Rough Coat ***Lab Sample ID:*** **552001641-0042A**

Sample Description: OFFICE - 226/PARGING WITH GREY ADHESIVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-32-Skim Coat ***Lab Sample ID:*** **552001641-0043**

Sample Description: OFFICE - 223/PARGING OVER UNFINISHED GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-32-Rough Coat ***Lab Sample ID:*** **552001641-0043A**

Sample Description: OFFICE - 223/PARGING OVER UNFINISHED GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-33-Skim Coat ***Lab Sample ID:*** **552001641-0044**

Sample Description: OFFICE - 254/PARGING OVER UNFINISHED GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-33-Rough Coat ***Lab Sample ID:*** **552001641-0044A**

Sample Description: OFFICE - 254/PARGING OVER UNFINISHED GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-34 ***Lab Sample ID:*** **552001641-0045**

Sample Description: OFFICE - 263/BLACK SEALANT ON CINDERBLOCK - Sealant

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Black/Blue/Green	0.0%	100%	None Detected	

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Client Sample ID: 20-AS-35 ***Lab Sample ID:*** **552001641-0046**
Sample Description: OFFICE - 326/DJC EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-36 ***Lab Sample ID:*** **552001641-0047**
Sample Description: OFFICE - 325/DJC EXTERIOR WALL

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	98.0%	**2% Chrysotile**	

Client Sample ID: 20-AS-37 ***Lab Sample ID:*** **552001641-0048**
Sample Description: OFFICE - 317/UNFINISHED GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-38 ***Lab Sample ID:*** **552001641-0049**
Sample Description: OFFICE - 305/FOIL BARRIER WITH TAR - Foil Barrier with Tar

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Silver	0.0%	100%	None Detected	

Client Sample ID: 20-AS-39 ***Lab Sample ID:*** **552001641-0050**
Sample Description: OFFICE - 402/FOIL WITH PAPER BACKING AND TAR - Foil with Paper Backing and Tar

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM Grav. Reduction	2/19/2020	Brown/Silver	0.0%	100%	None Detected	

Client Sample ID: 20-AS-40 ***Lab Sample ID:*** **552001641-0051**
Sample Description: OFFICE - 415/DJC WITH GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray/White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-41 ***Lab Sample ID:*** **552001641-0052**
Sample Description: OFFICE - 407/DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-42 ***Lab Sample ID:*** **552001641-0053**
Sample Description: OFFICE - 424/DJC WITH GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

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Client Sample ID: 20-AS-43 ***Lab Sample ID:*** **552001641-0054**

Sample Description: OFFICE - M7/DJC WITH GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-44 ***Lab Sample ID:*** **552001641-0055**

Sample Description: CAPE HARRIS ROOM/DJC WITH GYPROC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-45 ***Lab Sample ID:*** **552001641-0056**

Sample Description: OFFICE - 116/DJC WITH GYPROC WITH PINK PAPER AND WHITE PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020				Layer Not Present	

Client Sample ID: 20-AS-46 ***Lab Sample ID:*** **552001641-0057**

Sample Description: OFFICE - 113/DJC WITH GYPROC WITH PINK PAPER AND WHITE PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-47 ***Lab Sample ID:*** **552001641-0058**

Sample Description: OFFICE - 124/DJC WITH GYPROC WITH PINK PAPER AND WHITE PAPER

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-48 ***Lab Sample ID:*** **552001641-0059**

Sample Description: OFFICE - 129/3/4" GYPROC (PINK) WITH FIRE RATED WITH DJC

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Pink	0.0%	100.0%	None Detected	

Client Sample ID: 20-AS-49 ***Lab Sample ID:*** **552001641-0060**

Sample Description: OFFICE - STAIRWELL/3" PIPE WRAP WITH PINK FIBRE INSULATION

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	White	20.0%	80.0%	None Detected	

Client Sample ID: 20-AS-50 ***Lab Sample ID:*** **552001641-0061**

Sample Description: OFFICE - 324/3" ELBOW WHITE WRAP WITH GREY PARGING

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	15.0%	85.0%	None Detected	

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Client Sample ID: 20-AS-51 ***Lab Sample ID:*** **552001641-0062**

Sample Description: OFFICE - 401/PAPER OVER PIPE WRAP OVER GREY PARGING NEAR VALVE

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	0.0%	30.0%	**70% Chrysotile**	

Client Sample ID: 20-AS-52 ***Lab Sample ID:*** **552001641-0063**

Sample Description: MEZZANINE - M08/WHITE WRAP OVER DARK GREY PARGING ON 3" ELBOW

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	15.0%	85.0%	None Detected	

Client Sample ID: 20-AS-53 ***Lab Sample ID:*** **552001641-0064**

Sample Description: BOILER ROOM/WHITE WRAP OVER GREY PARGING ON 3" ELBOW

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	15.0%	85.0%	None Detected	

Client Sample ID: 20-AS-54 ***Lab Sample ID:*** **552001641-0065**

Sample Description: BOILER ROOM/WHITE WRAP OVER GREY PARGING ON 2" ELBOW

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	15.0%	85.0%	None Detected	

Client Sample ID: 20-AS-55 ***Lab Sample ID:*** **552001641-0066**

Sample Description: MACHINE SHOP/WHITE WRAP OVER GREY PARGING ON 2" ELBOW

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Fibrous	Asbestos	Comment
PLM	2/19/2020	Gray	15.0%	85.0%	None Detected	

Analyst(s):

Caroline Allen PLM (54)
Michelle Lung PLM Grav. Reduction (29)

Reviewed and approved by:

Matthew Davis or other approved signatory
or Other Approved Signatory

Samples analyzed by EPA 600/R-93/116 consistent with NLR 111/98. The estimated limit of detection for non-detect samples is <0.1%. Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL`s liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. This report must not be used to claim product endorsement by NVLAP or any agency of the US Government.

Samples analyzed by EMSL Canada Inc. Mississauga, ON NVLAP Lab Code 200877-0

Initial report from: 02/19/202017:16:49

APPENDIX E

REPORT LIMITATIONS

LIMITATIONS

1. The work performed in the preparation of this report and the conclusions presented are subject to the following:

   (a) The Standard Terms and Conditions which form a part of our Contract;
   (b) The Scope of Services;
   (c) Time and Budgetary limitations as described in our Contract; and,
   (d) The Limitations stated herein.

2. No other warranties or representations, either expressed or implied, are made as to the professional services provided under the terms of our Contract, or the conclusions presented.

3. The conclusions presented in this report were based, in part, on visual observations of the site and attendant structures. Our conclusions cannot and are not extended to include those portions of the site or structures which were not reasonably available, in Wood's opinion, for direct observation.

4. The environmental conditions at the site were assessed, within the limitations set out above, having due regard for applicable environmental regulations as of the date of the inspection. A review of compliance by past owners or occupants of the site with any applicable local, provincial or federal by-laws, orders-in-council, legislative enactments and regulations was not performed.

5. Where testing was performed it was carried out in accordance with the terms of our contract providing for testing. Other substances, or different quantities of substances testing for, might be present on site and be revealed by different or other testing not provided for in our contract.

6. The findings within this report do not reflect potential ACMs in areas not accessed, such as remote space areas, roof areas, wall cavities and ceilings spaces. During future renovations or demolition activities and subsequent removal of interior wall and ceiling materials, the actual quantities of asbestos containing materials can be verified. Also, at this time, analysis of suspect ACM materials may be required if the appearance differs from that of materials previously confirmed to contain asbestos in adjacent rooms.

7. Because of the limitations referred to above, different environmental conditions from those stated in our report might exist. Should such different conditions be encountered, Wood must be notified in order that it may determine if modifications to the conclusions in the report are necessary.

8. The utilization of Wood's services during the implementation of any remedial measures will allow Wood to observe compliance with the conclusions and recommendations contained in the report. Wood's involvement will also allow for changes to be made as necessary to suit field conditions as they are encountered.

9. This report is for the sole use of the party to whom it is addressed unless expressly stated otherwise in the report or contract. Any use which any third party makes of the report, in whole or the part, or any reliance thereon or decisions made based on any information or conclusions in the report, is the sole responsibility of such third party. Wood accepts no responsibility whatsoever for damages or loss of any nature or kind suffered by any such third party as a result of actions taken or not taken or decisions made in reliance on the report or anything set out therein.

10. This report is not to be given over to any third party for any purpose whatsoever without the written permission of Wood.