August 18, 2021

CITY OF SURREY
13450 - 104th Avenue
Surrey, BC V3T 1V8

Attention: Mr. Carlos Aller, Project Manager
Civic Facilities Operations & Maintenance

Ref: PRE-PROJECT HAZARDOUS BUILDING MATERIALS SURVEY FOR THE AIR HANDLING UNITS REPLACEMENT PROJECT AT THE SURREY ARTS CENTRE LOCATED AT 13750 - 88TH AVENUE, SURREY, BC

1.0 INTRODUCTION

Astech Consultants Ltd. (Astech) were retained by the City of Surrey to conduct a Pre-Project Hazardous Building Materials Survey and compile a detailed report on the presence and location of asbestos containing building materials, lead, polychlorinated biphenyls (PCBs), mercury, stored chemicals, and silica to be impacted by the planned air handling units replacement project at the Surrey Arts Centre located at 13750 - 88th Avenue, Surrey, BC. The subject areas of this report include rooms listed in Section 4.1 below.

Astech's survey and report format is designed specifically to satisfy the current applicable regulation from the Workers' Compensation Board of British Columbia (WCB) Occupational Health and Safety Regulation 20.112 regarding hazardous building material assessments by a Qualified Person for buildings and structures.

This survey was conducted on August 13, 2021 by Tom Farrell assisted by Cassandra Marshall and Andrew Henning of Astech. It must be emphasized that this survey was concerned exclusively with the subject areas. The site survey was destructive in nature and thorough in investigating layered floor, wall, and ceiling systems. However, areas which would require the actual dismantling of substantial portions of the building in order to gain access were not investigated. No attempt was made to investigate other areas of the building, underground services, or the surrounding property. Therefore, if during work activities, other hazardous materials, asbestos containing materials, or potential asbestos containing materials not included in this report are discovered, work should immediately cease in the affected area. At that time, Astech should be contacted so that they can initiate immediate appropriate action so that there are no undue delays.

2.0 BUILDING DESCRIPTION

The building is described as a two-storey performing arts centre building faced with concrete block, brick, and metal. The construction of the building is estimated to be 1967. The building has had several renovations over the years. For the most part, the building is heated by natural gas HVAC units and ductwork. The subject of this report is specific areas of the building to be impacted by the planned Air Handling Units Replacement Project. At the time of survey, the subject areas were in good condition.

#101-Bldg.C-17802-66th Avenue
Cloverdale, BC, Canada V3S 7X1
Tel: 604-575-1122 Fax: 604-575-1152

3.0 METHODOLOGY

3.1 ASBESTOS CONTAINING MATERIALS

A visual inspection was undertaken in order to determine the type, location, and homogeneous nature of asbestos and potential asbestos containing building materials located at the subject areas. During this inspection, sixty-five (65) bulk samples of potential asbestos containing materials were collected from specific locations of the building. The number of samples collected during this survey are in accordance with the guidelines established by the WCB in their 2020 publication Safe Work Practices for Handling Asbestos, and as indicated by actual site conditions. The samples collected were submitted for analysis at our in-house laboratory in accordance with the WCB Occupational Health and Safety Regulation, utilizing polarized light microscopy, and dispersion staining techniques. Results of laboratory analysis of the samples collected during this survey are attached.

3.2 LEAD FINISHES

A visual inspection was undertaken in order to determine the type and location of paints, primers, coatings, and/or glazing finishes suspected of containing lead at the subject areas. During this inspection, four (4) bulk samples of potential lead finishes were collected from specific locations of the building. The samples collected were submitted for analysis at our in-house laboratory in accordance with US EPA methods and the requirements of the WCB Occupational Health and Safety Regulation. Results of laboratory analysis of the samples collected during this survey are attached.

3.3 LEAD CONSTRUCTION MATERIALS, PCBs, MERCURY, STORED CHEMICALS, AND SILICA

A visual inspection was undertaken at the subject areas in order to determine the presence of:

- construction materials suspected of containing lead and other heavy metals,
- fluorescent and high intensity discharge (HID) light fixtures suspected of containing PCB ballasts or capacitors,
- thermostats, light tubes/bulbs, and associated equipment suspected of containing mercury,
- stored chemicals suspected of being toxic, flammable, or explosive, and
- building materials suspected of containing silica in crystalline and non-crystalline forms.

4.0 INSPECTION RESULTS

4.1 ASBESTOS CONTAINING MATERIALS

GENERAL NOTE

- **Potential Asbestos Containing Building Materials:** The potential **asbestos** containing building materials listed below, must be considered as **asbestos** containing until laboratory results determine otherwise. These materials were either inaccessible at time of survey and/or not likely to be impacted by project. In order to sample the materials destructive testing may be required.

The visual inspection and/or analytical results determined that asbestos containing materials and/or potential asbestos containing materials are located at the following specific locations.

LOWER LEVEL (SUBJECT AREAS)

Mechanical Room

- **Asbestos** containing mastics at interior and/or exterior joints of older ductwork, plenums, AHU 1, and textile expansion joints (some concealed beneath retrofit grey mastic, fibreglass insulation, and/or other building materials, and some on adjoining building materials).
- **Asbestos** containing insulating cement at duct, mechanical, and electrical wall/ceiling penetrations (mostly concealed beneath red retrofit caulking and other building materials, and some on adjoining building materials).
- Potential **asbestos** containing gaskets and packing materials at valves and flanges of mechanical piping system (concealed) (see General Note above).
- Potential **asbestos** containing packings in connection bells of cast iron drain pipes (see General Note above).
- Non-asbestos mortar at concrete block walls.
- Non-asbestos firestop caulking at south wall duct penetration.
- Non-asbestos mastic on non-asbestos adhesive at interior joints of AHU 1.
- Non-asbestos grey mastic on 10" spiral duct.
- Non-asbestos mastic at PVC fitting covers and non-asbestos fibreglass insulation on DCW mechanical piping system.
- Non-asbestos insulating cement at fittings of HHWS and small diameter copper mechanical piping systems.
- Non-asbestos pipe thread compounds at fittings of mechanical and sprinkler piping.
- Non-asbestos firestop caulking at natural gas pipe wall penetrations.
- Non-asbestos firestop grout at sprinkler pipe wall penetrations.
- Non-asbestos firestop caulking at mechanical pipe wall penetration.
- Non-asbestos fibreglass insulation beneath metal casing of hot water tank.
- No asbestos containing materials suspected at or in newer boilers or boiler breaching.

GROUND FLOOR (SUBJECT AREAS)

Mechanical Room

- **Asbestos** containing loose fill vermiculite insulation within concrete block walls. See Important Note below.
- **Asbestos** containing mastics at interior and/or exterior joints of older ductwork and plenums (some concealed beneath retrofit grey mastic, red silicone caulking patches, fibreglass insulation, and/or other building materials, and some on adjoining building materials).
- **Asbestos** containing insulating cement at duct, mechanical, and electrical wall/ceiling penetrations (concealed beneath red retrofit caulking and other building materials, and some on adjoining building materials).
- Potential **asbestos** containing packings in connection bells of cast iron drain pipes (see General Note above).

  Important Note: The concrete block on the south wall has an opening (indicated by a temporary duct tape cover) to the friable **asbestos** containing loose fill vermiculite insulation and requires remedial action. See **Remedial Action** in Section 5.1 below. In order to alleviate the potential exposure hazard related to the friable **asbestos** containing loose fill vermiculite insulation, the opening in the concrete block must be sealed by a qualified Asbestos Abatement Contractor's trained and authorized personnel in accordance with the WCB Occupational Health and Safety Regulation.

Mechanical Room (continued)
- Non-asbestos filling compound on gypsum board.
- Non-asbestos mortar at concrete block walls.
- Non-asbestos adhesive residue on south concrete block wall.
- Non-asbestos retrofit grey mastic on some ductwork, AHU 3, and non-asbestos textile expansion joints.
- Non-asbestos foam insulation and non-asbestos adhesive and/or coating on fibreglass insulation on interior of AHU 3.
- Non-asbestos coating on fibreglass insulation on interior of large duct.
- Non-asbestos coating on canvas on non-asbestos insulating cement at fittings and non-asbestos fibreglass insulation on mechanical piping system.
- Non-asbestos coating on canvas and fibreglass insulation on mechanical piping on interior of duct.
- Non-asbestos insulating cement at fittings of mechanical piping system.
- Non-asbestos pipe thread compound at fittings of sprinkler and mechanical piping.

EXTERIOR (SUBJECT AREAS)

Rooftop (at Mechanical Equipment Area)
- Non-asbestos roofing membrane, felts, mastics, foam insulation, and paper at the subject areas.
- Non-asbestos paints/coatings on west metal duct.
- Non-asbestos caulking at overlap joints and other locations of west metal duct.
- Non-asbestos caulkings at doors, butt joints, and other openings, exterior metal wall near bottom, overlap joints, metal flashings, and at mounted equipment of AHU 2.
- Non-asbestos mastics where abutting flanges of west ductwork and east ductwork at AHU 2.
- Non-asbestos mastic at overlap joints of bottom metal flashing at AHU 2.
- Non-asbestos mastics on metal flashings, flange, and seams of west metal duct.
- Non-asbestos mastic on duct near AHU 2.
- Non-asbestos mastic on east duct abutting AHU 2.
- Non-asbestos mastic on east duct where abutting fan unit.
- Non-asbestos insulation tape on piping on interior of AHU 2.
- Non-asbestos pipe thread compound at fittings of mechanical piping on interior of AHU 2.
- No asbestos materials observed.

4.2 LEAD

The visual inspection and/or laboratory analytical results determined the following at the subject areas:

Interior
- beige paint containing 498 parts per million (PPM) of **lead** was used on Air Handling Unit 3,
- grey paint containing 148 PPM of **lead** was used on Air Handling Unit 1, brackets, and associated equipment,
- other paints considered to be **lead** containing were used on Air Handling Unit 3 and associated equipment,
- lead paint considered to be **lead** containing was used on metal doors and door frames, and
- the connection bells of cast iron drain pipes contain a **lead** packing material (also see Section 4.1 above) and there are **lead** sleeves at the toilets.

Exterior
- grey on black paint containing 23 PPM of **lead** was used on west metal duct (most of which is in a deteriorated condition and flaking).

4.3 PCBs

The visual inspection determined that there are nine (9) newer and older fluorescent light fixtures at the subject areas (not likely to be impacted by project). The older fixtures are suspected of having one or more PCB containing ballasts. PCB ballast identification requires the disassembly of the light fixture in order to locate the manufacturer's identification code.

4.4 MERCURY

The visual inspection determined that there no wall mounted thermostats at the subject areas that contain mercury. However, there are numerous fluorescent light tubes (including some in storage) at the subject areas that contain mercury (not likely to be impacted by project).

4.5 STORED CHEMICALS AND OTHER HAZARDOUS MATERIALS

The following list of materials were present in and around the subject areas at time of inspection (some of which will not likely be impacted by project):

- several containers of petroleum products, boiler chemicals, and rodent poison,
- pumps and motors bearing petroleum products,
- a few fire extinguishers,
- batteries in emergency lighting,
- compressors and piping with suspect ozone depleting substances (CFC's) in rooftop air handling units,
- smoke detector(s) with a radioactive component within, and
- piping containing natural gas leading to heating equipment.

4.6 SILICA

All concrete, cement, gypsum board, and any other cementitious building materials at the subject areas are suspected of containing silica in crystalline and non-crystalline forms.

4.7 GYPSUM BOARD

The visual inspection and/or laboratory analytical results determined that there is non-asbestos filling compound on gypsum board located in the Mechanical Room.

5.0 RECOMMENDATIONS

5.1 ASBESTOS CONTAINING MATERIALS

Prior to the renovation of a building or it's components, the asbestos (or potential asbestos) containing materials that are **directly impacted by the work or are damaged and require remedial action** must first be removed and disposed of by a qualified hazardous materials abatement contractor's trained and authorized personnel, or for renovations may be repaired and left in place where and when possible. Asbestos and assumed asbestos containing materials not impacted by the work and not requiring remedial action may remain in place as long as they are in a stable condition in which would be considered to be safely enclosed or encapsulated. Workers must be advised in writing of their presence and location so that the asbestos containing materials are not inadvertently disturbed. Removing, enclosing, encapsulating, or otherwise disturbing (e.g. drilling) asbestos containing materials must be performed by a qualified contractor's trained

personnel in accordance with the WCB Occupational Health and Safety Regulation . Disposal of asbestos containing materials must be performed in accordance with the BC Ministry of Environment and Climate Change Strategy - *Environmental Management Act* - Hazardous Waste Regulation.

Remedial Action is required for the following exposed asbestos containing materials that, in order to comply with the WCB Occupational Health and Safety Regulation, must be patched and repaired, enclosed, and/or completely removed so as to alleviate the potential for release of airborne asbestos fibres. For repair or removal of damaged/exposed asbestos containing materials, the work must be performed by a qualified hazardous materials abatement contractor in accordance with the WCB Occupational Health and Safety Regulation.

a) **Ground Floor Mechanical Room** - The opening in the concrete block on the south wall requires sealing with mortar and/or firestop caulking to prevent the further release of asbestos containing loose fill vermiculite insulation, prior to unprotected trades or other persons conducting work in this area.

5.2 LEAD

Paints/Primers
Where lead (or potential lead) based paints and/or primers are affected by a project, the work must be performed by a qualified contractor in accordance with the WCB Occupational Health and Safety Regulation and their 2020 publication entitled Safe Work Practices For Handling Lead.

Where the base substrate material is to be removed in conjunction with lead paint removal, the base substrate and lead based paints and/or primers should be removed intact by the contractor, in accordance with the contractor's risk assessment and site specific work procedures. The workers conducting the work and workers in close proximity to the work being performed, should be protected with personal protective equipment as determined by the contractor's risk assessment and site specific work procedures.

Lead containing paints which remain attached to wood and/or other building materials must be labelled as lead based paints (LBP) for transporting to a licensed/approved disposal site or recycling facility. A licensed/approved facility receiving the waste must be informed of the lead content of these materials and be agreeable to receiving these materials. Prior to acceptance of waste with lead paints at a licensed/ approved disposal facility, the contractor generating the waste must ensure that all waste materials containing LBP's are sampled intact, fastened directly to the base substrate, and representative of the waste stream created by demolition. The contractor shall have the representative sample analyzed utilizing a Toxicity Characteristic Leachate Procedure for lead (TCLP lead) test to determine the potential for soil and/or groundwater contamination, if deemed necessary by the site receiving the waste.

If the lead paints are to be separated or removed from the building materials by means of sanding, scraping, abrading, blasting, etc., more stringent work procedures would apply. The removed lead paints, depending on lead concentrations and leachate results, may become a Hazardous Waste and therefore must be disposed of in accordance with the BC Ministry of Environment and Climate Change Strategy - *Environmental Management Act* - Hazardous Waste Regulation.

Lead Construction Materials
Where affected by a renovation project, the lead in bells of drain pipe (depending on result of potential **asbestos** containing packing as listed in Section 4.1 above) must first be removed, and be recycled or disposed of, in accordance with the BC Ministry of Environment and Climate Change Strategy - *Environmental Management Act* - Hazardous Waste Regulation.

5.3 PCB CONTAINING BALLASTS

Where affected by a renovation project, it is recommended that the identification of PCB ballasts be performed by qualified personnel prior to or in conjunction with the renovation of a building, at a time when it becomes feasible to isolate electrical power and disassemble/disconnect the light fixtures. The ballasts that are identified as PCB containing must be removed in accordance with the WCB Occupational Health and Safety Regulation and disposed of in accordance with the BC Ministry of Environment and Climate Change Strategy - *Environmental Management Act* - Hazardous Waste Regulation.

5.4 MERCURY

Where affected by a renovation project, the mercury containing light tubes must first be removed, and be salvaged, recycled or disposed of, in accordance with the BC Ministry of Environment and Climate Change Strategy - *Environmental Management Act* - Hazardous Waste Regulation.

5.5 STORED CHEMICALS AND OTHER HAZARDOUS MATERIALS

Stored Chemicals
Where affected by a renovation project, stored chemicals, ozone depleting substances within refrigeration equipment, and radioactive equipment must first be removed, and be recycled or disposed of, in accordance with the BC Ministry of Environment and Climate Change Strategy - *Environmental Management Act* - Hazardous Waste Regulation.

Natural Gas
The natural gas must be shut off and purged by Fortis BC or a qualified trades person prior to work that would affect the gas, and prior to building renovation.

5.6 SILICA

Where cementitious building materials that are suspected of containing silica in crystalline form are directly impacted by the project (i.e. drilling, cutting, abrading, etc.), the work should be performed in a controlled manner to avoid the release of crystalline silica dust. Cutting, drilling, or otherwise disturbing these building materials must be performed by a qualified contractor's trained personnel in accordance with the WCB Occupational Health and Safety Regulation.

5.7 RECYCLABLE GYPSUM BOARD

Where affected by a renovation project, the gypsum board with no asbestos finishes (a provincially regulated construction waste) must first be removed by a qualified contractor, and be recycled or disposed of in accordance with the BC Ministry of Environment and Climate Change Strategy - *Environmental Management Act* - Hazardous Waste Regulation. Landfills are issued operational certificates from the BC Ministry of Environment, and for local landfills and others their certificate specifies that gypsum board cannot be accepted for disposal, and therefore local depots offer recycling services.

6.0 OWNER'S AND ABATEMENT CONTRACTOR'S RESPONSIBILITIES

Owner's Responsibilities
For the remediation of hazardous building materials, contract specifications, quality control, and final acceptance of the work remain the responsibility of the Owner. In order to ensure that the Owner has acted in a responsible manner, and to ensure regulatory board compliance, it is recommended that the work

and project air monitoring be performed by a qualified and properly insured (with proof of necessary asbestos inclusion rider) Hazardous Materials Abatement Contractor.

Abatement Contractor's Responsibilities
The Abatement Contractor upon completing the work shall have their "Qualified Person" inspect the worksite in its entirety to confirm that asbestos and other hazardous building materials have been properly removed, then promptly provide the Owner with a signed Letter of Completion.

As well, prior to transport of hazardous waste, the Abatement Contractor shall assist the Owner by completing and submitting the BC Ministry of Environment Waste Generator Number Registration Form (Schedule 5 Form 1), once signed by the Owner, if no BC Generator number exists. If a BC Generator number exists and requires updating for this specific project, the Abatement Contractor shall assist with completing and submitting the update.

Project Documentation should also be provided to the Owner including, but not necessarily limited to, a Notice of Project for work involving Asbestos and/or Lead Paint, Risk Assessment, Exposure Control Plan, and Site Specific Work Procedures, Worker Respirator Fit Test Forms/Logs and Training Acknowledgement Forms, Certification of DOP Testing of HEPA Filtered Equipment used on site, Air Sample Results, Material Safety Data Sheets (MSDS) for products used on site, Transportation Waybills, and Waste Manifest Forms.

7.0 APPROXIMATE QUANTITIES FOR HAZARDOUS MATERIALS

Refer to the Mechanical Drawings and/or Tender Package for determination of approximate quantities of hazardous materials to be impacted by this project.

We hope you have found the above information useful. If you have any questions, or require clarification please contact this office.

Sincerely,

Tom Farrell
Astech Consultants Ltd.
Ref: 24586HE01.AEH

ASBESTOS BULK SAMPLE REPORT

Date: August 18, 2021

Client: **CITY OF SURREY**

Location: **Surrey Arts Centre**
13750 - 88th Avenue
Surrey, BC

Comments:
1) Asbestos (bulk) by PLM analyzed as per NIOSH 9002 Issue 2.
2) Workers' Compensation Board of British Columbia (WCB) defines asbestos containing material as 0.5% or more asbestos, with the exception of Vermiculite Insulation which is defined as "any asbestos".
3) Samples will be disposed of after 90 days, unless the Client requests otherwise.

Sample(s) Collected on August 13, 2021

				Non-Asbestos	Asbestos
Sample	**Location**	**Description**	**Layer: Colour**	**% Type**	**% Type**
24586 BS01	Lower Level - Mechanical Room	Insulating Cement (at Elbow of HHWS Pipe)	1: Beige	55% Cellulose 20% Glass 25% Non-Fibrous	None Detected
24586 BS02	Lower Level - Mechanical Room	Mastic (at Termination Point of DCW Pipe)	1: Off-White	1% Glass 99% Non-Fibrous	None Detected
24586 BS03	Lower Level - Mechanical Room	Duct Mastic (at Joint of Duct above AHU 1)	1: Silver	95% Non-Fibrous	**5% Chrysotile**
24586 BS04	Lower Level - Mechanical Room	Duct Mastic (on 10" Spiral Duct)	1: Grey	3% Synthetic 97% Non-Fibrous	None Detected
24586 BS05a	Lower Level - Mechanical Room	Firestop Caulking (at Duct Wall Penetration, South)	1: Red	3% Glass 97% Non-Fibrous	None Detected
24586 BS05b	Lower Level - Mechanical Room	Insulating Cement (at Duct Wall Penetration, South)	2: Grey	40% Non-Fibrous	**65% Chrysotile**
24586 BS06	Lower Level - Mechanical Room	Mastic (on Joint at Interior of AHU 1)	1: Off-White	2% Glass 98% Non-Fibrous	None Detected
24586 BS07	Lower Level - Mechanical Room	Adhesive (on Joint at Interior of AHU 1)	2: Beige	2% Glass 98% Non-Fibrous	None Detected
24586 BS08	Lower Level - Mechanical Room	Concrete Block Mortar (West Wall)	1: Grey	100% Non-Fibrous	None Detected

#101-Bldg.C-17802-66th Avenue
Cloverdale, BC, Canada V3S 7X1
Tel:604-575-1122 Fax:604-575-1152

Sample	Location	Description	Layer: Colour	Non-Asbestos % Type	Asbestos % Type
24586 BS09	Lower Level - Mechanical Room	Pipe Thread Compound (at Fitting of Mechanical Piping)	1: Cream	1% Cellulose 99% Non-Fibrous	None Detected
24586 BS10	Lower Level - Mechanical Room	Pipe Thread Compound (at Fitting of Mechanical Piping)	1: Blue	3% Cellulose 97% Non-Fibrous	None Detected
24586 BS11	Lower Level - Mechanical Room	Insulating Cement (at Elbow of Small Diameter of Copper Pipe)	1: Beige	60% Cellulose 30% Glass 10% Non-Fibrous	None Detected
24586 BS12	Lower Level - Mechanical Room	Firestop Caulking (at Natural Gas Pipe Wall Penetration, North)	1: Grey	3% Glass 97% Non-Fibrous	None Detected
24586 BS13	Lower Level - Mechanical Room	Firestop Grout (at Sprinkler Pipe Wall Penetration, North)	1: Grey	100% Non-Fibrous	None Detected
24586 BS14	Lower Level - Mechanical Room	Firestop Caulking (at Mechanical Pipe Wall Penetration, West)	1: Off-White	100% Non-Fibrous	None Detected
24586 BS15	Lower Level - Mechanical Room	Pipe Thread Compound (at Fitting of Sprinkler Piping)	1: Grey Painted Red	1% Cellulose 99% Non-Fibrous	None Detected
24586 BS16	Lower Level - Mechanical Room	Pipe Thread Compound (at Fitting of Sprinkler Piping)	1: Cream	100% Non-Fibrous	None Detected
24586 BS17	Lower Level - Mechanical Room	Duct Mastic (Inside of Large Duct)	1: Red Faded to Black/ Brown	95% Non-Fibrous	**5% Chrysotile**
24586 BS18	Lower Level - Mechanical Room	Insulation (Inside of Large Duct)	1: Red/ Brown	90% Glass 10% Non-Fibrous	None Detected
24586 BS19	Ground Floor - Mechanical Room	Concrete Block Mortar (South Wall near Centre)	1: Grey	100% Non-Fibrous	None Detected
24586 BS20	Ground Floor - Mechanical Room	Concrete Block Mortar (South Wall at West Side)	1: Grey	100% Non-Fibrous	None Detected
24586 BS21	Ground Floor - Mechanical Room	Adhesive Residue (on Concrete Block Wall, South)	1: Brown	100% Non-Fibrous	None Detected
24586 BS22	Ground Floor - Mechanical Room	Insulating Cement (at Elbow of HWS Pipe)	1: White	60% Cellulose 30% Glass 10% Non-Fibrous	None Detected
24586 BS23	Ground Floor - Mechanical Room	Coating (on Canvas and Fibreglass Pipe Insulation at Elbow of HWS Pipe)	1: Off-White	75% Cellulose 25% Non-Fibrous	None Detected
24586 BS24	Ground Floor - Mechanical Room	Pipe Thread Compound (at Fitting of Sprinkler Piping)	1: Beige	1% Cellulose 99% Non-Fibrous	None Detected
24586 BS25	Ground Floor - Mechanical Room	Firestop Caulking (at Mechanical Wall Penetration, North)	1: Red	5% Glass 95% Non-Fibrous	None Detected

Sample	Location	Description	Layer: Colour	Non-Asbestos % Type	Asbestos % Type
24586 BS26	Ground Floor - Mechanical Room	Duct Mastic	1: Red	97% Non-Fibrous	**3% Chrysotile**
24586 BS27	Ground Floor - Mechanical Room	Caulking Patch (on Duct)	1: Red	100% Non-Fibrous	None Detected
24586 BS28	Ground Floor - Mechanical Room	Duct Mastic	1: Grey	100% Non-Fibrous	None Detected
24586 BS29	Ground Floor - Mechanical Room	Coating (on Canvas and Fibreglass Pipe Insulation at Interior of Large Duct)	1: Off-White	100% Non-Fibrous	None Detected
24586 BS30	Ground Floor - Mechanical Room	Adhesive (beneath Foam Insulation at Interior of AHU 3)	1: Green	100% Non-Fibrous	None Detected
24586 BS31	Ground Floor - Mechanical Room	Pipe Thread Compound (at Fitting of Mechanical Piping)	1: Grey	100% Non-Fibrous	None Detected
24586 BS32	Ground Floor - Mechanical Room	Loose Fill Vermiculite Insulation (in Concrete Block Wall, South)	1: Beige	99% Non-Fibrous	**1% Actinolite**
24586 BS33	Ground Floor - Mechanical Room	Pipe Thread Compound (at Fitting of Mechanical Piping)	1: Black	100% Non-Fibrous	None Detected
24586 BS34	Ground Floor - Mechanical Room	Paint Filling Compound on Gypsum Board (North Wall)	1: Pink 2: White	100% Non-Fibrous	None Detected
24586 BS35	Ground Floor - Mechanical Room	Coating (on Canvas and Fibreglass Pipe Insulation at Interior of Duct)	1: Off-White	100% Non-Fibrous	None Detected
24586 BS36	Ground Floor - Mechanical Room	Paint Filling Compound on Gypsum Board (West Wall)	1: Pink 2: White	100% Non-Fibrous	None Detected
24586 BS37	Exterior - Rooftop at Mechanical Equipment Area	Caulking (at Door of AHU 2)	1: Grey	100% Non-Fibrous	None Detected
24586 BS38	Exterior - Rooftop at Mechanical Equipment Area	Caulking (on Exterior Metal Wall near Bottom of AHU 2, South)	1: Grey	100% Non-Fibrous	None Detected
24586 BS39	Exterior - Rooftop at Mechanical Equipment Area	Mastic (where abutting Flange of West Ductwork of AHU 2)	1: Black & Grey	3% Cellulose 97% Non-Fibrous	None Detected
24586 BS40	Exterior - Rooftop at Mechanical Equipment Area	Mastic (where abutting Flange of East Ductwork of AHU 2)	1: Grey	100% Non-Fibrous	None Detected
24586 BS41	Exterior - Rooftop at Mechanical Equipment Area	Insulation Tape (on Piping at Interior of AHU 2)	1: Black	100% Non-Fibrous	None Detected

Sample	Location	Description	Layer: Colour	Non-Asbestos % Type	Asbestos % Type
24586 BS42	Exterior - Rooftop at Mechanical Equipment Area	Pipe Thread Compound (at Fitting of Mechanical Piping within Interior of AHU 2)	1: Cream	100% Non-Fibrous	None Detected
24586 BS43	Exterior - Rooftop at Mechanical Equipment Area	Caulking (at Mounted Equipment of AHU 2, North)	1: Grey	100% Non-Fibrous	None Detected
24586 BS44	Exterior - Rooftop at Mechanical Equipment Area	Mastic (at Overlap Joint of Bottom Metal Flashing of AHU 2)	1: Grey	100% Non-Fibrous	None Detected
24586 BS45	Exterior - Rooftop at Mechanical Equipment Area	Paint/Coating (on West Metal Duct)	1: Grey on Black	3% Cellulose 97% Non-Fibrous	None Detected
24586 BS46	Exterior - Rooftop at Mechanical Equipment Area	Paint/Coating (on West Metal Duct)	1: Grey on Black	3% Cellulose 97% Non-Fibrous	None Detected
24586 BS47	Exterior - Rooftop at Mechanical Equipment Area	Caulking (at Overlap Joint of West Metal Duct)	1: Green Painted Grey	100% Non-Fibrous	None Detected
24586 BS48	Exterior - Rooftop at Mechanical Equipment Area	Mastic (on Metal Flashing of West Metal Duct)	1: Grey	100% Non-Fibrous	None Detected
24586 BS49	Exterior - Rooftop at Mechanical Equipment Area	Mastic (on Duct near AHU 2)	1: Black Painted Grey	3% Cellulose 97% Non-Fibrous	None Detected
24586 BS50	Exterior - Rooftop at Mechanical Equipment Area	Mastic (on Metal Flange of West Metal Duct)	1: Grey	2% Cellulose 98% Non-Fibrous	None Detected
24586 BS51	Exterior - Rooftop at Mechanical Equipment Area	Mastic (at Seam of West Metal Duct)	1: Grey	100% Non-Fibrous	None Detected
24586 BS52	Exterior - Rooftop at Mechanical Equipment Area	Mastic (on East Duct abutting AHU 2)	1: Grey	100% Non-Fibrous	None Detected
24586 BS53	Exterior - Rooftop at Mechanical Equipment Area	Mastic (on East Duct where abutting Fan Unit)	1: Grey	100% Non-Fibrous	None Detected
24586 BS54a	Exterior - Rooftop at Mechanical Equipment Area	Roofing Membrane (South of AHU 2)	1: Grey	65% Synthetic 35% Non-Fibrous	None Detected
24586 BS54b	Exterior - Rooftop at Mechanical Equipment Area	Roofing Mastic (South of AHU 2)	2: Black	100% Non-Fibrous	None Detected
24586 BS54c	Exterior - Rooftop at Mechanical Equipment Area	Roofing Felt (South of AHU 2)	3: Black	65% Synthetic 35% Non-Fibrous	None Detected
24586 BS54d	Exterior - Rooftop at Mechanical Equipment Area	Roofing Mastic (South of AHU 2)	4: Black	100% Non-Fibrous	None Detected

				Non-Asbestos	Asbestos
Sample	**Location**	**Description**	**Layer: Colour**	**% Type**	**% Type**
24586 BS54e	Exterior - Rooftop at Mechanical Equipment Area	Roofing Paper (South of AHU 2)	5: Grey	80% Cellulose 15% Glass 5% Non-Fibrous	None Detected
24586 BS54f	Exterior - Rooftop at Mechanical Equipment Area	Foam Insulation Roofing Paper (South of AHU 2)	6: Cream 7: Grey	80% Cellulose 15% Glass 5% Non-Fibrous	None Detected
24586 BS55a	Exterior - Rooftop at Mechanical Equipment Area	Roofing Membrane (North of AHU 2 beyond Northwest Corner of Fence)	1: Grey	65% Synthetic 35% Non-Fibrous	None Detected
24586 BS55b	Exterior - Rooftop at Mechanical Equipment Area	Roofing Mastic (North of AHU 2 beyond Northwest Corner of Fence)	2: Black	100% Non-Fibrous	None Detected
24586 BS55c	Exterior - Rooftop at Mechanical Equipment Area	Roofing Paper (North of AHU 2 beyond Northwest Corner of Fence)	3: Grey	80% Cellulose 15% Glass 5% Non-Fibrous	None Detected
24586 BS55d	Exterior - Rooftop at Mechanical Equipment Area	Foam Insulation Roofing Paper (North of AHU 2 beyond Northwest Corner of Fence)	4: Cream 5: Grey	80% Cellulose 15% Glass 5% Non-Fibrous	None Detected
24586 BS56	Exterior - Rooftop at Mechanical Equipment Area	Caulking (at Metal Flashing of AHU 2)	1: Red	100% Non-Fibrous	None Detected

Analyst(s): Lillian Fan, Jessica Young

AIHA PAT Programs LLC

American Industrial Hygiene Association (AIHA) Bulk Asbestos Proficiency Analytical Testing (BAPAT)
Astech Consultants Ltd. Laboratory Participant ID# 200542

LEAD BULK SAMPLE REPORT

Date: August 18, 2021

Client: **CITY OF SURREY**

Location: **Surrey Arts Centre**
13750 - 88th Avenue
Surrey, BC

Comments:
1) The Workers' Compensation Board of British Columbia (WCB) no longer allows reference to Health Canada's definition of a lead-containing surface coating material.
2) WCB does not define a safe level for a lead-containing surface coating material.
3) Analyzed by X-Ray Fluorescence (XRF) with direct read parts per million (PPM).
4) Sample results report lead only.
5) < means less than, > means more than.
6) Samples will be disposed of after 90 days, unless the Client requests otherwise.

Sample(s) Collected on August 13, 2021

Sample	Location	Description	Colour	Lead PPM
24586 LS01	Lower Level - Mechanical Room	Paint (on Metal AHU 1)	Grey	**148 PPM**
24586 LS02	Ground Floor - Mechanical Room	Paint (on Metal Casing of AHU 3)	Beige	**498 PPM**
24586 LS03	Exterior - Rooftop at Mechanical Equipment Area	Paint/Coating (on West Metal Duct)	Grey on Black	**23 PPM**
24586 LS04	Exterior - Rooftop at Mechanical Equipment Area	Paint/Coating (on West Metal Duct)	Grey on Black	**23 PPM**

Analyst(s): Lillian Fan

Natural Resources Canada / Ressources naturelles Canada
Canada

Certified to ISO:20807; and Health Canada's and Natural Resources Canada's requirements for compliance with Health Canada Safety Code 32 & 34

#101-Bldg.C-17802-66th Avenue
Cloverdale, BC, Canada V3S 7X1
Tel:604-575-1122 Fax:604-575-1152