67 Adelaide Street East

Interior Demolition

67 Adelaide St. E
Toronto, ON M5C 1K6

TECHNICAL SPECIFICATIONS AND DRAWINGS

Prepared for:

The City of Toronto, Facilities Management
Metro Hall – 55 John Street
Toronto, ON M5V 3C6

Prepared by:

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Division 00 - Procurement and Contracting Requirements

Division 01 - General Requirements

Division 02 - Existing Conditions

Division 26 - Electrical

Appendix A

1.0 Drawings

The drawings listed below will be included in the General Contractor/Owner agreement and will become part of the contract.

Drawing No.	Drawing Title	Date
	Cover Page	June 2024
GN0.1	General Notes	June 2024
P0.1	Phasing, Hoarding, and Protection Plan	June 2024
P0.2	Site Survey	June 2024
EX1.0	Existing Ground Floor and 2nd Floor Plans	June 2024
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EX4.0	Existing Elevations	June 2024
D1.0	Ground Floor Demolition Plan	June 2024
D1.1	Second Floor Demolition Plan	June 2024
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M9.2	Level 01 Plumbing Floor Plan - Demolition	June 2024
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M9.7	Level 01 HVAC Floor Plan - Demolition	June 2024

M9.8	Level 02 HVAC Floor Plan - Demolition	June 2024
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M9.10	Lower Roof HVAC Floor Plan - Demolition	June 2024
M9.11	Upper Roof HVAC Floor Plan - Demolition	June 2024
M9.12	Level 01 Unoccupied Mechanical Floor Plan	June 2024
M9.13	Level 02 Unoccupied Mechanical Floor Plan	June 2024
M9.14	Level 03 Unoccupied Mechanical Floor Plan	June 2024
M9.15	Lower Roof Unoccupied Mechanical Floor Plan	June 2024
M9.16	Upper Roof Unoccupied Mechanical Floor Plan	June 2024
E9.0	Demolition Legend and Drawing List	June 2024
E9.1	Ground Floor – Demolition - Electrical	June 2024
E9.2	Second Floor – Demolition - Electrical	June 2024
E9.3	Third Floor – Demolition - Electrical	June 2024
E9.4	Fourth Floor – Demolition - Electrical	June 2024
E9.5	Roof Plan – Demolition - Electrical	June 2024

END OF SECTION

1.0 GENERAL

Work under this Contract includes the abatement of designated substances and hazardous materials, and demolition of all interior non-load bearing walls, ceiling finishes, millwork, furniture, accessories, etc. as identified on the drawings, at 67 Adelaide Street East, in the City of Toronto in the Province of Ontario.

1.1 Description of Existing Structure

The property at 67 Adelaide Street East in Toronto, Ontario consists of a three (3) storey building originally constructed circa 1949. The site is located at the southwest corner of Adelaide Street East and Church Street. Currently, the site operates as a Drop-In Resource Centre for women.

The building footprint is approximately 580 square metres, rectangular in shape and is bound by low- and mid-rise commercial buildings at the west and south extents, respectively. The building floors are typically single storey, with the exception of the centre portion of the third floor which has a two-storey height.

Based on information contained in existing technical documents and our observations on site, the building appears to be a combination of normally reinforced concrete and structural steel-framed construction. Generally, the suspended second and third floor and low roof slabs are of reinforced concrete joist slab construction. The floor slabs (or pans) are understood to be between 76mm to 100mm thick one-way concrete slabs, supported by approximately 100mm wide by 200mm deep joists. The joists are supported by normally reinforced concrete beams spanning the north-south direction, in turn supported by normally reinforced columns. The columns appear to be supported by spread footings at the exterior walls and pad footings with caps at interior locations.

The upper roof appears to consist of a one-way concrete slab on flat pan steel deck supported by 250mm deep open-web-steel joists (OWSJs) spanning in the north-south direction. The OWSJs are supported by 812mm to 914mm deep structural steel wide flange section beams spanning east-west. The beams are supported by 400mm deep structural steel long-span girders spanning north-south between wide flange structural steel columns at the perimeter roof walls. The structural steel columns are situated directly atop of the reinforced concrete columns of the third floor.

The ground-floor slab-on-grade is unreinforced, varies in elevation and was measured to be 300mm thick in the garbage room, with the remaining sections being 200mm thick. The slab-on-grade surface is typically at street level, but is approximately 300mm lower in the boiler room, approximately 200mm lower at the east stair landing and approximately 2.4m lower in the sprinkler room below the northwest stairwell.

The exterior walls are typically non-load-bearing (aside from self-weight, cladding and wind loads) consist primarily of multi-wythe brick and clay block masonry back-up walls supporting the stone and brick building cladding.

1.2 Description of Work

.1 It is the Contractor's responsibility to provide all labour, material, equipment and supervision to complete the repairs outlined in this specification taking into account all site conditions, noise restrictions, work area restrictions, protection requirements, accessibility restrictions, etc. No extras will be entertained for inconveniences after the award of this Contract.

.2 In particular, the work includes but is not necessarily limited to the following:

.1 The installation and maintenance of hoarding, dust protection, and construction signage around each phase of work as shown on the Drawings and described in Section 01 56 00.

.2 The installation and maintenance of ventilation and exhaust systems into and out of work area as described in Section 01 56 00.

.3 The removal and disposal of Type 1, 2, and 3 asbestos containing materials, the removal and disposal of Type 1, 2, and 3 lead-based paint, removal and disposal of mercury containing thermostats, and removal and disposal of fluorescent light tubes in accordance with O,Reg 490/09 per locations identified in the attached Designated Substance and Hazardous Materials Assessment Prepared by ECOH and dated February 2021 as described in Section 02 82 00 – Abatement Scope and Details.

.4 Removal of all interior doors and door frames as identified on the Drawings.

.5 Removal and disposal of all interior non-load bearing walls, ceiling finishes, millwork, furniture, accessories, etc. that has not been otherwise demolished or removed as part of the designated substance and hazardous material abatement work above, is present on site and not designated for salvage by the Owner and as identified on the Drawings.

.6 Removal, disposal, cut and/or capping of all mechanical systems as identified on the Drawings, including coordination with relevant utility providers.

.7 Removal, disposal, cut and/or capping of all electrical systems as identified on the Drawings, including coordination with relevant utility providers.

.8 Provide new construction-grade lighting at locations identified on the Drawings.

.9 Installation of new electrical panel and electrical system modifications as identified on the drawings.

.10 Installation of semi-permanent hoarding and barricades with controlled access systems at exterior doors and windows, as identified on the Drawings.

.11 Retention of consultants, coordination and access provision of material testing and sampling via Cash Allowances.

.12 Repair all areas damaged by construction activity; specifically, the Contractor shall repair all damage resulting from the Construction to the satisfaction of the Consultant including repainting of surfaces that have been damaged in accordance with these Specifications.

.13 Final cleaning of structure, fixtures, piping, etc., and the disposal all waste products and/ or debris generated by the construction activity as well as any material present in the work area prior to the commencement of the Work. The areas requiring cleaning shall consist of all areas affected by the Work.

1.3 Work Sequence

.1 The Work areas will be available as of **7:00 A.M**. on **Monday, January 6, 2025**. Contractor to confirm date of mobilization.

.2 Subject to adjustments in Contract Time agreed upon by Change Order, attain Substantial Performance of the Work by **7:00 P.M. on Friday, May 9, 2025**. This provides a Contract Time of up to **18 weeks**.

.3 Contractor to phase the work such that proper designated substance and hazardous material abetment procedures are followed during the course of the demolition work.

1.4 Construction Schedule

.1 In Conjunction with and in a form acceptable to the Consultant and the Owner’s Representative, provide within five (5) working days after award of contract a detailed schedule.

.2 The construction schedule shall reflect completion of all work under the Contract within the specified time and in accordance with these Specifications.

.3 If the Contractor desires to make a major change in the method of operation after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor shall submit to the Consultant a revised construction schedule in advance of beginning revised operation.

.4 The Contractor shall submit 2 week look ahead schedules in advance of each progress meeting outlining the scopes of work to be completed and trade workforce on site for the 2 week duration between progress meetings.

1.5 Abatement Sub-Contractor

.1 The General Contractor is to retain a speciality sub-contractor capable of performing the removal and disposal of designated substance and hazardous materials as outlined in Section 02 41 19 per locations identified in the attached Designated Substance and Hazardous Materials Assessment prepared by ECOH dated February 2021 and can comply with the following requirements.

.1 Are Licensed Unionized Abatement Contractors.

.2 At least one Supervisor on Site with MOL’s Supervisor 253S MTCU Accreditation (proof of training required).

.3 All other abatement workers with the MOL’s Asbestos Workers 253W MTCU Accreditation (proof of training required).

.4 Proof of Insurance, Commercial General Liability, naming the City on the Policy, $5M coverage from start date until two (2) years following completion.

.5 Current WSIB Clearance.

.2 The following are pre-approved hazardous material abatement contractors that comply with the requirements outlined in Item 1.5.1:

.1 Biggs & Narisco Construction Services Inc.

.2 Furcon Environmental Inc.

.3 JMX Environmental Inc.

END OF SECTION

1.0 GENERAL

1.1 Contractor's Use of Site

.1 Building is to remain secured throughout the course of the Work. Contractor has complete and sole use and access to designated work area unless otherwise stipulated by the Owner during the course of the Work.

.2 Coordinate work schedule with the Owner to minimize disruption of the site. No work shall be performed until approved by Owner.

.3 It is Contractor's responsibility to control traffic and to redirect if necessary to allow access to building areas outside of work area. Any required traffic rerouting and work sequence shall be closely coordinated with the Owner.

.4 Provide signage of professional quality, barriers, and hoarding as necessary to protect the public from construction and Contractor operations, and to secure the work area. Provide signage at each entrance indicating that repairs are being performed and we are sorry for the inconvenience. Refer to Drawings and Section 01 56 00 for a list and locations of non-standard construction signage that must be supplied by the Contractor. These signage requirements are in addition to any standard signs required to maintain public safety.

.5 Hoarding and dust protection is to be provided around each area of work in accordance with Section 01 56 00. Each phase of work is to be sealed to prevent the release of construction dust into other areas.

.6 Completely enclose and ventilate work areas (fresh air in and exhaust out) without allowing dust to escape from the work area. Exhaust system must filter dust out of the air before it is released into the atmosphere. All exhaust systems must be filtered and directed to the outside through ducting, which is to be installed in a manner acceptable to the Owner and Consultant. Clean and replace filters regularly.

.7 Implement temporary measures to maintain interior air quality, temperature, and ventilation during performance of the Work.

.8 Use of power plant and percussive equipment to be in accordance with all local by-laws and ordinances.

.9 Confine construction equipment, temporary work, storage of products, waste products and debris, and operations of employees and subcontractors to limits indicated by laws, ordinances, permits, or Contract Documents and do not unreasonably encumber the Place of the Work.

.10 Do not overload slab areas with equipment or stored materials. Review all equipment weights and loading procedures with Consultant prior to commencing work.

.11 Do not close, obstruct, or store materials in roadways, sidewalks, or passageways without prior approval from the Owner. Do not interfere with safe passage to and from building and adjacent public sidewalks and roads.

.12 Contractor is prohibited from using the existing elevator.

.13 Maintain access to stairwells and elevator shaft. Under no circumstances shall these areas be obstructed unless otherwise approved by Owner.

.14 Maintain access to mechanical rooms at all times.

.15 Move stored products or equipment that interfere with operation of the building, Owner, or residents.

.16 Obtain and pay for all necessary approvals to locate equipment or materials on city property, excluding building permit.

.17 Protect existing light standards, walls, plants, finishes, windows, doors, etc. to remain.

.18 Protect all utilities, gas mains, electrical conduit, etc. that must remain in service throughout the construction period.

.19 During transportation of materials or equipment through occupied areas, protect the public, property, and finishes from damage. All damage caused by the Contractor is to be repaired or rectified at Contractor’s expense.

.20 Make allowance in price to cover all costs of temporary removal and replacement or relocation of existing electrical wiring and mechanical hardware required for completion of the Work.

.21 Propane powered equipment is not permitted within interior areas.

.22 Temporary heat and ventilation used during construction – including the cost of installation, fuel, operation, maintenance, and removal of equipment – shall be paid for by the Contractor. Use of direct-fire heaters discharging waste products into work areas is not permitted.

.23 Use Church Street for delivery and removal of material for duration of Project. Location of disposal bins, supply trucks, etc. are to be determined by the Contractor. Contractor is responsible for all required permits.

.24 Maintain free access routes for ambulance, fire emergency vehicles, garbage trucks, etc.

1.2 Hours of Work

.1 Use of all equipment to be restricted in accordance with local and municipal noise by-laws and regulations.

.2 All noise generating Work shall be limited to the hours of **7:00 A.M. to 7:00 P.M.** Monday through Friday, and **9:00 A.M. to 7:00 P.M.** on Saturdays.

.3 Every two weeks, an updated schedule will be provided for hours of noise generating work that are permitted beyond the hours stated above.

.4 Contractor has access to areas with quiet work proceeding around the clock seven days a week, if desired.

1.3 Effect on Building and Site

.1 Schedule operations to minimize interruption of the normal use of the site and building, and to comply with laws, by-laws, ordinances, rules, and regulations relating to the Work.

.2 Locate all existing utilities prior to construction and protect them during construction.

END OF SECTION

1.0 GENERAL

1.1 Section Includes

.1 Cash Allowances

.2 Contingency Allowances

.3 Determination of Actual Costs

.4 Adjustment of Contract Price

1.2 Allowances

.1 Allowances include for the following:

.1 Supply Products

.2 Supply and Install Products

.3 Inspection and Testing

.2 Unless otherwise specified, amounts for each allowance include:

.1 Actual product cost

.2 Applicable taxes and tariffs

.3 Freight, handling, unloading, and storage

.4 Contractor services

.5 Construction machinery and equipment

.6 Authorized expenditures

.3 Value Added Taxes do not form a part of the allowances.

.4 Contractor’s overhead and profit to be included as follows:

.1 Overhead and profit for each cash allowance will be included in Contract Price.

.2 Overhead and profit for contingency allowance, as noted in the City of Toronto Construction Agreement Contract.

.5 Contractor will provide the Owner with at least three (3) competitive prices for work of each allowance. The Owner shall determine actual costs as specified in Paragraph 8.

.6 Additional expenditures not identified as part of the allowances will be submitted for review by the Owner and where deemed applicable authorized in writing by the Owner.

.7 Notification in writing by the Owner is required prior to the Contractor executing work outlined under each allowance.

.8 The Owner will provide the Contractor with applicable documentation, equipment, and products within the time specified or, where such time is not specified, in sufficient time to permit the construction schedule to be maintained.

1.3 Cash Allowance – Geotechnical Sampling

.1 Include in Stipulated Sum, a cash allowance of **$10,000** for the sampling and testing of soils as necessary to facilitate footing enlargement.

.2 Cash allowance is to include for Contractor services, construction machinery and equipment, and other authorized expenses required for sampling and testing of soils.

1.4 Cash Allowance – Materials Testing

.1 Include in Stipulated Sum, a cash allowance of **$55,000** for testing of materials as noted under the allowance.

.2 Cash allowance is to include for Contractor services, construction machinery and equipment, and other authorized expenses required to test materials noted under the allowance.

1.5 Cash Allowance – Hazardous Material Abatement

.1 Include in Stipulated Sum, a cash allowance of **$50,000** for abatement of hazardous materials as noted under the allowance.

.2 Cash allowance is to include for Contractor services, construction machinery and equipment, and other authorized expenses required to test materials noted under the allowance.

1.6 Determination of Actual Costs

.1 Invoices, bills of sale, and notes payable for actual cost of items and services covered in an allowance amount shall be submitted by the Contractor for verification by the Owner.

.2 Trade discounts and refunds shall be credited to Owner.

.3 Where applicable, the valuation for a change shall be in accordance with City of Toronto Construction Agreement Contract.

1.7 Adjustment of Contract Price

.1 When actual costs are determined for each allowance, the Contract Price will be valued accordingly by a Change Order.

END OF SECTION

1.0 GENERAL

1.1 Substitution of Materials Prior to Bid Closing

.1 Substitution of specified products or systems is permitted only when alternatives have been approved by the Consultant, in writing, prior to bid closing.

.2 Inform the Consultant in writing when specified products or systems are not anticipated to be available at the Place of the Work during construction. The Consultant will advise Bidders of alternatives.

.3 If specified products or systems are not available and the Consultant was not notified prior to bid submission, the Consultant will choose a suitable substitute product at the time of construction.

1.2 Request for Approval of Alternatives

.1 A Bidder or Supplier of a product or system may apply for approval of their product or system as an alternative up to seven calendar days prior to bid closing. The Consultant will advise applicants of the status of their request prior to bid closing.

.2 Provide the Consultant with sufficient information to review the alternative. This information may include:

.1 Project name and number

.2 Specification sections affected by the proposed alternative

.3 Product technical data sheets

.4 Supplier installation instructions and requirements

.5 Supplier warranty and warranty requirements

.6 Product application sample at specified material thickness and finish on sample substrate

.7 Installation history, including:

.1 Installation locations, dates, project sizes, project values

.2 Description of project and product usage

.3 Owner and consultant

.8 Test data

1.3 Approval of Alternatives

.1 The Consultant reserves the right to reject any requests for approval of alternatives.

.2 The Consultant will outline approved alternatives by addenda issued prior to bid closing. The addenda will indicate the alternative Product or system, where and how it may be used, and limitations. If an addendum is not issued, the bid is to be based on use of the specified Product or system.

.3 The Contractor assumes full responsibility and bears all associated costs where an alternative Product or system is incorporated into the Work. Claims for increases to the Contract Price or for changes to the Date for Substantial Performance of the Work due to changes in the Work that are necessitated by the use of an alternative will not be considered. All associated costs are to be included in the bid.

.4 The Contractor is to reimburse the Owner for their additional costs associated with incorporating alternatives into the Work. This may include additional consulting costs billed to the Owner to accommodate changes to the Contract Documents necessitated by the change.

.5 Contractor cost savings arising from approval of alternatives are to be reflected in the Contract Price.

END OF SECTION

1.0 GENERAL

1.1 Project Coordination

.1 The Contractor is responsible for coordination of trades. Lines of demarcation between Contractor and trades or trade and trade are solely the responsibility of the Contractor.

.2 Contractor is responsible for coordination with the Owner for on-site activity as it affects the operation of the building.

1.2 Notification for Field Review

.1 Notify the Consultant at least 24 hours in advance for field review. No work shall be covered or concealed until reviewed by the Consultant unless informed that a field review will not be performed. Such review does not absolve the Contractor from their responsibility to perform the work in accordance with the Contract Documents.

.2 The Contractor shall notify the designated testing company for material sampling and testing.

.3 Provide the Consultant with safe access to any part of the Work requiring field review.

.4 The Owner may be present during field review at the Owner’s discretion.

1.3 Superintendence

.1 Provide a full time Superintendent who is to be on-site on a continuous basis during the execution of the work. Superintendent shall have a mobile phone at all times during working hours to allow for communication with the Consultant or Owner.

.2 Superintendent shall be satisfactory to the Owner and the Consultant, and shall not be changed without the Consultant or Owner’s consent.

.3 Superintendence shall be deemed unsatisfactory and changes or additions to superintendence may be demanded when control, organization, or coordination of the Work is not satisfactory, quality of the Work does not meet requirements of the Contract Documents, directions given in accordance with the Contract Documents are not followed, or progress is behind schedule.

END OF SECTION

1.0 GENERAL

1.1 Work Included

.1 Administration of Project Meetings

.2 Pre-Construction Meetings

.3 Progress Meetings

1.2 Administration of Project Meetings

.1 Consultant will preside at meetings.

.1 A representative of the Consultant will record the minutes, include significant proceedings and decisions, and identify "action by" parties.

.2 Consultant will reproduce and distribute copies of the minutes to meeting participants, affected parties not in attendance, the Owner, and the Contractor.

.2 Consultant will:

.1 Schedule and administer project meetings unless otherwise noted.

.2 Prepare agenda for meetings.

.3 Distribute written notice of each unscheduled meeting three days in advance of meeting date to the Contractor and Owner. Contractor is to notify relevant Subcontractors.

.3 Contractor shall provide physical space and arrange for meetings on site.

.4 Representatives of Contractor, Subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the party each represents.

1.3 Pre-Construction Meeting

.1 After award of Contract, a meeting of all parties in the Contract shall be held to discuss and resolve administrative procedures and responsibilities.

.2 Representatives of the Owner, Consultant, Contractor, major Subcontractors, and construction review personnel will attend.

.3 Consultant will establish a time and location of the meeting and notify concerned parties at least five days before the meeting.

.4 Agenda to include the following:

.1 Appointment of official representatives of participants of the Work.

.2 Schedule of Work, progress scheduling.

.3 Shop drawings (if required) and schedule of shop drawing submissions.

.4 Requirements of temporary facilities, site signage, hoarding, dust protection, offices, storage sheds, utilities, fences.

.5 Delivery schedule of critical equipment.

.6 Site security.

.7 Contemplated change orders, procedures, approvals required.

.8 Take over procedures, acceptance, warranties.

.9 Monthly progress claims, administrative procedures, holdbacks.

.10 Appointment of inspection and testing agencies or firms.

.11 Insurance, transcript of policies.

1.4 Progress Meetings

.1 During the course of Work, the Consultant or Contractor will schedule progress meetings every two weeks. Further progress meetings may be scheduled by the Consultant, Contractor, or Owner as required to expedite the Work.

.2 Consultant, Contractor, major Subcontractors involved in the Work, and Owner, when required, are to attend.

.3 Agenda to include the following:

.1 Review, approval of minutes of previous meeting.

.2 Review of Work progress since previous meeting.

.3 Field observations, problems that impede construction schedule, conflicts.

.4 Progress, schedule during succeeding work period.

.5 Corrective measures and procedures to regain projected schedule.

.6 Revisions to construction schedule.

.7 Review of off-site fabrication delivery schedules.

.8 Review submittal schedules; expedite as required.

.9 Maintenance of quality standards.

.10 Pending changes and substitutions, Notices of Proposed Change, Change Orders.

.11 Review proposed changes effect on construction schedule and on completion date.

.12 Other business.

END OF SECTION

1.0 GENERAL

.1 This Section specifies general requirements and procedures for shop drawing, product data, sample, and mock-up submissions for Consultant's review. Additional specific submission requirements may be specified in other Sections.

.2 Do not proceed with Work until relevant submissions are reviewed by Consultant.

.3 Present shop drawings, product data, samples, and mock-ups in SI metric units. Where items or information is not produced in SI metric, converted values are acceptable.

.4 Contractor's responsibility for errors or omissions in any submission is not relieved by Consultant's review of the submission.

.5 Notify Consultant, in writing at time of submission, of any deviations from the requirements of Contract Documents that form part of submissions. Also indicate the reasons for the deviations.

.6 Contractor's responsibility for deviations from the requirements of the Contract Documents in submissions is not relieved by Consultant's review of the submissions unless Consultant provides written acceptance of the identified deviations.

.7 Make any changes in submissions that Consultant may require consistent with the Contract Documents and resubmit where directed by Consultant.

.8 Notify Consultant in writing of any revision other than those requested by Consultant when resubmitting.

1.1 Submission Requirements

.1 Coordinate each submission with requirements of work and Contract Documents. Individual submissions will not be reviewed until all related information is available.

.2 Submit electronic copies of product data, manufacturer's catalogue sheets, brochures, literature, performance charts, and diagrams.

.3 Comply with the following requirements in regards to submission of product data:

.1 Delete information not applicable to project.

.2 Supplement standard information to provide details applicable to project.

.3 Provide certification of compliance to applicable codes.

.4 Provide manufacturer's certification as to current production.

.4 Allow 10 working days for Consultant's review of each submission.

.5 Accompany submissions with an electronic transmittal letter that contains:

.1 Date.

.2 Project title and number.

.3 Contractor's name and address.

.4 Identification and quantity of each shop drawing, product data, and sample.

.5 Other pertinent data.

.6 Submission shall include:

.1 Date and revision dates.

.2 Project title and number.

.3 Name and address of:

.1 Subcontractor.

.2 Supplier.

.3 Manufacturer.

.4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.

.5 Details of appropriate portions of Work as applicable:

.1 Fabrication.

.2 Layout, showing dimensions, including identified field dimensions and clearances.

.3 Setting or erection details.

.4 Capacities.

.5 Performance characteristics.

.6 Standards.

.7 Operating weight.

.8 Wiring diagrams.

.9 Single line and schematic diagrams.

.10 Relationship to adjacent work.

.6 After Consultant's review, distribute electronic copies to relevant affected subcontractors.

1.2 Shop Drawings

.1 Provide electronic copies of shop drawings pertaining to installations and fabrications required by the Contract for Consultant review prior to commencing work. Provide full-size hard copy submissions if requested by Consultant. Unless noted otherwise, submit shop drawings for the following:

.1 Temporary shoring and bracing**.**

.2 Electrical panels and equipment.

.2 As part of RJC's field services, RJC will review shop drawings pertaining to work shown on RJC's drawings by means of an appropriate rational sampling procedure and will comment on the accuracy with which the Contractor prepared the shop drawings.

.3 Review of shop drawings is for the sole purpose of ascertaining conformance with the general design concept and is not an approval of the detail design inherent in the shop drawings. Design responsibility remains with the Contractor submitting the shop drawings.

.4 Review of shop drawings does not relieve Contractor of their responsibility for errors and omissions in shop drawings or for meeting all requirements of the Contract Documents.

.5 Contractor is solely responsible for information pertaining to fabrication process, techniques of construction and installation, and coordination of subcontractors.

.6 Cross-reference shop drawing information to applicable portions of Contract Documents.

.7 Shop drawings that require approval of any legally constituted authority having jurisdiction shall be provided by the Contractor to such authority for approval.

1.3 Product Data

.1 Product Data: Manufacturer's catalogue sheets, brochures, literature, performance charts, and diagrams, used to illustrate standard manufactured products.

.2 Submit electronic copies of product data.

.3 Sheet Size: 215 x 280 mm.

.4 Delete information not applicable to project.

.5 Supplement standard information to provide details applicable to project.

.6 Cross-reference product data information to applicable portions of Contract Documents.

1.4 Samples

.1 Samples: Examples of materials, equipment, quality, finishes, workmanship.

.2 Where colour, pattern, or texture is criterion, submit full range of samples.

.3 Reviewed and accepted samples will become standard of workmanship and material against which installed work will be reviewed.

1.5 Mock-Ups

.1 Mock-Ups: Field-erected examples of work complete with specified materials and workmanship.

.2 Erect mock-ups at locations acceptable to Consultant.

.3 Reviewed and accepted mock-ups will become standards of workmanship and material against which installed work will be reviewed.

END OF SECTION

1.0 GENERAL

1.1 Temporary Utilities

.1 Provide and pay for where specified, locate where directed, and maintain temporary facilities for the Work and for all Subcontractors, and remove them upon completion of the Work.

.2 Where specified to provide utilities, make all arrangements with the public utilities, obtain all necessary permits, provide or pay for connections, and pay all respective fees.

1.2 Electrical Power

.1 Discuss available power with the Owner prior to bidding.

.2 The Contractor shall pay for any alternations to the electrical system that may be needed to accommodate the Contractor’s equipment. Coordinate any required alterations with the Owner’s Representative. Reinstate the system to its original condition upon completion of the Work.

.3 The Owner shall pay for electrical consumption from building sources made available by the Owner.

1.3 Water Supply

.1 Contractor shall pay for the cost of any temporary water connections or alterations that are required to perform the Work. Reinstate the system to its original condition upon completion of the Work.

.2 The Owner shall pay for water consumption from building sources made available by the Owner.

1.4 Temporary Lighting

.1 Provide and maintain temporary lighting for safe demolition and working conditions conforming to Ontario Occupational Health and Safety Act.

.2 Illumination must be provided and maintained on all floors and stairs affected by the Work.

.3 Contractor is to have an emergency generator and lighting system available to be used in a situation where the existing lighting system becomes inoperative due to the Work and cannot be repaired within a two (2) hour period. Once the repair is complete, the temporary lighting system may be removed.

.1 If the damaged lighting cannot be repaired within the specified period, the Contractor must promptly notify the Owner.

.2 If the Contractor does not repair the damaged lighting within the specified time and does not promptly notify the Owner, the Owner reserves the right to repair the damage and deduct the cost from the Contract.

.4 Temporary lighting requirements discussed herein shall also apply to all subcontractors.

1.5 Temporary Telephone

.1 Provide and pay for a mobile telephone for the Contractor's own use and, as required, the use of Consultant and Owner.

1.6 Temporary Fire Protection

.1 Provide and maintain temporary fire protection equipment and egress from the building during performance of the Work as required by governing codes, regulations, and by-laws.

1.7 Temporary First Aid Facilities

.1 Provide well-stocked and maintained first aid kits within the site office that are adequate to meet the requirements and hazards of the Work.

.2 Maintain safety data sheets (SDS) for all material being used at the project site. Ensure the SDS are readily available to the Consultant, Owner, and Contractor's forces.

1.8 Temporary Sanitary Facilities

.1 The building toilets and facilities may be used by the Contractor's forces and are to be cleaned and serviced periodically.

.2 Existing building toilets and washing facilities to remain are to be maintained in a good and operational condition.

1.9 Temporary Field Offices and Sheds

.1 Provide or construct work sheds for storage of tools, equipment, and materials.

.2 Provide and maintain a field office for the Contractor's personnel that is equipped with lights, power, and tables for drawing examinations.

.3 Maintain sheds in a clean and orderly condition to the Consultant's satisfaction.

.4 Provide suitable hardware and locks on doors to sheds to reasonably secure them and keep locked when unsupervised.

.5 Relocate sheds as required by the progress of the Work. Remove sheds from the Site when directed or when they are no longer required.

1.10 Temporary Barriers and Enclosures

.1 Provide hoarding, fencing, barriers, barricades, and plant protection as required by the authorities and specified herein to protect persons and property, public and private. Refer to Section 01 56 00 for signage and hoarding requirements.

.2 Maintain barriers in sound, clean, and where required painted condition throughout the Work.

.3 Keep site clear of unauthorized signs.

.4 Provide barriers with required warning lights and signs.

.5 Hoarding, fencing, barriers, and barricades are to be constructed and supported in such a manner that no sharp projections that can cause personnel injury are created.

.6 Remove hazards requiring barriers as soon as possible.

.7 Remove barriers at time of turn-over of the Work to the Owner.

1.11 Temporary Heating and Ventilation

.1 Provide and maintain supplementary ventilation as required. Ventilation requirements shall conform to Occupational Health and Safety Standards. Do not modify the base building systems without the coordination and approval of the Owner.

.2 Temporary heating and ventilation used during construction -- including the cost of installation, fuel, operation, maintenance, and removal of equipment -- shall be paid for by the Contractor. The use of direct-fired heaters discharging waste products into enclosed work areas will not be permitted.

1.12 Security

.1 Take all necessary precautions to guard site, premises, materials, and the public at all times other than when supervised work is in progress.

1.13 Protection of Work During Close-Down

.1 Should the project be closed down for any cause, assume all responsibility for its proper protection during such period.

END OF SECTION

1.0 GENERAL

1.1 Work Included

.1 Protection of the Work, work in progress, property, and persons by all Sections.

.2 Protection of existing building envelope components, structure, elevator, mechanical, and electrical services to remain operational upon completion of work.

1.2 Walk-Through Inspection of Site

.1 Prior to start of Work, Contractor, Consultant, and Owner will perform walk-through inspection of site and inspection of elevators to determine existing conditions. Owner to pay for elevator service personnel during inspection.

.2 The Contractor is to perform a thorough inspection of the site prior to the start of work and provide a written notice to the Consultant that details all damaged property, as well as all items that appear to be of poor working order or appearance (i.e. sign, fixtures, dirt, etc.)

.3 Upon receiving this notice, the Consultant and Owner will review the validity of the items listed.

.4 If written notice is not given within five days of commencement of Work, it will be assumed that the Contractor has reviewed the site and has accepted the condition of the property as being free of damage.

.5 Any damages not listed as part of the written notice of clause 1.2.2 above found after the completion of the work will be the sole responsibility of the Contractor to rectify. These rectifications shall be completed in a timely and satisfactory manner.

.6 The project will not be considered substantially performed if the cost to correct these outstanding deficiencies is greater than the limits outlined in the Construction Lien Act.

1.3 The Work, Work In Progress, Property, and Persons

.1 Protect the Work during construction from damage by weather.

.2 Provide protection as required to protect work in progress and other property from damage and to provide suitable conditions for the progress of finishing work.

.3 Take reasonable and required measures, including those required by authorities having jurisdiction, to protect the public and those employed on the Work from bodily harm.

.4 Comply with requirements of Ontario Occupational Health and Safety Act for construction projects.

.5 Contractor shall be prepared to provide respirators, dust protection, ear protection for those employed by the Consultant and Owner at the site.

.6 Direct all Subcontractors to protect their own work, existing property, adjacent public and private property, and work of other Sections from damage while working.

1.4 Construction Signage

.1 Contractor shall provide all required signage necessary to protect the public from the construction, control the traffic flow through the work areas and to inform the public that construction activity is in process.

.2 Additional signs may be required at the discretion of Owner or Consultant as construction progresses. No extras will be entertained for signage requirements after tenders close.

.3 Signage will be required at all entrances to the building. This signage shall consist of the standard “Men at Work” sign with an additional signs (special order) indicating that the building is under construction and do not enter.

.4 All non-standard signage is to be of adequate size (discuss with Consultant prior to ordering) with orange background and large black letters and decals. Plywood backing is sufficient. All signs are to be of professional quality.

.5 All signage is to be securely fastened and installed in such a manner that projections that may cause public injury are not created.

1.5 Construction Barriers and Enclosures

.1 All work areas are to be completely enclosed by hoarding and dust protection and only accessible to the Contractor, Owner, and Consultant.

.2 Contractor shall supply and construct hoarding, barriers, and enclosures as indicated in these specifications, drawings, and as directed by the Consultant or Owner as the construction progresses.

.3 Additional hoarding, barrier, enclosure and ventilation requirements are located in the respective Lead Based Paint Abatement, Asbestos Containing Material Abatement, and Mercury Abatement Specifications.

.4 No extras shall be entertained for hoarding, barriers, and enclosures after bid close unless the scope of work is significantly changed.

.5 **Work areas are to be completely enclosed to keep dust generated by construction activity from escaping into other areas of site or interior areas.**

.6 Contractor shall be responsible to ventilate work area as required (fresh air in and exhaust out) without allowing any dust to escape from the work area. Exhaust system must filter dust out of the air before it is released into the atmosphere. All exhaust systems must be filtered and directed to exhaust vents or outside of the building through ducting, which is to be suspended from the slab soffit. Filters are to be cleaned and replaced regularly, and as directed by Consultant.

.7 **The Contractor is responsible for any damage to mechanical equipment, motors, elevator equipment, fire alarm system/devices, etc. resulting from dust contamination.**

.8 Restrict access for unauthorized personnel by placing barricades or posting guards around areas of the Work. Unauthorized personnel shall mean the public and anyone not directly concerned with the execution, supervision, or inspection.

.9 Building to be made secure at the end of the Work with operable door locking hardware, and all keys to doors to be return to the Owner upon completion of the Work.

1.6 Existing Buildings, Curbs, Roads, Lanes, and Landscaping

.1 Protect existing buildings, structures, curbs, roads, lanes, and hard and soft landscaping. If, during work, any existing items are damaged, repair or replace them.

.2 Provide pavement, curb, and sidewalk protection for public thoroughfares and the Work in progress as required by the authorities, and to protect public property and the Work.

1.7 Control of Construction Generated Dust, Debris, Fumes, Etc.

.1 Dust, dirt, construction debris, water, and fumes from the work areas must not be permitted to exit the work areas.

.2 Protection shall be provided for all entrance and exit ways, floors, walls, standing fixtures, air intakes, exhaust fan openings, floor drains, elevators, and equipment rooms against dust, spillage, overspray of materials, and damage during the construction period. The required protection shall consist of but not be limited to the following:

.1 Filter cloth in all floor drains within the work area.

.2 Filter cloth over all intake and exhaust louvers and openings.

.3 Poly-weave tarping over doorways and around the exterior perimeter of work area to prevent the escape of dust and debris from the work area.

.4 Protect sprinkler heads with polyethylene or filter cloth to prevent dust build up.

.3 The Contractor shall be allowed to use the existing exhaust system to evacuate air from the enclosed work area to the exterior. The Contractor shall be required to connect into the exhaust fan outlet through the use of flexible ducts or equivalent hung from the slab soffit. In addition, the Contractor is to install filters to remove suspended particles of dust prior to the air entering the Owner's exhaust system. The Contractor shall incur all costs for the installation, operation, maintenance, and removal of their material, temporary ductwork, and filters.

1.8 Protection of Existing Exposed Facilities

.1 Protect existing lighting systems to remain from damage, or remove and re-install upon completion of repairs.

.2 If Contractor wishes to use existing lighting system as an alternate to installing temporary light, Contractor shall assume all responsibility for damages incurred.

.3 Protect exposed conduit, fixtures, attached devices, , mechanical system components, louvres, and ducts against the accumulation of dust, debris, and damage. The Contractor will be responsible to correct any damages to these systems at their own expense. Contractor to promptly report any damage to the Owner and the Consultant.

.4 Inspect materials, equipment, and components to be re-used or turned over to the Owner. Note their condition and advise Consultant in writing of any defects or conditions that would affect their removal and re-use, prior to removal.

.5 Prior to commencing Work, contact the Owner to locate all protective or alarm systems and sensors. All services shall be protected against damage or interruption. All claims resulting from damage shall be the responsibility of the Contractor.

.6 Contractor must notify the Owner of any fault or alarm to the main fire alarm panel immediately. When Contractor's activities result in charges to service the fire alarm panel or alarm system, the Contractor shall bear all costs.

1.9 Overloading

.1 Load no part of the structure during construction with a load greater than its designed capacity.

.2 Submit equipment weights and construction procedures to the Consultant for review prior to commencing the Work.

.3 Make every temporary support as strong as the designed permanent support.

1.10 Fire Protection

.1 Take necessary precautions to eliminate fire hazards and to prevent damage to the Work, building materials, equipment, and other property, both public and private, having to do with the Work. Inspect the Work at least once a week for this purpose.

.2 Store and locate products and equipment packed in cardboard cartons, wood crates, and other combustible containers in orderly and accessible manner. Place approved types of firefighting equipment in vicinity of products packed in this type of crate or carton until permanent fire protection and equipment are available.

.3 Do not store flammable products, such as paint or fuel, on site except in Owner-approved locations, if available.

.4 Tarpaulins to be fire-resistant.

.5 Open fires and burning of rubbish or debris are not permitted on site.

1.11 Exterior Site Enclosures

.1 Apply plywood panels to exterior of ground floor windows, vertically flush with the building façade. Paint sides of plywood enclosures in colour(s) selected by Owner, with one coat primer to CGSB 1-GP-59M and one coat exterior paint to CGSB 1-59M + Amdt-Aug-84. To remain in place upon completion of project.

.2 All enclosures and protection are to be maintained daily, keeping them clean, orderly, and graffiti free, for duration of construction contract.

END OF SECTION

1.0 GENERAL

1.1 Description of Work Included

.1 Provide all labour, material, equipment, and services necessary to clean the area of the Work, including all surfaces, fixtures, equipment, finishes, landscaping, etc., and dispose of all waste products and debris in the work area as indicated in the Contract Documents.

.2 Provide all labour, material, equipment, and services necessary to clean outside the area of the work if dust, debris, and waste products generated by the Work have affected these areas.

1.2 General Requirements

.1 Conduct cleaning and disposal operations in compliance with local, provincial, and federal regulations and laws, as well as Owner requirements.

.2 Store volatile wastes in covered metal containers and remove from premises daily.

.3 Prevent the accumulation of waste that creates hazardous conditions. Refer to Designated Substance and Hazardous Materials abatement.

.4 Provide adequate ventilation during use of volatile or noxious substances. Obtain approval for ventilation exhaust locations with the Owner prior to installation.

.5 Waste disposal operations to be the responsibility of the Contractor.

1.3 References

.1 Waste Control Regulation - Ontario Environmental Protection Act

1.4 Materials and Equipment

.1 Use only cleaning materials and equipment that are approved by the manufacturer of the surface to be cleaned, and use the cleaning materials in conformance with manufacturer recommendations.

.2 Refer to lead-based paint abatement, asbestos containing material abatement, and mercury containing material abatement specifications for removal procedures.

1.5 Prior to Construction

.1 The Contractor shall examine the Place of the Work prior to bidding to determine conditions with respect to dust, debris, rubbish, and waste material.

.2 It is the Contractor's responsibility to clean Work areas and all areas affected by the Work free of all debris generated by the construction activity and existing dust, debris, rubbish, and waste material present at the start of Work, unless explicitly otherwise indicated in the Contract Documents or there are significant variations in conditions in comparison to the time of Bid.

.3 Onus is on the Contractor to satisfactorily demonstrate to the Consultant if conditions vary significantly from the time of bid. Significant variations will be resolved by the Owner.

.4 No extras will be entertained for site cleaning after Contract award.

1.6 Waste Removal and Cleaning During Construction

.1 Contractor to perform all required cleaning during the Work.

.2 Maintain the Place of the Work and areas affected by the Work free from accumulations of dust, debris, rubbish, and waste materials generated by the Work.

.3 Provide sufficient on-site containers for collection and disposal of dust, debris, rubbish, and waste material.

.4 Store volatile waste in covered containers. All waste that is volatile or creates a hazardous condition must be removed from the premises daily.

.5 Disposal is to be performed in strict accordance with the product Safety Data Sheet (SDS) and local, provincial, and federal regulation.

.6 Enclose work areas and prevent dust and debris generated by construction from affecting other areas, including areas required for construction access. Any dust and debris that escapes from the Work area is to be cleaned in a timely fashion and, at latest, prior to the end of the work day/ shift.

.7 If the Consultant deems that cleaning has not been performed in a timely fashion, the Owner may seek to resolve the conditions in accordance with the Contract General Conditions.

.8 Flush and clean the drainage system, including buried or hidden drain lines, all the way to sump pits and catch basins to maintain operation of the drainage system throughout the Work.

.9 Cover drains affected by or required for the Work with filter fabric to prevent debris from entering the drainage system.

.10 Do not dispose of project waste and material in the drainage system.

1.7 Drainage System – Cleanliness and Damage

.1 Flush clean all the drainage systems – including catch basins, maintenance holes, drains, sump pits, weeping tile, piping, etc. – within the area of Work. Remove and dispose of silt and debris by manual or suction means without washing it down or through the drainage system.

.2 Maintain the drainage systems in this cleaned state throughout the Work.

.3 Confirm the operation and condition of the sump pits prior to performing work that affects or requires their operation. The existing pumps may be used during construction but the Contractor is responsible to maintain their operation.

.4 Provide additional pumps if existing pumps cannot effectively remove water generated by construction.

.5 Do not discharge water from construction directly into any of the site sewer or storm water management systems. The water is to be treated with proper filtering, stilling basins, and tankage to prevent silt and debris from entering the systems.

.6 All equipment maintenance and refuelling operations shall be controlled to prevent the discharge of petroleum products into the sewer system.

.7 Damage caused to the existing water supply systems, storm water management systems, sewer systems, and surrounding areas by the Contractor’s operations are to be made good to the full satisfaction of the Owner at Contractor cost.

.8 A cleaning contractor specializing in flushing and cleaning drainage systems shall clean and flush the sewer systems after completion of dust and water generating parts of the Work.

1.8 Final Cleaning

.1 Thoroughly clean all areas affected by the Work free of all dust, debris, construction material, waste, and rubbish immediately prior to final review and turn-over of the Work area to the Owner.

.2 Flush and clean free of all silt and debris and provide CCTV inspection of all drainage lines for the Consultant to review to demonstrate the condition of the drainage lines and effectiveness of the cleaning.

.3 Prior to Substantial Performance of the Work being considered, the Contractor shall remove their surplus products, tools, and Construction Equipment not required for the performance of the remaining Work. Leave the area of Work clean and suitable for occupancy.

.4 The Contractor shall remove their remaining products, tools, and Construction Equipment prior to final completion of the Work.

.5 All vertical and horizontal surfaces, systems, fixtures, equipment, etc. shall be cleaned of all dust, grease, or spray accumulations.

.6 Slab surfaces on suspended levels shall be swept clean and then washed.

.7 Sprinkler system components, where present, that have been coated with paint, cement paste, or other foreign materials shall be replaced at no additional cost to the Owner.

.8 Contractor to clear sump pits of all debris at the end of the project including debris not generated by the Work.

END OF SECTION

1.0 GENERAL

1.1 Take Over Procedure

.1 Contractor's Review

.1 The Contractor and their Subcontractors shall conduct a review of the work and correct all noted deficiencies.

.2 The Contractor shall notify the Consultant, in writing, of satisfactory completion of the "Contractor's Review" after the correction of all noted deficiencies and shall request a "Consultant's Review".

.2 Consultant's Review

.1 The review team shall consist of the Consultant and the Contractor. The Owner or their representative shall attend at their option.

.2 The Consultant will prepare a list of deficiencies noted during the "Consultant's Review" and will issue the list to the Contractor.

.3 The Consultant will determine the value of work associated with any outstanding deficiencies noted during the Consultant's Review. Payment of these retained funds will be withheld until the deficiencies have been rectified to the satisfaction of the Consultant and Owner.

.4 The Contractor shall correct all deficiencies indicated on the list in a timely and satisfactory manner.

.3 Final Review

.1 The Contractor shall request a "Final Review" when the Contractor is satisfied that all deficiencies have been corrected. The request shall be made in writing.

.2 The "Final Review" shall be conducted by the Consultant and the Contractor. The Owner or their representative will attend at their discretion.

.4 Certificate of **Substantial Performance**

.1 The Contractor must submit a request in writing to the Consultant for a Certificate of Substantial Performance.

.2 The Contractor shall comply with the following during Contract close-out:

.1 The requirements of the Construction Lien Act.

.2 The requirements of the Workers Compensation Act.

.3 All other contractual requirements.

.5 Total Performance

.1 Immediately following the issuance of the Certificate of **Substantial Performance**, the Consultant, in consultation with the Contractor, will establish a reasonable date for the “Total Performance of the Work”.

.2 The Contractor shall supply all guaranties and review certificates in accordance with the requirements of the Contract Documents prior to the date established for “Total Performance of the Work”.

.6 Release of Holdback

.1 The lien holdback amounts will be released pursuant to the Construction Lien Act.

END OF SECTION

1.0 GENERAL

1.1 Warranty / Guaranty Period

.1 Provide a two-year minimum warranty for all Work of Contract commencing on date of Ready-for-Takeover and ending two years thereafter.

.2 Warranty shall be secured by a bonding as indicated in City of Toronto Construction Agreement Contract.

1.2 Remedial Work Under Guaranty/Warranty

.1 Perform any warranty repair work required during the warranty period at no extra cost. Refer to 1.2.3 for additional information on costs.

.2 Owner will notify Contractor within 30 days of discovery of any suspected warrantable defect in the Work. Immediately take necessary steps to protect area against further damage and take corrective action to bring defect into conformance with Contract Documents and rectify any damage incurred. Schedule repair work with Owner and make every attempt to correct defects within three weeks of notice.

.3 In event of a valid warranty claim resulting in corrective work, Contractor and Owner shall contact Consultant to determine what level of involvement, including but not limited to field review, may be necessary. Should Consultant determine that field reviews are required during warranty repair work, Contractor shall be responsible for Consultant fees.

.4 Remedy is at no cost to Owner and includes all labour, material, equipment, supervision, and field review necessary to correct defective areas of the Work and any damages incurred to obtain access to defective areas.

.5 Reimburse Owner for resulting assessment costs, including fees associated with Consultant involvement, incurred to define extent of defect and for testing costs incurred to confirm acceptability of repairs.

.6 Reimburse Owner for associated costs incurred due to closure of areas requiring repair under warranty.

.7 Warranty periods for areas requiring repair are to be extended by amount of time elapsed between issuance of notice and completion of remedial work. Warranty/ guaranty period will re-commence upon completion of remedial work.

.8 Warranties are not to be deemed to restrict liability of Contractor arising out of applicable law.

END OF SECTION

1.0 GENERAL

1.1 Record Drawings

.1 Consultant will provide Contractor two sets of clean white prints for project record drawing purposes.

.2 The Contractor shall maintain accurate project record drawings on one set of white prints throughout the course of the Work that indicate deviations from the Contract Documents in red ink.

.3 Record following information:

.1 Field changes of dimensions and details.

.2 Modifications made via Change Order, Change Directive, or Supplemental Instruction.

.3 Deviation from electrical and mechanical installations shown on Drawings.

.4 Other significant deviations that are concealed in construction and cannot be identified by visual inspection.

.5 Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.

.4 At completion of the Work and prior to final review, neatly transfer “as-built” records to the second set of white prints using a fine red marker. Neatly print lettering and numbers to match original size. Lines shall be neat and accurate.

.5 Add “AS-BUILT RECORD” at each drawing title block.

.6 Contractor shall submit both sets of “as-built” record drawings to the Consultant prior to submission of the final progress payment application.

.7 Project record drawings shall be available for reference purposes and review by the Consultant at all times. Provide reproducible prints to the Consultant or Owner upon request.

.8 If the Project is completed without significant deviations from the Contract Documents, a written declaration may be submitted to the Consultant in lieu of project record drawings.

END OF SECTION

1.0 GENERAL

1.1 SECTION INCLUDES

.1 Labour, Products, equipment and services necessary for demolition and removals Work in accordance with the Contract Documents.

.2 Work included: Requirements for investigations, demolishing, salvaging and removing wholly or in part the various items designated on the drawings or required to be removed or partially removed for the receipt of the Work of this Contract, including not necessarily limited to:

.1 Initial stage of destructive investigations as specified herein.

.2 Alteration and renovations to existing building interiors.

.3 Cutting and removing of walls, floors, ceilings, doors and frames, in the existing buildings as indicated on Drawings.

.4 Patching, fill, and making good openings, sleeves, and chases in walls, floors, and ceilings where Mechanical, Electrical and plumbing services are removed. Match existing adjacent conditions and assemblies.

.5 Removal of rubbish, debris, demolished fixtures, fitments and items not scheduled to remain the Owner's property, resulting from the demolition and preparatory work.

.6 Remove abandoned services such as conduits, pipes, wiring, ducts, fixtures, equipment, etc. where required for the work or indicated on the drawings.

.7 Removal of all mechanical items including plumbing fixtures, services etc. where required for the work or indicated on drawings and or where not required to be relocated. Refer to Mechanical Documents.

.8 Removal of existing electrical items including fixtures, etc. where required for the work or indicated on the drawings and not required to be relocated. Refer to Electrical Documents.

.9 Dust control during the operations of the work of this Section.

.10 Removal shall mean removal from site and safe disposal in a legal manner.

.11 Provide temporary heating and humidity control

.3 Refer to the Pre-Renovation Designated Substances Survey for identified designated substances which may require removal and disposal to out the work. The Contractor shall account for all Level 1 abatement necessary to carry out the work. The Contractor shall be responsible for coordination with the City of Toronto PMO's environmental team and their speciality environmental contractor to perform Level 2 abatement or higher as required.

1.2 REFERENCES

.1 CSA S350-M, Code of Practice for Safety in Demolition of Structures.

1.3 SUBMITTALS

.1 Where required by Authorities having jurisdiction, submit a Fire Plan to local fire department for review and approval.

.2 Submit shop drawings, diagrams and details in accordance with the Conditions of the Contract.

.3 Minimum 15 calendar days prior to start of demolition and removals work, submit for review, drawings, diagrams or details showing sequence of disassembly work and shoring of supporting structures in accordance with authorities having jurisdiction.

.4 Shoring and temporary support and the engineering thereof is the responsibility of the Contractor.

.5 Have submissions signed and sealed by Professional Engineer licensed in Province of Ontario.

.6 Submit to Consultant, details of where rubble, debris and other materials are to be disposed or reused. Include each disposal/reuse site location, operator's name and business address, type of license under which site operates, and criteria used by site to assess suitability of rubble, debris and other materials for disposal.

.7 Give notice to Utility Authorities controlling services and appurtenances which will be affected by demolition work.

1.4 QUALITY ASSURANCE

.1 Prepare waste audits, waste reduction workplans, source separation programs and recycling programs as required by jurisdictional authorities and update programs and implement such programs as required.

.2 Perform the work of this section in accordance with the 'Environmental Protection Act' including Ontario Regulation 102 and the 'Environmental Assessment Act' including Ontario Regulation 103.

.3 Conform to Fire Code, Regulation under the Fire Marshals Act.

.4 The demolition contractor must engage a registered professional engineer who holds a certificate of authorization and an appropriate level of liability insurance to prepare demolition procedures.

.5 As part of the contract requirements, the engineer for the demolition contractor should be required to sign the general review commitment required by city building departments.

1.5 SITE CONDITIONS

.1 Building will be unoccupied and available during all phases of demolition work.

.2 Protect building from the weather and potential un authorized entry during all phases of demolition work.

2.0 PRODUCTS

2.1 MATERIALS

.1 All materials requiring removal shall become the Contractor's property and shall be removed and disposed of from the site, as the work progresses, unless indicated otherwise.

.2 Salvaged material:

.1 Salvage and stockpile Products, materials, and equipment as specified herein, indicated on Site or indicated on drawings.

.2 Coordinate items to be salvaged with Consultant.

.3 Salvaged materials shall not be chipped, cracked, split, stained or damaged.

.4 Store items off of moist surfaces.

3.0 EXECUTION

3.1 GENERAL

.1 Clean up rubble and debris, resulting from work promptly and dispose at end of day or place in waste disposal bins. Empty bins on regular basis.

.2 Stockpiling of rubble, debris, and surplus Products on Site will not be permitted.

.3 Remove, handle and transport Products indicated to be salvaged and stored for future use. Transport Products to storage area(s) designated by Consultant. Perform work to prevent any damage to Products during removal and in storage. Products damaged during removal, will be inspected by Consultant. Consultant will determine extent of damage and accept or refuse Products.

.4 Items to be removed and stored or reused:

.1 Wall mounted mirrors.

.2 Bulletin boards

.3 Signage.

.4 Additions items as indicated on the drawings or by the Consultant.

.5 Tag and log all items to be salvaged to the satisfaction of the Consultant. Ensure identification tags do not damage items to be salvaged and are non-permanent, removable and durable.

.6 Where passing through concrete or masonry, do not leave or abandon conduit, cable, wire, pipe, etc. identified for removal. Core out at sleeved or firestopped penetrations. Patch and firestop remaining openings to meet required fire resistance rating.

.7 Retain all existing doors and hardware that are being demolished and store on site for re-use. Owner to advise storage location.

3.2 EXAMINATION

.1 Verify condition and dimensions of previously installed Work upon which this Section depends. Report defects to Consultant. Commencement of work of this Section means acceptance of existing conditions.

.2 Examine other installations prior to commencement of demolition and removals Work.

3.3 PRESERVATION OF REFERENCES

.1 Record location and designation of survey markers and monuments located within demolition area, prior to removal. Store and restore markers and monuments upon completion of Work or relocate as directed by Consultant.

3.4 PROTECTION

.1 Protect property against damage which might occur from falling debris or other causes. Repair or replace damage caused from work of this Section to acceptance of Consultant.

.2 Do not interfere with use of Work areas. Maintain free, safe passage to and from Work areas.

.3 Hang tarpaulins where debris and other materials are lowered. Build in around openings with wood and plywood at locations used for removal of debris and materials.

.4 Prevent debris from blocking surface drainage system, elevators, mechanical, and electrical systems which are required to remain in operation.

.5 Pay particular attention to prevention of fire and elimination of fire hazards which would endanger Work.

.6 Supply and install adequate protection for materials to be re-used, set on ground and prevent moisture pick-up. Cover stockpiles of materials with tarpaulins.

.7 Close off access to areas where demolition is proceeding by barricades and post warning signs.

.8 Supply, install and maintain legal and necessary barricades, guards, railings, lights, warning signs, security personnel and other safety measures, and fully protect persons and property.

.9 Dust/weather partitions:

.1 Prior to demolition work proceeding in existing structures, temporarily enclose Work areas, access and supply and install dustproof and weatherproof partitions. Design partitions to prevent dust and dirt infiltration into adjoining areas, prevent ingress of water, and to resist loads due to wind.

.2 Prevent dust, dirt and water from demolition operations entering operational areas.

.3 Adjust and relocate partitions as required for various operations of work.

.4 Upon completion of work, remove and dispose of partitions from Site.

3.5 PREPARATION

.1 Disassemble and remove mechanical equipment, ductwork and piping complete with supports and associated components.

.2 Do not disrupt active or energized utilities designated to remain undisturbed.

.3 Perform rodent and vermin control to comply with health regulations.

3.6 CONCRETE CUTTING AND CORING

.1 Concrete cutting and coring shall be performed as specified herein and according to additional requirements as outlined in Structural Specifications.

.2 Prior to cutting or coring any concrete slab, suspended or on grade, or any concrete beam, investigate by telemetrically scanning the element for presence of embedded services (piping, cabling, conduit, etc.), and for locations of reinforcing steel in suspended concrete slabs and beams.

.3 Acceptable telemetric scanning systems include: (Ground-penetrating) radar for slab on grade, for suspended slabs and for concrete beams.

.4 Magnetic radio scanners not acceptable for telemetric scanning.

.5 Provide Owner and Consultant with inspection agency's written report, summarizing investigations and conclusions.

.6 Obtain Consultant's direction where investigations reveal that cutting or coring required in Contract would cut or damage embedded services, or cut or damage reinforcing steel in suspended concrete slabs or beams.

.7 Execute cutting and coring to prevent damage to all embedded services. Make good all damage arising from cutting embedded services.

.8 Execute cutting and coring to prevent damage (cutting in whole or in part) reinforcing steel in suspended concrete slabs with Consultant's prior authorization.

.9 Make good all damage arising from cutting reinforcing steel in suspended concrete slabs and beams.

3.7 DEMOLITION

.1 Perform demolition with extreme care. Confine effects of demolition to those parts which are to be demolished.

.2 Perform work and prevent inconvenience to persons outside those parts which are to be demolished.

.3 Carry out demolition in accordance with the requirements of CSA S350-M.

.4 Demolish parts of structure to permit remedial work as indicated.

.5 Do not overload floor or wall with accumulations of material or debris or by other loads.

.6 Perform work to minimize dusting. Keep work area wetted down with fog sprays to prevent dust and dirt rising. Supply and install temporary water lines and connections that may be required. Upon completion, remove installed temporary water lines. Use covered chutes, water down.

.7 Do not sell or burn materials on Site.

.8 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as Work progresses.

.9 At end of day's work, leave Work in safe condition with no part in danger of toppling or falling. Protect interiors of parts not to be demolished from exterior elements.

.10 Drainage and sewer system protection:

.1 Ensure that no dust, debris or slurry enters drainage and sewer system on Site.

.2 Remove and dispose of debris and slurry promptly from Site.

.3 Comply with City of Toronto Sewer Use By-Law.

.11 Concrete:

.1 Demolish concrete by methods which avoid impact loads on items which are not to be demolished.

.2 Where only part or parts of a concrete floor, wall, foundation or other items are to be demolished, use saw cuts to isolate areas which are to be demolished except where existing reinforcing steel is to be left in place. Prior to such isolating, install suitable support to prevent premature movement of area(s) being isolated and undesirable transfer of loads as cutting progresses. If necessary remove area(s) to be demolished by successively isolating small sections.

.3 Where reinforcing steel is to be left in place, use saw cuts from surface of concrete around perimeter(s) of area(s) to be demolished, chip concrete without damaging reinforcing steel. Retouch damaged epoxy coating of existing reinforcing steel.

.4 Scan concrete to determine reinforcing and other elements in slab prior to cutting or coring. Refer to Structural documents for procedures for making openings in concrete.

.12 Masonry:

.1 Demolish block or brick walls in small sections of not more than 2 m^2. Do not permit masonry to fall in mass from one level to another.

.2 Where only part(s) of a wall is to be demolished, install adequate support for adjacent part(s).

.3 After removal of masonry walls, grind smooth floors ready for new floor finish.

.13 Steel platforms and stairs: Dismantle and remove in an orderly manner. Do not place excessive loads on components. Install adequate temporary supports to ensure stability. Support each component being disconnected from structure, and lower, do not drop, component after it is disconnected.

.14 Cut openings through existing walls, partitions, and floors. Establish exact location of steel reinforcing in existing concrete slabs or walls before cutting. Be responsible for damage to existing steel reinforcing and be liable for structural failure. Make good surfaces disturbed with materials to match existing.

15. Where doors are scheduled to be removed, include removal of door frames and door hardware, unless otherwise indicated.

16. Remove interior partitions, fittings, fixtures and accessories as indicated on drawings. Partitions and walls shall be removed full height to structure above.

17. Remove interior finishes, such as ceiling and floor finishes, where new finishes are indicated on Contract Drawings.

    1. Removal of existing ceilings shall include complete removal including bulkheads and suspension system.

    2. Removal of adhesive applied finishes shall include complete removal to substrate including adhesive. Take adequate care to prevent damage to substrate.

    3. Remove existing floor finishes, include mortar bed, underlayment or other cleavage membranes, underpad, base, floor moulding and transition strips.

.18 Break out and dispose of epoxy flooring. Take adequate care to prevent damage to substrate. Leave substrate, clean, flush, smooth, and level suitable for new floor finish.

.19 Where resilient floor finishes are scheduled to be removed, include stripping of all adhesive, underlayment or other cleavage membranes and leave sub-base, clean, flush, smooth and level suitable for new floor finish.

.20 Where carpet is scheduled to be removed, include:

    1. Removal of carpet to limits indicated on drawings, in clean straight cuts leaving no abraded or unravelling carpet pile.

    2. Removal of underpad, if any.

3. Removal of carpet edging and grippers at walls and vertical surfaces.

4. Stripping of all adhesive, underlayment or other cleavage membranes and leave sub-base suitable for new floor finish.

21. Demolish all other items indicated or required.

3.8 RECYCLING

.1 Whenever possible, all materials shall be recycled. Pay all costs for this work.

.2 Deliver to nearest appropriate recycling depot all materials accepted for recycling by Authorities having jurisdiction over the Place of Work, including but not limited to cardboard, paper, plastic, aluminum, steel, and glass.

.3 Deliver to nearest appropriate depot all scrap and excess gypsum wallboard for recycling of this material.

.4 Ceiling tiles to be stacked on skids and wrapped for recycling and delivered to nearest appropriate recycling depot.

.5 Base building light fixture lamps to be placed on skids and wrapped for recycling and delivered to nearest appropriate recycling depot.

3.9 DISPOSAL OF MATERIALS

.1 Remove from Site, rubble, debris, and other materials that can not be recycled resulting from demolition and removals work in accordance with Authorities having Jurisdiction, except where specified or indicated on Contract Drawings to be reused.

.2 Conform to requirements of municipality's Works Department regarding disposal of waste materials.

.3 Materials prohibited from municipality waste management facilities shall be removed from Site and dispose of at recycling companies specializing in recyclable materials.

END OF SECTION

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Page

1. GENERAL

1.1 General And Related Work

1.1.1 All sections of the specifications form a part of the Contract Document and shall be read to determine their effect upon the work of this section.

1.1.2 Related Work Specified Elsewhere

Division 2	Section 02 82 01	Type 1 Asbestos Abatement
Division 2	Section 02 82 02	Type 2 Asbestos Abatement
Division 2	Section 02 02 03	Type 2 Glove Bag Asbestos Abatement
Division 2	Section 02 82 04	Type 3 Asbestos Abatement
Division 2	Section 02 83 00	Lead Abatement
Division 2	Section 02 83 10	Other Hazardous Materials
Division 2	Section 02 84 00	PCB Capacitors and Ballasts

Attachments:

1) *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021.

1.1.3 This specification fulfils the requirements of the report required by Designated Substance – *Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations*, Ontario Regulation 278/05, Section 10.

1.1.4 The Construction Contractor is responsible to verify all measurements for removal, cleaning, re-insulation and re-instatement purposes. Measurements and quantities provided herein are for reference only.

1.1.5 It is the intent that work performed as per this section will result in the removal and/or decontamination and disposal of all designated substances and hazardous materials, as well as all materials that have been contaminated by designated substances or hazardous materials either during or prior to work of this section.

1.2 Site Conditions

1.2.1 Refer to report, *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021, for site conditions and description of designated substance and hazardous materials present in the existing Facility.

NOTE: Attachment 1 is for reference purposes only. The Construction Contractor is to verify site conditions and all requirements necessary to complete abatement. Report all discrepancies to the Project Manager.

1.3 Outline of Work

1.3.1 Co-operate fully with the on-site Abatement Consultant in confirming work areas and methods to be used in performing work. Assist the on-site Abatement Consultant in confirming the extent and specific location of designated substance and hazardous materials.

1.3.2 The Construction Contractor must have a representative on-site at all times when work is being completed. The Construction Contractor shall provide one Abatement Supervisor to coordinate all work (in all areas) with the Abatement Consultant.

1.3.3 Water is available from existing Facility sources. Refer to mechanical drawings for locations of water connections. Construction Contractor is responsible for water connection (including installation of fittings if required) from existing Facility water supply lines. Construction Contractor shall install fittings (if required) using vacuum breakers or other backflow preventer as required by Governmental Authorities.

1.3.4 Power to be supplied from existing Facility service. Refer to electrical drawings for areas of GFI panel hook-up locations, GFI panel requirements, etc.

1.3.5 Coordinate with the Facility's Building Automated System (BAS) system operator prior to and after abatement work. Retain and coordinate the Facility's Building Automated System (BAS) system operator as necessary to repair any damaged systems during the course of abatement and re-instatement work.

1.3.6 Disable fire alarms, heat detectors and smoke detectors in Abatement Work Areas. At no time are the above Life Safety Devices to be affected in areas outside the Abatement Work Areas. Coordinate Fire Watch services as necessary to monitor work areas (where Life Safety Devices have been disabled) that may be unoccupied. Reconnect Life Safety Devices at completion of abatement and reinstatement work. Coordinate with and notify Contracting Authority as necessary.

1.3.7 The removal methodology of designated substances and hazardous materials shall comply with recommendations in Attachment 1, *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021, and requirements of Governmental Authorities.

1.3.8 Abatement work area isolation shall be completed as per specifications in related sections (i.e., Item 1.1.2.).

1.3.9 Complete demolition, removal and new work as identified in drawings prepared by Others.

1.3.10 Summary of Asbestos-Containing Materials (ACM)

1.3.10.1 Asbestos safety precautions are required for the removal of the following materials, as per the definition of work classification and work requirements, as outlined in Sections 02 82 01.

1.3.10.1.1 Air-Cell Pipe Insulation (**40% Chrysotile asbestos**) present throughout facility.

1.3.10.1.2 Parging Cement Pipe Insulation (**10%-70% Chrysotile asbestos**) present throughout the facility.

1.3.10.1.3 Fire Door Insulation (**60% Chrysotile asbestos**) present in entrances to the Electrical Room/Boiler Room.

1.3.10.1.4 Ceiling Tiles with associated mastic/adhesive (**Presumed** – too high to reach) within the Third Floor Lunchroom.

1.3.10.1.5 Roofing Materials (**Presumed**).

1.3.10.1.6 Window Caulking (**Presumed**).

1.3.10.2 Refer to report, *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021, for specific locations and descriptions of asbestos-containing materials.

1.3.11 Summary of Lead-Based and Lead-Containing Materials

1.3.11.1 Lead safety precautions are required for the removal of the following materials, as per the definition of work classification and work requirements, as outlined in Sections 02 83 00.

1.3.11.1.1 Beige Paint on Walls (**5,900 - 6,100 ppm**) present throughout the facility.

1.3.11.1.2 Yellow Paint on Walls and Ceilings (**1,200 - 1,300 ppm**) present throughout the facility.

1.3.11.2 Refer to report, *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021, for specific locations and descriptions of lead-based and lead-containing materials.

1.3.12 Best practices dust suppression and general health and safety precautions are required for the removal of the following materials:

1.3.12.1 Mercury,

1.3.12.2 Silica,

1.3.12.3 And other designated substance and hazardous materials including; Acrylonitrile, Arsenic, Benzene, Coke Oven Emissions, Ethylene Oxide, Foam glass, Isocyanates, Mould, Ozone Depleting Substances (ODS), Urea Formaldehyde Foam Insulation (UFFI), and Vinyl Chloride Monomer, which were not noted in significant quantities or forms, or in isolation from other materials, if at all.

1.4 Schedule

1.4.1 Abatement work schedule, zoning and phasing to be determined by the Construction Contractor.

1.5 Supervision

1.5.1 The Construction Contractor shall provide one on-site Superintendent that has the authority to oversee all aspects of the work, including but not limited to,

negotiation of Variation to the contract, scheduling, manpower, equipment, production, communication and co-ordination with the Abatement Consultant.

1.5.2 The Abatement Consultant reserves the right to reject or accept any Superintendent without explanation.

1.5.3 The Construction Contractor shall ensure that:

1.5.3.1 Every worker and supervisor successfully completed the appropriate program required before performing or supervising the work to which the program relates,

1.5.3.2 A copy of the document issued by the Ministry of Training, Colleges and Universities, showing that a worker has successfully completed the above-mentioned program or has successfully completed equivalent training in another province or territory of Canada, is provided to the Abatement Consultant.

1.5.4 In addition to the above training requirements, the Construction Contractor shall ensure that all workers and supervisors receive asbestos awareness refresher training course at reasonable time intervals, when appropriate. The asbestos awareness refresher training course shall meet the requirements of Ontario Regulation 278/05. Copies of the Certificates issued at successful completion of the asbestos awareness refresher training course shall be provided to the Abatement Consultant.

1.5.5 All supervisors and workers shall have training corresponding to work related to the handling of other designated substances and hazardous materials.

1.5.6 Supervisory personnel must be on site at all times during work that may disturb designated substances and hazardous materials.

1.5.7 The Construction Contractor cannot replace supervisory personnel without written approval from the Abatement Consultant.

1.6 Quality Assurance

1.6.1 Ensure the removal and handling of designated substances and hazardous materials, or materials contaminated by designated substances and hazardous materials, are performed by trained and competent personnel. The Abatement Consultant reserves the right to remove any personnel that, in their opinion, does not meet these qualifications.

1.6.2 All related work of this section shall be performed by licensed persons, experienced and qualified for the work required.

1.6.3 The Abatement Consultant is empowered to order work to stop when prescribed health and safety measures and/or health and safety procedures and/or health and safety facilities are not, or are likely not to be, fully implemented. Cost of additional work by the Construction Contractor and/or the Abatement Consultant to fully re-establish health and safety measures and/or health and safety procedures and/or health and safety facilities shall be the burden of the Construction Contractor.

1.6.4 The Construction Contractor is solely responsible for the control of the project, construction practices, their Sub Construction Contractors or their agents, employees or other persons performing any of the Work.

1.7 Regulations

1.7.1 Comply with Federal, Provincial, and local requirements pertaining to designated substance and hazardous material removal and general demolition activities, provided that in any case of conflict among those requirements, or with these specifications, the more stringent requirement shall apply. The regulations and guidelines shall include, but not be limited to, the latest edition, version or update of the following references:

1.7.1.1 Ontario Environmental Protection Act, R.S.O. 1990, c.E.19.

1.7.1.2 Ontario Dangerous Goods Transportation Act, R.S.O. 1990 c. D1.

1.7.1.3 Ontario Occupational Health and Safety Act, R.S.O. 1990 c. O.1.

1.7.1.4 Ontario Regulation 164/99, Electrical Safety Code.

1.7.1.5 Ontario Regulation 213/07, Fire Code.

1.7.1.6 Ontario Regulation 213/91, Construction Projects.

1.7.1.7 Ontario Regulation Ontario Regulation 278/05, Designated Substance - Asbestos on Construction Projects and in Buildings and Repair Operations.

1.7.1.8 Ontario Regulation 347, General – Waste Management.

1.7.1.9 Ontario Regulation 362, Waste Management – PCBs.

1.7.1.10 Ontario Regulation 463/10, Ozone Depleting Substances and Other Halocarbons.

1.7.1.11 Ontario Regulation 490/09, Designated Substances.

1.7.1.12 Ontario Regulation 833, Control of Exposure to Biological or Chemical Agents.

1.7.1.13 Ontario Regulation 860, Workplace Hazardous Materials Information Systems (WHMIS).

1.7.1.14 Ontario Regulation 164/99, Electrical Safety Code.

1.7.1.15 Ministry of Labour Guideline, Occupation Health and Safety Branch, "*Silica on Construction Projects*", April 2011.

1.7.1.16 Ministry of Labour document "*Guideline - Lead on Construction Projects"*, dated April 2011.

1.7.1.17 Environmental Abatement Council of Canada (EACC) document; "*Lead Guideline for Construction, Renovation, Maintenance or Repair*", dated October 2014.

1.7.1.18 Canadian Construction Association, Standard Construction Document CCA 82, 2004; "*mould guidelines for the Canadian construction industry*".

1.7.1.19 Environmental Abatement Council of Canada (EACC) document; "*Mould Abatement Guidelines*", Edition 3, 2015.

1.7.1.20 Environmental Abatement Council of Canada (EACC) document; "*Construction Worker Hygiene Practices Guideline*", dated 2014.

1.7.1.21 Environmental Abatement Council of Canada (EACC) document; "Performance Leak Testing Guidelines for HEPA Filtered Equipment", dated 2021.

1.7.1.22 Canadian Transportation of Dangerous Goods Act, (S.C. 1992, c. 34).

1.7.1.23 Canadian Transportation of Dangerous Goods Regulations, SOR/2001-286.

1.7.1.24 Canadian Surface Coating Materials Regulations, SOR/2005-109.

1.7.1.25 Canadian PCB Regulations, SOR/2008-273.

1.7.1.26 Canadian Federal Halocarbon Regulations, 2003, SOR/2003-289.

1.8 Notification

1.8.1 Notify Sanitary Landfill site as per Ontario Regulation 347, as amended, under the Environmental Protection Act.

1.8.2 Inform all sub trades of the presence of designated substances and hazardous materials identified in the site conditions.

1.8.3 Notify immediately Ontario Ministry of Labour, as required by Ontario Regulation 278/05, Section 10(7), if asbestos-containing materials not identified in the site conditions are discovered during the project.

1.9 Submittals

1.9.1 Submit prior to commencing work:

1.9.1.1 Construction Contractor to prepare a site specific Health and Safety Plan (HASP), to address safety issues, including but not limited to the following;

1.9.1.1.1 Access and emergency evacuation from work areas.

1.9.1.1.2 Creating and maintaining clear routes for work area access and emergency evacuation.

1.9.1.1.3 Work site communication.

1.9.1.2 Permits for transportation of designated substance and hazardous material waste and location of landfill.

1.9.1.3 Proof that workers have received WHMIS training.

1.9.1.4 Proof that workers have received Occupational Health and Safety Awareness and Training.

1.9.1.5 Work Place Safety and Insurance Clearance Certificates.

1.9.1.6 Pre-removal survey of damage in all areas where designated substance and hazardous material abatement will take place or waste will be transported.

1.9.1.7 Proposed schedule including all stages of work.

1.9.1.8 Shop drawings for each Work Area detailing, as is applicable to project requirements, waste and worker decontamination facilities, platform and hoarding layouts, Safety Data Sheets (SDS) for chemicals or materials used in the course of the project, etc.

1.9.1.9 Certificate proving that each worker on-site has been fit tested for the respirator appropriate for the work being performed.

1.9.2 Submit names of supervisory personnel who will be responsible for designated substance and hazardous material removal work area(s). One of these supervisors must remain on site at all times designated substance and

hazardous material removal or clean-up is occurring. Submit proof that supervisory personnel have attended training course on asbestos control (2-day minimum duration) and have performed supervisory function on at least 5 other asbestos abatement projects of a similar size and complexity.

1.10 Waste Transport And Disposal

1.10.1 Ensure designated substance and hazardous material-containing or designated substance and hazardous material-contaminated materials, removed during abatement are treated, packaged, transported and disposed of according to the appropriate waste stream.

1.10.2 Drop garbage bins at designated locations. Keep bins covered, enclosed and secured while at the site. Bin loading area shall be kept clean at all times.

1.10.3 Pick-up and drop off of garbage bin shall be at pre-approved times, and must not interfere with the Facilities operations.

1.10.4 Conform to requirements of Regulations under Environmental Protection Act for Waste Management, transporting and disposal of hazardous waste.

1.10.5 Ensure shipment of containers to dump is taken by waste hauler licensed to transport the specific waste stream.

1.10.6 Each load requires completion of bill of lading showing type and weight of hazardous waste being transported.

1.10.7 Check with dump operator to determine type of waste containers acceptable.

1.10.8 Ensure dump operator is fully aware of hazardous material being dumped.

1.10.9 Co-operate with Ministry of Environment and Climate Change inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Contracting Authority.

2. PRODUCTS

2.1 Refer to Part 2 of related Sections of work.

3. EXECUTION

3.1 Refer to Part 3 of related Sections of work.

End of Section.

ASBESTOS ABATEMENT TYPE 1

SECTION 02 82 01

LIST OF CONTENTS

1. GENERAL

1.1 General And Related Work

1.1.1 All sections of the specifications form a part of the Contract Document and shall be read to determine their effect upon the work of this section.

1.1.2 Related Work Specified Elsewhere

Division 2	Section 02 82 00	Abatement Scope and Details
Division 2	Section 02 82 02	Type 2 Asbestos Abatement
Division 2	Section 02 82 03	Type 2 Glove Bag Asbestos Abatement
Division 2	Section 02 82 04	Type 3 Asbestos Abatement
Division 2	Section 02 83 00	Lead Abatement
Division 2	Section 02 83 10	Other Hazardous Materials
Division 2	Section 02 84 00	PCB Capacitors and Ballasts

Attachments:

1) *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021.

1.1.3 This specification fulfils the requirements of the report required by Designated Substance – *Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations*, Ontario Regulation 278/05, Section 10.

1.1.4 The Contractor is responsible to verify all measurements for removal, cleaning, and re-insulation purposes. Measurements and quantities provided herein are for reference only.

1.1.5 It is the intent that work performed as per this section will result in the removal and disposal or decontamination of all asbestos-containing material (ACM), as well as all materials that have been contaminated by ACM either during or prior to work of this section.

1.1.6 Refer to Section 02 82 00, Abatement Scope and Details, for the following information and requirements;

1.1.6.1 Site Conditions,

1.1.6.2 Outline of Work,

1.1.6.3 Schedule,

1.1.6.4 Supervision,

1.1.6.5 Quality Assurance,

1.1.6.6 Regulations,

1.1.6.7 Notification,

1.1.6.8 Submittals, and

1.1.6.9 Waste Transport And Disposal.

1.2 Definitions

1.2.1 Air Monitoring: The process of measuring the fibre content of a specific volume of air.

1.2.2 Amended Water: Water with a non-ionic surfactant wetting agent added to reduce water surface tension to 35 or less dynes, to allow thorough wetting of asbestos fibres.

1.2.3 Asbestos: The serpentine and amphibole asbestiform varieties including chrysotile, actinolite, amosite, anthophyllite, crocidolite and tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

1.2.4 Asbestos Abatement Consultant: The Owner or person designated by the owner to provide inspection and air monitoring of the Contractor's work.

1.2.5 Asbestos-Containing Material (ACM): Any material that contains 0.5 per cent or more asbestos, of any type or mixture of types, by dry weight.

1.2.6 Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.

1.2.7 Asbestos Debris: Pieces of ACM that can be identified by colour, texture, or composition, or means dust, if the dust is determined by an accredited Asbestos Abatement Consultant to be ACM.

1.2.8 Asbestos Work Area: Where the actual removal, sealing and enclosure of asbestos-containing materials takes place.

1.2.9 Authorized Visitor: The Owner or his approved representative and/or persons representing regulatory agencies.

1.2.10 Barrier: Any surface that seals off the work area to inhibit the movement of fibres.

1.2.11 Clean Area: Either an operating area or an area in which removal work has already been completed.

1.2.12 Demolition: The wrecking or taking out of any Facility component, system, finish or assembly of a facility together with any related handling operations.

1.2.13 Disposal Bag: A properly labelled 6 mil thick leak-tight plastic bag used for transporting asbestos waste from the work area to the disposal site.

1.2.14 DOP / PAO Test: Dioctylphthalate / Poly Alpha Olefin aerosol challenge of a HEPA filter system and is used to establish the integrity and effectiveness of the system to filter out asbestos fibres.

1.2.15 Encapsulant: A material that surrounds or embeds asbestos fibres in an adhesive matrix, to prevent release of fibres.

1.2.16 Encapsulation: Applying an encapsulant to asbestos-containing materials.

1.2.17 Filter: A media component used in respirators, vacuum cleaners or negative pressure filter fan units to remove solid or liquid particles from the inspired air.

1.2.18 Friable Asbestos Material: Material that contains asbestos that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

1.2.19 HEPA Filter: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.

1.2.20 Occupied Area: Any area of the Facility outside the Asbestos Work Area.

1.2.21 Polyethylene: Sheeting of type and thickness specified sealed with tape along all edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide a continuous polyethylene membrane to protect underlying surfaces from water damage or damage by sealant, and to prevent escape of asbestos fibres through the sheeting into a clean area.

1.2.22 Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

1.2.23 Type 1 Asbestos Operations: Defined by Ontario Regulation 278/05, Section 12, includes the following operations:

1.2.23.1 Installing or removing ceiling tiles that are asbestos-containing material, if the tiles cover an area less than 7.5 square metres and are installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.

1.2.23.2 Installing or removing non-friable asbestos-containing material, other than ceiling tiles, if the material is installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.

1.2.23.3 Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if,

1.2.23.3.1 the material is wetted to control the spread of dust or fibres, and

1.2.23.3.2 the work is done only by means of non-powered hand-held tools.

1.2.23.4 Removing less than one square metre of drywall in which joint-filling compounds that are asbestos-containing material have been used.

1.2.23.5 Work on ceiling tiles, drywall or friable asbestos-containing material is classified according to the total area on which work is done consecutively in a room or enclosed area, even if the work is divided into smaller jobs.

1.2.24 Wet Cleaning: The process of eliminating asbestos contamination from Facility surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

1.2.25 Work: Includes all services, labour and material required to complete the work as specified in the contract.

1.3 Worker Protection

1.3.1 Prior to commencing work instruct workers in all aspects of work procedures and protective measures.

1.3.2 Provide workers who request a respirator with personally issued respiratory equipment acceptable to the Occupational Health and Safety Division of the Ontario Ministry of Labour, suitable for the Asbestos exposure.

1.3.3 Ensure that suitable respiratory protective equipment is worn by every worker, who has requested a respirator, and who enters the Asbestos Work Area. A respirator provided by an employer and used by a worker shall be:

1.3.3.1 One of the following types depending on the classification of work and method removal;

1.3.3.1.1 Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filters;

1.3.3.1.2 Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, R-100 or P-100 particulate filters;

1.3.3.1.3 Negative pressure (demand) supplied air respirator equipped with a full-facepiece;

1.3.3.1.4 Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece);

1.3.3.2 fitted so that there is an effective seal between the respirator and the worker's face;

1.3.3.3 assigned to a worker for the worker's exclusive use, if practicable;

1.3.3.4 used and maintained in accordance with written procedures that are established by the employer and are consistent with the manufacturer’s specifications;

1.3.3.5 cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker;

1.3.3.6 free of damaged or deteriorated parts. Damaged or deteriorated parts are to be replaced prior to being used by a worker;

1.3.3.7 be stored in a convenient, clean and sanitary location; when not in use;

1.3.3.8 certified by the US National Institute for Occupational Safety and Health (NIOSH) for exposure to airborne asbestos fibre.

1.3.4 If respirators are used in the workplace,

1.3.4.1 The employer shall establish written procedures regarding the selection, use and care of respirators; and

1.3.4.2 A copy of the procedures shall be provided to and reviewed with each worker who is required to wear a respirator.

1.3.5 A worker shall not be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.

1.3.6 Provide workers who request protective clothing with full body disposable coveralls.

1.3.7 Ensure that full body disposable coveralls are worn by every worker, who has requested protective clothing, and who enters the Asbestos Work Area. The protective clothing provided by an employer and used by a worker shall be:

1.3.7.1 made of a material which does not readily retain nor permit penetration of asbestos fibres;

1.3.7.2 shall consist of head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing;

1.3.7.3 shall include suitable footwear;

1.3.7.4 shall be repaired or replaced if torn.

1.3.8 Do not eat, drink, smoke or chew except in established locations outside the Asbestos Work Area.

1.4 Visitor Protection

1.4.1 Provide clean protective clothing and equipment and approved respirators to Authorized Visitors when requested.

1.4.2 Ensure Authorized Visitors have received required training for entry into Asbestos Work Area.

1.5 Air Monitoring

1.5.1 Air monitoring may be performed following the National Institute for Occupational Safety and Health method 7400.

1.5.2 The contractor shall cooperate fully with the asbestos abatement consultant in the collection of air monitoring samples, including the collection of personal worker samples, if required.

1.5.3 If samples are collected, results of PCM samples of 0.04 fibres per millilitre of air (fibre/mL) or greater, outside of Asbestos Work Area, will indicate asbestos contamination of these areas. The contaminated areas shall be isolated and cleaned in the same manner applicable to the Asbestos Work Area, at no cost to the Owner.

2. PRODUCTS

2.1 Materials and Equipment

2.1.1 All tools, equipment, materials and supplies brought to work site must be in good condition and free of asbestos, asbestos debris, and fibrous materials.

2.1.2 Disposable tools, equipment, materials and supplies must be of new materials only.

2.1.3 Asbestos Waste Containers: Containers for dust and waste shall be, dust tight, suitable for the type of waste, impervious to asbestos and any chemicals used during the removal process, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before being removed from the work area, and removed from the workplace frequently and at regular intervals.

2.1.3.1 Waste shall be contained in two separate containers. The inner container shall be a sealable polyethylene bag. Where there are sharp objects included in the waste material, the outer container shall be a sealable fibre type drum, otherwise the outer container may be a sealable polyethylene bag.

2.1.3.2 Container must be new materials only.

2.1.3.3 Containers shall be as follows:

2.1.3.3.1 Polyethylene Waste Bag: 0.15 mm (6 mil) thick leak-tight polyethylene bags.

2.1.3.3.2 Fibre Drums: 55 US gallon capacity heavy-duty leak tight fibre drums with tight sealing locking metal top and metal bottom.

2.1.3.3.3 Labels: Waste containers shall have a pre-printed cautionary asbestos warning label, acceptable to local dump Governmental Authorities, clearly visible when ready for removal to disposal site.

2.1.4 Drop Sheets: In polyethylene type and size appropriate for the work being performed.

2.1.5 First Aid Supplies: Comply with governing regulations and recognized recommendations within the construction industry.

2.1.6 HEPA Vacuum: Vacuum with all necessary fittings, tools and attachments. All air must be filtered by HEPA filter before discharge.

2.1.7 Lockdown Sealer: Slow-drying sealer shall be a non-staining, clear, water dispersable type that remains tacky on the surface for a minimum of 8 hours for the purpose of trapping any residual airborne fibres during the settling period. Lock-down agent shall be compatible with replacement insulation or fireproofing where required and capable of withstanding service temperature of substrate. The product must have flame spread and smoke development ratings both less than 50 and shall leave no stain when dry. Also referred to as “Lockdown Agent”.

2.1.8 Polyethylene Sheeting: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.

2.1.8.1 Fibre-Reinforced (Rip-Proof) Polyethylene Sheeting: 8 mil (0.20mm) fabric made up from one layer of 5 mil (0.13 mm) weave and two layers of 1.5 mil (0.04 mm) poly laminate or approved equal. In sheet size to minimize on-site seams and overlaps.

2.1.9 Protective Coveralls: Disposable full body coveralls complete with hoods manufactured of a material which does not permit penetration of asbestos fibres.

2.1.10 Sprayer: Garden-type portable manual sprayer or water hose with spray attachment if suitable.

2.1.11 Tape: Reinforced cloth or fibreglass reinforced tape, or vinyl tape, in 2" or 3" widths suitable for sealing polyethylene sheeting under both wet conditions using amended water, and dry conditions.

3. EXECUTION

3.1 Site Preparation

3.1.1 Establish personal hygiene facilities for workers to wash their hands and face. Washing facilities to include sufficient supplies of disposable hand towels, hand soap, a waste receptacle and a mirror.

3.1.2 Provide to the Asbestos Abatement Consultant an itemized list of pre-existing damage in Work Area.

3.1.3 Moving of equipment, tools, supplies, and stored materials which can be performed without disturbing ACM will be performed by the contractor.

3.1.4 Visible dust shall be removed with a damp cloth/mop or a vacuum equipped with a HEPA filter from any surface in the work area, including the thing to be worked on, if the dust on that surface is likely to be disturbed.

3.1.5 The spread of debris and dust from the work area shall be controlled by measures appropriate to the work to be done including the use of drop sheets of fibre-reinforced (rip-proof) polyethylene or other suitable material that is impervious to asbestos. Replace, or overlay, additional layers of fibre reinforced (rip-proof) polyethylene sheeting as required to maintain an efficient and continuous barrier.

3.1.6 In the case of the removal of less then one square meter of drywall with asbestos-containing drywall joint compound, the material shall be wetted before and kept wet during the work to control the spread of dust or fibres, unless wetting would create a hazard or cause damage.

3.1.7 Prepare sufficient quantities of water mixed with a wetting agent, which is to be used frequently and at regular intervals, to control the spread of debris and dust.

3.1.8 Cover floors and furnishings with polyethylene sheeting or Rip-Proof Polyethylene Sheeting before disturbing non-friable ACM.

3.2 Removal

3.2.1 Prior to removal, wet all materials scheduled for removal. Allow materials scheduled for removal sufficient time to absorb wetting agent.

3.2.2 All removal work must be completed manually with non-powered hand tools.

3.2.3 Undo or remove fasteners if necessary to remove materials.

3.2.4 Break materials only if unavoidable.

3.2.5 Wet freshly exposed edges of broken materials.

3.2.6 Remove material adhered to substrate or supports.

3.2.7 Frequently and at regular intervals during the doing of the work, debris and dust waste shall be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in an asbestos waste container.

3.2.8 Clean Asbestos Work Area frequently with HEPA vacuum or with wet cleaning methods.

3.2.9 Compressed air shall not be used to clean up and remove debris or dust from any surface.

3.2.10 Eating, drinking, chewing or smoking shall not be permitted in the work area.

3.2.11 Maintain all work areas in a neat and orderly fashion at all times.

3.3 Work Area Clean Up and Exit from the Work Area

3.3.1 Immediately upon completion of the work, debris and dust waste shall be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in an asbestos waste container.

3.3.2 Following visual acceptance of the removal work, by the Asbestos Abatement Consultant, spray the entire surface, where ACM have been removed, with lock-down sealer.

3.3.3 Drop sheets shall not be reused.

3.3.4 Drop sheets shall be wetted and placed in an asbestos waste container as soon as practicable after completion of the preceding Items of this Section.

3.3.5 Carefully roll drop sheets toward the centre of work area. Remove visible debris by means of HEPA vacuum as polyethylene is rolled away.

3.3.6 After the work is completed, polyethylene sheeting and similar materials used for barriers and enclosures shall not be reused, but shall be wetted and placed in an asbestos waste container as soon as practicable following completion of the preceding Items of this Section.

3.3.7 Barriers and portable enclosures shall not be reused unless they are rigid and can be cleaned thoroughly.

3.3.8 After the work is completed, barriers and portable enclosures that will be reused shall be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable following completion of the preceding Items of this Section.

3.3.9 All tools, equipment, materials and supplies that will NOT be reused shall be placed in an asbestos waste container as soon as practicable following completion of the preceding Items of this Section.

3.3.10 All tools, equipment, materials and supplies that will be reused shall be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable following completion of the preceding Items of this Section.

3.3.11 Workers who are provided with protective clothing shall complete the following before leaving the work area;

3.3.11.1 Decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing.

3.3.11.2 If the protective clothing is to be reused, it shall be stored in a sealable plastic bag.

3.3.11.3 If the protective clothing will NOT be reused, place it in an asbestos waste container immediately prior to leaving the work area.

3.3.12 Immediately after leaving the work area, all workers shall proceed directly to the established washing facilities to wash hands and face.

3.3.13 All workers who requested respiratory protection shall wash, remove and store respirators as per the written procedures that have been established by the employer and as is consistent with the manufacturer’s specifications.

3.3.14 Reinstall objects and items removed to facilitate removal of ACM.

End of Section

ASBESTOS ABATEMENT TYPE 2

SECTION 02 82 02

LIST OF CONTENTS

1. GENERAL

1.1 General And Related Work

1.1.1 All sections of the specifications form a part of the Contract Document and shall be read to determine their effect upon the work of this section.

1.1.2 Related Work Specified Elsewhere

Division 2	Section 02 82 00	Abatement Scope and Details
Division 2	Section 02 82 01	Type 1 Asbestos Abatement
Division 2	Section 02 82 03	Type 2 Glove Bag Asbestos Abatement
Division 2	Section 02 82 04	Type 3 Asbestos Abatement
Division 2	Section 02 83 00	Lead Abatement
Division 2	Section 02 83 10	Other Hazardous Materials
Division 2	Section 02 84 00	PCB Capacitors and Ballasts

Attachments:

1) *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021.

1.1.3 This specification fulfils the requirements of the report required by Designated Substance – *Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations*, Ontario Regulation 278/05, Section 10.

1.1.4 The Contractor is responsible to verify all measurements for removal, cleaning, and re-insulation purposes. Measurements and quantities provided herein are for reference only.

1.1.5 It is the intent that work performed as per this section will result in the removal and disposal or decontamination of all asbestos-containing material (ACM) and mould-contaminated materials, as well as all materials that have been contaminated by ACM either during or prior to work of this section.

1.1.6 Refer to Section 02 82 00, Abatement Scope and Details, for the following information and requirements;

1.1.6.1 Site Conditions,

1.1.6.2 Outline of Work,

1.1.6.3 Schedule,

1.1.6.4 Supervision,

1.1.6.5 Quality Assurance,

1.1.6.6 Regulations,

1.1.6.7 Notification,

1.1.6.8 Submittals, and

1.1.6.9 Waste Transport And Disposal.

1.2 Definitions

1.2.1 Airlock: A system for permitting ingress or egress without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least 1.5 m apart.

1.2.2 Air Monitoring: The process of measuring the fibre content of a specific volume of air.

1.2.3 Amended Water: Water with a non-ionic surfactant wetting agent added to reduce water surface tension to 35 or less dynes, to allow thorough wetting of asbestos fibres.

1.2.4 Asbestos: The serpentine and amphibole asbestiform varieties including chrysotile, actinolite, amosite, anthophyllite, crocidolite and tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

1.2.5 Asbestos Abatement Consultant: The Owner or person designated by the owner to provide inspection and air monitoring of the Contractor's work.

1.2.6 Asbestos-Containing Material (ACM): Any material that contains 0.5 per cent or more asbestos, of any type or mixture of types, by dry weight.

1.2.7 Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.

1.2.8 Asbestos Debris: Pieces of ACM that can be identified by colour, texture, or composition, or means dust, if the dust is determined by an accredited Asbestos Abatement Consultant to be ACM.

1.2.9 Asbestos Work Area: Where the actual removal, sealing and enclosure of asbestos-containing materials takes place.

1.2.10 Authorized Visitor: The Owner or his approved representative and/or persons representing regulatory agencies.

1.2.11 Barrier: Any surface that seals off the work area to inhibit the movement of fibres.

1.2.12 Clean Area: Either an operating area or an area in which removal work has already been completed.

1.2.13 Curtained Doorway: An arrangement of closures to allow ingress and egress from one room to another while permitting minimal air movement between rooms, typically constructed by placing two overlapping sheets of polyethylene over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. All free edges of polyethylene shall be reinforced with duct tape and the bottom edge shall be weighted to ensure proper closing. Each polyethylene sheet shall overlap openings not less than 1.5 m on each side.

1.2.14 Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.

1.2.15 Disposal Bag: A properly labelled 6 mil thick leak-tight plastic bag used for transporting asbestos waste from the work area to the disposal site.

1.2.16 DOP / PAO Test: Dioctylphthalate / Poly Alpha Olefin aerosol challenge of a HEPA filter system and is used to establish the integrity and effectiveness of the system to filter out asbestos fibres.

1.2.17 Encapsulant: A material that surrounds or embeds asbestos fibres in an adhesive matrix, to prevent release of fibres.

1.2.17.1 Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.

1.2.17.2 Penetrating Encapsulant: An encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.

1.2.17.3 Removal Encapsulant: A penetrating encapsulant specifically designed to minimize fibre release during removal of asbestos-containing materials rather than for in situ encapsulation.

1.2.18 Encapsulation: Applying an encapsulant to asbestos-containing materials.

1.2.19 Enclosure: 6 mil polyethylene sheeting installed to fully isolate the Type 2 Asbestos Work Area. Enclosure may be a prefabricated self supporting structure or constructed with a rigid frame, or, when applicable, supported by the ceiling grid. Enclosure shall have polyethylene sheeting as a top at locations where the enclosure does not extend up to the underside of the ceiling or underside of structure.

1.2.20 Filter: A media component used in respirators, vacuum cleaners or negative pressure filter fan units to remove solid or liquid particles from the inspired air.

1.2.21 Fitting: Unless otherwise described in Site Conditions, all connections of a pipe which include elbows, ends, caps, valves, hangers, tees and unions, etc.

1.2.22 Friable Asbestos Material: Material that contains asbestos that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

1.2.23 HEPA Filter: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.

1.2.24 Negative Pressure: A system which extracts air directly from the work area, filters such extracted air through a High Efficiency Particulate Air filtering system, and discharges this air directly outside work area to exterior of building. This system shall maintain a minimum pressure differential of 0.02 inches Water Gauge relative to adjacent areas outside of work areas, be equipped with an alarm to warn of system breakdown (i.e. excessive negative pressure or insufficient negative pressure), and be equipped with an instrument to continuously monitor and automatically record pressure differences.

1.2.25 Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

1.2.26 Occupied Area: Any area of the building outside the Asbestos Work Area.

1.2.27 Polyethylene: Sheeting of type and thickness specified sealed with tape along all edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide a continuous polyethylene membrane to protect underlying surfaces from water damage or damage by sealant, and to prevent escape of asbestos fibres through the sheeting into a clean area.

1.2.28 Positive Pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is positive during inhalation and exhalation in relation to the air pressure of the outside atmosphere.

1.2.29 Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

1.2.30 Straight run pipes: Part of the building system not included under the description of Fitting, including but not limited to straight, angled or curved sections of pipe, pumps, headers and reducers.

1.2.31 Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

1.2.32 Type 2 Asbestos Operations: Defined by Ontario Regulation 278/05, Section 12, includes the following operations:

1.2.32.1 Removing all or part of a false ceiling to obtain access to a work area, if asbestos-containing material is likely to be lying on the surface of the false ceiling.

1.2.32.2 The removal or disturbance of one square metre or less of friable asbestos-containing material during the repair, alteration, maintenance or demolition of all or part of machinery or equipment or a building, aircraft, locomotive, railway car, vehicle or ship.

1.2.32.3 Enclosing friable asbestos-containing material.

1.2.32.4 Applying tape or a sealant or other covering to pipe or boiler insulation that is asbestos-containing material.

1.2.32.5 Installing or removing ceiling tiles that are asbestos-containing material, if the tiles cover an area of 7.5 square metres or more and are installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.

1.2.32.6 Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if,

1.2.32.6.1 the material is not wetted to control the spread of dust or fibres, and

1.2.32.6.2 the work is done only by means of non-powered hand-held tools.

1.2.32.7 Removing one square metre or more of drywall in which joint filling compounds that are asbestos-containing material have been used.

1.2.32.8 Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the work is done by means of power tools that are attached to dust-collecting devices equipped with HEPA filters.

1.2.32.9 Removing insulation that is asbestos-containing material from a pipe, duct or similar structure using a glove bag.

1.2.32.10 Cleaning or removing filters used in air handling equipment in a building that has sprayed fireproofing that is asbestos-containing material.

1.2.32.11 An operation that,

1.2.32.11.1 is not mentioned in any of paragraphs 1 to 10

1.2.32.11.2 may expose a worker to asbestos, and

1.2.32.11.3 is not classified as a Type 1 or Type 3 operation.

1.2.32.12 Work on ceiling tiles, drywall or friable asbestos-containing material is classified according to the total area on which work is done consecutively in a room or enclosed area, even if the work is divided into smaller jobs.

1.2.33 Water Filtration System: A multi-stage filtration system for filtering shower and wastewater. Typically constructed with at least two filters, the primary stage retains 20 microns or larger particles and the final stage removes 5 micron or larger particles.

1.2.34 Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

1.2.35 Work: Includes all services, labour and material required to complete the work as specified in the contract.

1.3 Worker Protection

1.3.1 Prior to commencing work instruct workers in all aspects of work procedures and protective measures.

1.3.2 Provide workers a respirator with personally issued respiratory equipment acceptable to the Occupational Health and Safety Division of the Ontario Ministry of Labour, suitable for the Asbestos exposure.

1.3.3 Ensure that suitable respiratory protective equipment is worn by every worker who enters the Asbestos Work Area. A respirator provided by an employer and used by a worker shall be:

1.3.3.1 One of the following types depending on the classification of work and method removal;

1.3.3.1.1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filters;

1.3.3.1.2 Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filters;

1.3.3.1.3 Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, R-100 or P-100 particulate filters;

1.3.3.1.4 Negative pressure (demand) supplied air respirator equipped with a full-facepiece;

1.3.3.1.5 Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece);

1.3.3.1.6 Pressure demand supplied air respirator equipped with a half or full-facepiece mask;

1.3.3.2 fitted so that there is an effective seal between the respirator and the worker's face;

1.3.3.3 assigned to a worker for the worker's exclusive use if practicable;

1.3.3.4 used and maintained in accordance with written procedures that are established by the employer and are consistent with the manufacturer’s specifications;

1.3.3.5 cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker;

1.3.3.6 free of damaged or deteriorated parts. Damaged or deteriorated parts are to be replaced prior to being used by a worker;

1.3.3.7 be stored in a convenient, clean and sanitary location; when not in use;

1.3.3.8 certified by the US National Institute for Occupational Safety and Health (NIOSH) for exposure to airborne asbestos fibre.

1.3.4 The employer shall establish written procedures regarding the selection, use and care of respirators.

1.3.5 A copy of the procedures shall be provided to and reviewed with each worker.

1.3.6 A worker shall not be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.

1.3.7 Provide all workers with full body disposable coveralls.

1.3.8 Ensure that full body disposable coveralls are worn by every worker who enters the Asbestos Work Area. The protective clothing provided by an employer and used by a worker shall be:

1.3.8.1 made of a material which does not readily retain nor permit penetration of asbestos fibres;

1.3.8.2 shall consist of head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing;

1.3.8.3 shall include suitable footwear;

1.3.8.4 shall be repaired or replaced if torn.

1.3.9 Provide other body protection required under applicable safety regulations.

1.3.10 Personnel must be fully protected at all times when possibility of disturbance of asbestos exists.

1.3.11 Provide and post the procedures described under Worker Protection.

1.3.12 Do not eat, drink, smoke or chew except in established locations outside the Asbestos Work Area.

1.3.13 Asbestos Abatement Work Area Entry Procedures

1.3.13.1 Use asbestos abatement precautions at all times when possibility of disturbance of ACM exists.

1.3.13.2 Put on respirator with new or tested filters, coveralls and head covers before entering contaminated Asbestos Work Area. Protective coveralls shall cover all hair and any re-usable clothing.

1.3.14 Asbestos Abatement Work Area Exit Procedures

1.3.14.1 Remove gross contamination from protective clothing using HEPA vacuum or wet wiping.

1.3.14.2 Remove all contaminated clothing and equipment except respirator.

1.3.14.3 Exit site and proceed to wash area while wearing respirator.

1.3.14.4 Wash exposed skin and respirator with soap and water.

1.3.14.5 Remove respirator filters from respirator. Cover inlet side of respirator with tape for storage and re-use or dispose of as asbestos waste.

1.4 Visitor Protection

1.4.1 Provide clean protective clothing and equipment and approved respirators to Authorized Visitors.

1.4.2 Ensure Authorized Visitors have received required training for entry into Asbestos Work Area.

1.5 Air Monitoring

1.5.1 Air monitoring will be performed following the National Institute for Occupational Safety and Health method 7400.

1.5.2 The contractor shall cooperate fully with the asbestos abatement consultant in the collection of air monitoring samples, including the collection of personal worker samples, if required.

1.5.3 Results of PCM samples of 0.04 fibres per millilitre of air (fibre/mL) or greater, outside of Asbestos Work Area, will indicate asbestos contamination of these areas. The contaminated areas shall be isolated and cleaned in the same manner applicable to the Asbestos Work Area, at no cost to the Owner.

2. PRODUCTS

2.1 Materials and Equipment

2.1.1 All tools, equipment, materials and supplies brought to work site must be in good condition and free of asbestos, asbestos debris, and fibrous materials.

2.1.2 Disposable tools, equipment, materials and supplies must be of new materials only.

2.1.3 Airless Sprayer: Spray equipment for amended water: for application to asbestos-containing materials for saturation prior to removal. Airless spray units are only acceptable, such as Grace Hydrospray or approved equal.

2.1.4 Asbestos Waste Containers: Containers for dust and waste shall be, dust tight, suitable for the type of waste, impervious to asbestos and any chemicals used during the removal process, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before being removed from the work area, and removed from the workplace frequently and at regular intervals.

2.1.4.1 Waste shall be contained in two separate containers. The inner container shall be a sealable polyethylene bag (or where the glove bag method is used, the glove bag itself). Where there are sharp objects included in the waste material, the outer container shall be a sealable fibre type drum, otherwise the outer container may be a sealable polyethylene bag.

2.1.4.2 Container must be new materials only.

2.1.4.3 Containers shall be as follows:

2.1.4.3.1 Polyethylene Waste Bag: 0.15 mm (6 mil) thick leak-tight polyethylene bags.

2.1.4.3.2 Fibre Drums: 55 US gallon capacity heavy duty leak tight fibre drums with tight sealing locking metal top and metal bottom.

2.1.4.3.3 Labels: Waste containers shall have a pre-printed cautionary asbestos warning label, acceptable to local dump authorities, clearly visible when ready for removal to disposal site.

2.1.5 Caulking: One component non-staining acrylic polymer sealant to conform to GSB Specification 19GP-5M.

2.1.6 Drop Sheets: In polyethylene type and size appropriate for the work being performed.

2.1.7 Electrical Power Cords: Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas of work.

2.1.8 Encapsulant: Type 1 penetrating Class A water based encapsulant conforming to CGSB 1-GP-205M and approved by the Fire Marshall having flame spread and smoke development ratings both less than fifty (50). Acceptable products: Ocean 666, Decadex Fire Check equivalent or better.

2.1.9 Fine Atomizing Spray Nozzle: Nozzle for airless sprayer capable of delivering not less than 1 gallon per minute of fine particle spray of amended water.

2.1.10 First Aid Supplies: Comply with governing regulations and recognized recommendations within the construction industry.

2.1.11 Flame-Resistant Polyethylene Sheeting: A single polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard

701, Small Scale Fire Test for Flame-Resistant Textiles and Films, 0.15 mm (6 mils) thickness.

2.1.12 Garden Sprayer: A hand pump type pressure-can garden sprayer fabricated out of either metal or plastic, equipped with a metal wand at the end of a hose that can deliver a stream or fine spray of liquid of amended water under pressure.

2.1.13 Ground Fault Panel: Electrical panel, installed by licensed electrician and equipped as follows:

2.1.13.1 Ground fault circuit interrupters of sufficient capacity to power temporary electrical equipment and lights in Asbestos Work Area.

2.1.13.2 Interrupters to have a 5 mA ground fault protection.

2.1.13.3 Necessary accessories including main switch disconnect, ground fault interrupter lights, test switch to ensure unit is working, and reset switch.

2.1.13.4 Openings sealed to prevent moisture or dust penetration.

2.1.14 HEPA Vacuum: Vacuum with all necessary fittings, tools and attachments. All air must be filtered by HEPA filter before discharge.

2.1.15 Lockdown Sealer: Slow-drying sealer shall be a non-staining, clear, water dispersable type that remains tacky on the surface for a minimum of 8 hours for the purpose of trapping any residual airborne fibres during the settling period. Lock-down agent shall be compatible with replacement insulation or fireproofing where required and capable of withstanding service temperature of substrate. The product must have flame spread and smoke development ratings both less than 50 and shall leave no stain when dry. Also referred to as “Lockdown Agent”.

2.1.16 Negative Air Unit: Portable air handling system which extracts air directly from the Asbestos Work Area and discharges the air to the exterior of the Asbestos Work Area. Equipped as follows:

2.1.16.1 Prefilter and HEPA filter. Air must pass HEPA filter before discharge.

2.1.16.2 Pressure differential gauge to monitor filter loading.

2.1.16.3 Auto shut off and warning system for HEPA filter failure.

2.1.16.4 Separate hold down clamps to retain HEPA filter in place during change of prefilter.

2.1.17 Polyethylene Sheeting: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.

2.1.17.1 Fibre-Reinforced (Rip-Proof) Polyethylene Sheeting: 8 mil (0.20mm) fabric made up from one layer of 5 mil (0.13 mm) weave and two layers of 1.5 mil (0.04 mm) poly laminate or approved equal. In sheet size to minimize on-site seams and overlaps.

2.1.17.2 Flame-Resistant Polyethylene Sheeting: A single polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films, 6 mil (0.15 mm) thickness.

2.1.18 Power Washer: Spray equipment for saturation of asbestos-containing material with amended water for cleaning of surfaces in abatement work area after asbestos removal, capable of delivering an airless stream of water at a pressure of not less than 1200 psi or exceeding 2500 psi.

2.1.19 Protective Coveralls: Disposable full body coveralls complete with hoods manufactured of a material which does not permit penetration of asbestos fibres.

2.1.20 Scaffolding: The type, erection and use of all scaffolding shall comply with all applicable OHSA provisions.

2.1.21 Spray Cement: Spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

2.1.22 Tape: Reinforced cloth or fibreglass reinforced tape, or vinyl tape, in 2" or 3" widths suitable for sealing polyethylene sheeting under both wet conditions using amended water, and dry conditions.

2.1.23 Temporary Lighting: Provide general service incandescent lamps or fluorescent lamps of wattage required for adequate illumination as required by the work. Protect lamps with guard cages grounded together to distribution panel or tempered glass enclosures.

2.1.24 Wetting Agent: Non-sudsing surface active agent. Acceptable product Aqua-Gro or approved equal.

3. EXECUTION

3.1 Preparation Prior to Contamination

3.1.1 Establish personal hygiene facilities for workers to wash their hands and face. Washing facilities to include sufficient supplies of disposable hand towels, hand soap, a waste receptacle and a mirror.

3.1.2 Visible dust shall be removed with a damp cloth/mop or a vacuum equipped with a HEPA filter from any surface in the work area, including the thing to be worked on, if the dust on that surface is likely to be disturbed.

3.1.3 Provide to the Asbestos Abatement Consultant an itemized list of pre-existing damage in Work Area.

3.1.4 Moving of equipment, tools, supplies, and stored materials which can be performed without disturbing ACM will be performed by the contractor.

3.1.5 Disable air handling system affecting Asbestos Work Area. Seal ventilation ducts to and from the work area. The air handling system shall not be enabled until completion of work.

3.1.6 Shut off and lock out electrical power within the enclosure.

3.1.7 For operations requiring either 1) removing all or part of a false ceiling to obtain access to a work area, if ACM is likely to be lying on the surface of the false ceiling, or 2) the removal or disturbance of one square metre of less of friable ACM, and where the enclosure is prepared with opaque materials (i.e. orange rip-proof polyethylene), the enclosure shall include one or more transparent

(clear) window areas to allow observation of the entire work area from outside the enclosure.

3.1.8 Erect polyethylene hoarding walls between Occupied Area and Work Area to create the Asbestos Work Area Enclosure. Construct a frame for the enclosure from 50 mm x 100 mm (2" x 4") construction grade wood studs and polyethylene. If the potential exists for the disturbance of ACM during the construction of the enclosure, wear a respirator and suitable protective clothing; ensure that the enclosure is of adequate size to permit the storage of equipment and waste.

3.1.9 Support polyethylene sheeting enclosures as required or as directed by Asbestos Abatement Consultant.

3.1.10 Seal all below deck openings, including opening at the deck, to the work area using polyethylene, spray adhesive, tape, caulking, etc.

3.1.11 Provide a sealed polyethylene top for free standing enclosures.

3.1.12 Enclosure may be supported from the deck system(s), if applicable.

3.1.13 Install temporary lighting as required in Asbestos Work Area Enclosure.

3.1.14 Cover floor and wall surfaces and other articles inside enclosure or forming the enclosure with polyethylene sheeting. Lay floor sheeting first and return up wall surface in a fashion that wall sheeting will overlap by at least 12".

3.1.15 Overlap perimeter polyethylene to form flap doorway.

3.1.16 Construct a transfer room for entry to and exit from the enclosure when it is necessary to move workers or materials between Occupied Areas and the Asbestos Work Area.

3.1.17 Establish negative pressure in Asbestos Work Areas as follows:

3.1.17.1 Use HEPA Vacuum, or HEPA Negative Air Unit if requested by the Asbestos Abatement Consultant, which has been DOP tested.

3.1.17.2 Insert vacuum hose into Enclosure. Provide enough hose to reach all areas of Enclosure.

3.1.17.3 Operate HEPA vacuum continuously until dismantling of Enclosure.

3.1.17.4 Provide sufficient negative air pressure to exchange a volume of air equivalent to that of the Asbestos Work Area a minimum of every 20 minutes.

3.1.18 Post signs at doorways leading into a contaminated area.

Such signs shall read:

CAUTION
Asbestos Hazard Area
No Unauthorized Entry
Wear assigned protective equipment
Breathing asbestos dust may cause serious bodily harm

3.2 Asbestos Removal

3.2.1 Before beginning work, remove visible dust from surfaces in the work area. Use HEPA vacuum, or damp cloths where damp cleaning is considered more appropriate. The use of compressed air is strictly forbidden.

3.2.2 All removal work must be completed manually with non-powered hand tools.

3.2.3 Undo or remove fasteners if necessary to remove materials.

3.2.4 Wet materials containing asbestos to be removed, disturbed, or sealed, with amended water. Use garden type low velocity fine mist sprayer. Perform work in a manner to reduce the creation and spread of dust. Keep material wetted as work proceeds and as additional layers of material are exposed.

3.2.5 Break materials only if unavoidable.

3.2.6 Wet freshly exposed edges of broken materials.

3.2.7 Remove material adhered to substrate or supports.

3.2.8 Place waste directly into waste disposal bags. Wherever possible, asbestos-containing material should be removed in sections as intact as possible. Do not allow material to fall to floor.

3.2.9 Frequently and at regular intervals during the doing of the work, debris and dust waste shall be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in an asbestos waste container.

3.2.10 Clean surfaces where asbestos has been removed by means of wire brushes, steel wool, or other suitable tools.

3.2.11 Immediately after completion of the work, clean up dust and waste containing asbestos using a HEPA vacuum or by damp wiping.

3.2.12 Double bag all waste as it is taken out of the Asbestos Work Area Enclosure.

3.2.13 Clean the entire Asbestos Work Area by means of HEPA vacuuming or wet wiping when removal of ACM is complete.

3.2.14 All tools, equipment, materials and supplies that will NOT be reused shall be placed in an asbestos waste container as soon as practicable following completion of the preceeding Items of this Section.

3.2.15 All tools, equipment, materials and supplies that will be reused shall be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable following completion of the preceding Items of this Section.

3.2.16 Place materials used to form Enclosure, disposable coveralls, and other contaminated waste in asbestos waste bags for disposal. All waste is to be double bagged and independently sealed.

3.2.17 Apply a heavy coat of sealant using a fine mist sprayer to all surfaces in the work area.

3.2.18 The Enclosure shall remain erected until the sealant has dried or, if required, until an air sample is collected inside the enclosure, and the levels are below 0.04f/cc.

3.2.19 Compressed air shall not be used to clean up and remove debris or dust from any surface.

3.2.20 Eating, drinking, chewing or smoking shall not be permitted in the work area.

3.2.21 Maintain all work areas in a neat and orderly fashion at all times.

3.3 Teardown of Enclosure and Exit from the Work Area

3.3.1 Carefully roll polyethylene toward the centre of enclosure. Remove visible debris by means of HEPA vacuum as polyethylene is rolled away.

3.3.2 Drop sheets shall not be reused.

3.3.3 Drop sheets shall be wetted and placed in an asbestos waste container as soon as practicable after completion of the preceding Items of this Section.

3.3.4 After the work is completed, polyethylene sheeting and similar materials used for barriers and enclosures shall not be reused, but shall be wetted and placed in an asbestos waste container as soon as practicable following completion of the preceeding Items of this Section.

3.3.5 Barriers and portable enclosures shall not be reused unless they are rigid and can be cleaned thoroughly.

3.3.6 After the work is completed, barriers and portable enclosures that will be reused shall be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable following completion of the preceeding Items of this Section.

3.3.7 Prior to leaving the work area, workers shall decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing.

3.3.7.1 If the protective clothing is to be reused, it shall be stored in a sealable plastic bag.

3.3.7.2 If the protective clothing will NOT be reused, place it in an asbestos waste container immediately prior to leaving the work area.

3.3.8 Immediately after leaving the work area, all workers shall proceed directly to the established washing facilities to wash hands and face.

3.3.9 All workers shall wash, remove and store respirtors as per the written procedures that have been established by the employer and as is consistent with the manufacturer's specifications.

3.3.10 Reinstall objects and items removed to facilitate removal of ACM.

End of Section

ASBESTOS ABATEMENT TYPE 2 GLOVE BAG

SECTION 02 82 03

LIST OF CONTENTS

1. GENERAL

1.1 General And Related Work

1.1.1 All sections of the specifications form a part of the Contract Document and shall be read to determine their effect upon the work of this section.

1.1.2 Related Work Specified Elsewhere

Division 2	Section 02 82 00	Abatement Scope and Details
Division 2	Section 02 82 01	Type 1 Asbestos Abatement
Division 2	Section 02 82 02	Type 2 Asbestos Abatement
Division 2	Section 02 82 04	Type 3 Asbestos Abatement
Division 2	Section 02 83 00	Lead Abatement
Division 2	Section 02 83 10	Other Hazardous Materials
Division 2	Section 02 84 00	PCB Capacitors and Ballasts

Attachments:

1) *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021.

1.1.3 This specification fulfils the requirements of the report required by Designated Substance – *Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations*, Ontario Regulation 278/05, Section 10.

1.1.4 The Contractor is responsible to verify all measurements for removal, cleaning, and re-insulation purposes. Measurements and quantities provided herein are for reference only.

1.1.5 It is the intent that work performed as per this section will result in the removal and disposal or decontamination of all asbestos-containing material (ACM) and mould-contaminated materials, as well as all materials that have been contaminated by ACM either during or prior to work of this section.

1.1.6 Refer to Section 02 82 00, Abatement Scope and Details, for the following information and requirements.

1.1.6.1 Site Conditions,

1.1.6.2 Outline of Work,

1.1.6.3 Schedule,

1.1.6.4 Supervision,

1.1.6.5 Quality Assurance,

1.1.6.6 Regulations,

1.1.6.7 Notification,

1.1.6.8 Submittals, and

1.1.6.9 Waste Transport And Disposal

1.2 Definitions

1.2.1 Airlock: A system for permitting ingress or egress without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least 1.5 m apart.

1.2.2 Air Monitoring: The process of measuring the fibre content of a specific volume of air.

1.2.3 Amended Water: Water with a non-ionic surfactant wetting agent added to reduce water surface tension to 35 or less dynes, to allow thorough wetting of asbestos fibres.

1.2.4 Asbestos: The serpentine and amphibole asbestiform varieties including chrysotile, actinolite, amosite, anthophyllite, crocidolite and tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

1.2.5 Asbestos Abatement Consultant: The Owner or person designated by the owner to provide inspection and air monitoring of the Contractor's work

1.2.6 Asbestos-Containing Material (ACM): Any material that contains 0.5 per cent or more asbestos, of any type or mixture of types, by dry weight.

1.2.7 Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.

1.2.8 Asbestos Debris: Pieces of ACM that can be identified by colour, texture, or composition, or means dust, if the dust is determined by an accredited Asbestos Abatement Consultant to be ACM.

1.2.9 Asbestos Work Area: Where the actual removal, sealing and enclosure of asbestos-containing materials takes place.

1.2.10 Authorized Visitor: The Owner or his approved representative and/or persons representing regulatory agencies.

1.2.11 Barrier: Any surface that seals off the work area to inhibit the movement of fibres.

1.2.12 Clean Area: Either an operating area or an area in which removal work has already been completed.

1.2.13 Curtained Doorway: An arrangement of closures to allow ingress and egress from one room to another while permitting minimal air movement between rooms, typically constructed by placing two overlapping sheets of polyethylene over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. All free edges of polyethylene shall be reinforced with duct tape and the bottom edge shall be weighted to ensure proper closing. Each polyethylene sheet shall overlap openings not less than 1.5 m on each side.

1.2.14 Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.

1.2.15 Disposal Bag: A properly labelled 6 mil thick leak-tight plastic bag used for transporting asbestos waste from the work area to the disposal site.

1.2.16 DOP / PAO Test: Dioctylphthalate / Poly Alpha Olefin aerosol challenge of a HEPA filter system and is used to establish the integrity and effectiveness of the system to filter out asbestos fibres.

1.2.17 Encapsulant: A material that surrounds or embeds asbestos fibres in an adhesive matrix, to prevent release of fibres.

1.2.17.1 Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.

1.2.17.2 Penetrating Encapsulant: An encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.

1.2.17.3 Removal Encapsulant: A penetrating encapsulant specifically designed to minimize fibre release during removal of asbestos-containing materials rather than for in situ encapsulation.

1.2.18 Encapsulation: Applying an encapsulant to asbestos-containing materials.

1.2.19 Enclosure: 6 mil polyethylene sheeting installed to fully isolate the Type 2 Asbestos Work Area. Enclosure may be a prefabricated self supporting structure or constructed with a rigid frame, or, when applicable, supported by the ceiling grid. Enclosure shall have polyethylene sheeting as a top at locations where the enclosure does not extend up to the underside of the ceiling or underside of structure.

1.2.20 Filter: A media component used in respirators, vacuum cleaners or negative pressure filter fan units to remove solid or liquid particles from the inspired air.

1.2.21 Fitting: Unless otherwise described in Site Conditions, all connections of a pipe which include elbows, ends, caps, valves, hangers, tees and unions.

1.2.22 Friable Asbestos Material: Material that contains asbestos that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

1.2.23 Glove Bag: A sack with inward projecting long sleeve gloves, which are designed to enclose an object from which an asbestos-containing material is to be removed.

1.2.24 HEPA Filter: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.

1.2.25 Negative Pressure: A system which extracts air directly from the work area, filters such extracted air through a High Efficiency Particulate Air filtering system, and discharges this air directly outside work area to exterior of building. This system shall maintain a minimum pressure differential of 0.02 inches Water Gauge relative to adjacent areas outside of work areas, be equipped with an alarm to warn of system breakdown (i.e. excessive negative pressure or insufficient negative pressure), and be equipped with an instrument to continuously monitor and automatically record pressure differences.

1.2.26 Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

1.2.27 Occupied Area: Any area of the building outside the Asbestos Work Area.

1.2.28 Polyethylene: Sheeting of type and thickness specified sealed with tape along all edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide a continuous polyethylene membrane to protect underlying surfaces from water damage or damage by sealant, and to prevent escape of asbestos fibres through the sheeting into a clean area.

1.2.29 Positive Pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is positive during inhalation and exhalation in relation to the air pressure of the outside atmosphere.

1.2.30 Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

1.2.31 Straight run pipes: Part of the building system not included under the description of Fitting, including but not limited to straight, angled or curved sections of pipe, pumps, headers and reducers.

1.2.32 Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

1.2.33 Type 2 Asbestos Operations: Defined by Ontario Regulation 278/05, Section 12, includes the following operations:

1.2.33.1 Removing all or part of a false ceiling to obtain access to a work area, if asbestos-containing material is likely to be lying on the surface of the false ceiling.

1.2.33.2 The removal or disturbance of one square metre or less of friable asbestos-containing material during the repair, alteration, maintenance or demolition of all or part of machinery or equipment or a building, aircraft, locomotive, railway car, vehicle or ship.

1.2.33.3 Enclosing friable asbestos-containing material.

1.2.33.4 Applying tape or a sealant or other covering to pipe or boiler insulation that is asbestos-containing material.

1.2.33.5 Installing or removing ceiling tiles that are asbestos-containing material, if the tiles cover an area of 7.5 square metres or more and are installed or removed without being broken, cut, drilled, abraded, ground, sanded or vibrated.

1.2.33.6 Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if,

1.2.33.6.1 the material is not wetted to control the spread of dust or fibres, and

1.2.33.6.2 the work is done only by means of non-powered hand-held tools.

1.2.33.7 Removing one square metre or more of drywall in which joint filling compounds that are asbestos-containing material have been used.

1.2.33.8 Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material if the work is done by means of power tools that are attached to dust-collecting devices equipped with HEPA filters.

1.2.33.9 Removing insulation that is asbestos-containing material from a pipe, duct or similar structure using a glove bag.

1.2.33.10 Cleaning or removing filters used in air handling equipment in a building that has sprayed fireproofing that is asbestos-containing material.

1.2.33.11 An operation that,

1.2.33.11.1 is not mentioned in any of paragraphs 1 to 10

1.2.33.11.2 may expose a worker to asbestos, and

1.2.33.11.3 is not classified as a Type 1 or Type 3 operation.

1.2.33.12 Work on ceiling tiles, drywall or friable asbestos-containing material is classified according to the total area on which work is done consecutively in a room or enclosed area, even if the work is divided into smaller jobs.

1.2.34 Water Filtration System: A multi-stage filtration system for filtering shower and wastewater. Typically constructed with at least two filters, the primary stage retains 20 microns or larger particles and the final stage removes 5 micron or larger particles.

1.2.35 Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

1.2.36 Work: Includes all services, labour and material required to complete the work as specified in the contract.

1.3 Worker Protection

1.3.1 Prior to commencing work instruct workers in all aspects of work procedures and protective measures.

1.3.2 Provide workers with personally issued marked respiratory equipment acceptable to the Occupational Health and Safety Division of the Ontario Ministry of Labour, suitable for the Asbestos exposure.

1.3.3 Ensure that suitable respiratory protective equipment is worn by every worker who enters the Asbestos Work Area. A respirator provided by an employer and used by a worker shall be:

1.3.3.1 an air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter, or better;

1.3.3.2 fitted so that there is an effective seal between the respirator and the worker's face;

1.3.3.3 assigned to a worker for the worker's exclusive use, if practicable;

1.3.3.4 used and maintained in accordance with written procedures that are established by the employer and are consistent with the manufacturer's specifications;

1.3.3.5 cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker;

1.3.3.6 free of damaged or deteriorated parts. Damaged or deteriorated parts are to be replaced prior to being used by a worker;

1.3.3.7 be stored in a convenient, clean and sanitary location; when not in use;

1.3.3.8 certified by the US National Institute for Occupational Safety and Health (NIOSH) for exposure to airborne asbestos fibre.

1.3.4 The employer shall establish written procedures regarding the selection, use and care of respirators.

1.3.5 A copy of the procedures shall be provided to and reviewed with each worker.

1.3.6 A worker shall not be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.

1.3.7 Provide all workers with full body disposable coveralls.

1.3.8 Ensure that full body disposable coveralls are worn by every worker who enters the Asbestos Work Area. The protective clothing provided by an employer and used by a worker shall be:

1.3.8.1 made of a material which does not readily retain nor permit penetration of asbestos fibres;

1.3.8.2 shall consist of head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing;

1.3.8.3 shall include suitable footwear;

1.3.8.4 shall be repaired or replaced if torn.

1.3.9 Provide other body protection required under applicable safety regulations.

1.3.10 Personnel must be fully protected at all times when possibility of disturbance of asbestos exists.

1.3.11 Provide and post the procedures described under Worker Protection.

1.3.12 Do not eat, drink, smoke or chew except in established locations outside the Asbestos Work Area.

1.4 Visitor Protection

1.4.1 Provide clean protective clothing and equipment and approved respirators to Authorized Visitors.

1.4.2 Ensure Authorized Visitors have received required training for entry into Asbestos Work Area.

1.5 Air Monitoring

1.5.1 Air monitoring will be performed following the National Institute for Occupational Safety and Health method 7400.

1.5.2 The contractor shall cooperate fully with the asbestos abatement consultant in the collection of air monitoring samples, including the collection of personal worker samples, if required.

1.5.3 Results of PCM samples of 0.04 fibres per millilitre of air (fibre/mL) or greater, outside of Asbestos Work Area, will indicate asbestos contamination of these areas. The contaminated areas shall be isolated and cleaned in the same manner applicable to the Asbestos Work Area, at no cost to the Owner.

2. PRODUCTS

2.1 Materials and Equipment

2.1.1 All tools, equipment, materials and supplies brought to work site must be in good condition and free of asbestos, asbestos debris, and fibrous materials.

2.1.2 Disposable tools, equipment, materials and supplies must be of new materials only.

2.1.3 Airless Sprayer: Spray equipment for amended water: for application to asbestos-containing materials for saturation prior to removal. Airless spray units are only acceptable, such as Grace Hydrospray or approved equal.

2.1.4 Asbestos Waste Containers: Containers for dust and waste shall be, dust tight, suitable for the type of waste, impervious to asbestos and any chemicals used during the removal process, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before being removed from the work area, and removed from the workplace frequently and at regular intervals.

2.1.4.1 Waste shall be contained in two separate containers. The inner container shall be a sealable polyethylene bag (or where the glove bag method is used, the glove bag itself). Where there are sharp objects included in the waste material, the outer container shall be a sealable fibre type drum, otherwise the outer container may be a sealable polyethylene bag.

2.1.4.2 Container must be new materials only.

2.1.4.3 Containers shall be as follows:

2.1.4.3.1 Polyethylene Waste Bag: 0.15 mm (6 mil) thick leak-tight polyethylene bags.

2.1.4.3.2 Fibre Drums: 55 US gallon capacity heavy duty leak tight fibre drums with tight sealing locking metal top and metal bottom.

2.1.4.3.3 Labels: Waste containers shall have a pre-printed cautionary asbestos warning label, acceptable to local dump authorities, clearly visible when ready for removal to disposal site.

2.1.5 Caulking: One component non-staining acrylic polymer sealant to conform to GSB Specification 19GP-5M.

2.1.6 Drop Sheets: In polyethylene type and size appropriate for the work being performed.

2.1.7 Electrical Power Cords: Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas of work.

2.1.8 Encapsulant: Type 1 penetrating Class A water based encapsulant conforming to CGSB 1-GP-205M and approved by the Fire Marshall having flame spread and smoke development ratings both less than fifty (50). Acceptable products: Ocean 666, Decadex Fire Check equivalent or better.

2.1.9 Fine Atomizing Spray Nozzle: Nozzle for airless sprayer capable of delivering not less than 1 gallon per minute of fine particle spray of amended water.

2.1.10 First Aid Supplies: Comply with governing regulations and recognized recommendations within the construction industry.

2.1.11 Flame-Resistant Polyethylene Sheeting: A single polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films, 0.15 mm (6 mils) thickness.

2.1.12 Garden Sprayer: A hand pump type pressure-can garden sprayer fabricated out of either metal or plastic, equipped with a metal wand at the end of a hose that can deliver a stream or fine spray of liquid of amended water under pressure.

2.1.13 Glove Bag: Safe-T-Strip manufactured by Asbesguard Equipment Inc., Markham Ontario, in configurations suitable for work.

2.1.14 Ground Fault Panel: Electrical panel, installed by licensed electrician and equipped as follows:

2.1.14.1 Ground fault circuit interrupters of sufficient capacity to power temporary electrical equipment and lights in Asbestos Work Area.

2.1.14.2 Interrupters to have a 5 mA ground fault protection.

2.1.14.3 Necessary accessories including main switch disconnect, ground fault interrupter lights, test switch to ensure unit is working, and reset switch.

2.1.14.4 Openings sealed to prevent moisture or dust penetration.

2.1.15 HEPA Vacuum: Vacuum with all necessary fittings, tools and attachments. All air must be filtered by HEPA filter before discharge.

2.1.16 Lockdown Sealer: Slow-drying sealer shall be a non-staining, clear, water dispersable type that remains tacky on the surface for a minimum of 8 hours for the purpose of trapping any residual airborne fibres during the settling period. Lock-down agent shall be compatible with replacement insulation or fireproofing where required and capable of withstanding service temperature of substrate. The product must have flame spread and smoke development ratings both less

than 50 and shall leave no stain when dry. Also referred to as "Lockdown Agent".

2.1.17 Polyethylene Sheeting: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.

2.1.17.1 Fibre-Reinforced (Rip-Proof) Polyethylene Sheeting: 8 mil (0.20mm) fabric made up from one layer of 5 mil (0.13 mm) weave and two layers of 1.5 mil (0.04 mm) poly laminate or approved equal. In sheet size to minimize on-site seams and overlaps.

2.1.17.2 Flame-Resistant Polyethylene Sheeting: A single polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films, 6 mil (0.15 mm) thickness.

2.1.18 Protective Coveralls: Disposable full body coveralls complete with hoods manufactured of a material which does not permit penetration of asbestos fibres.

2.1.19 Scaffolding: The type, erection and use of all scaffolding shall comply with all applicable OHSA provisions.

2.1.20 Spray Cement: Spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

2.1.21 Tape: Reinforced cloth or fibreglass reinforced tape, or vinyl tape, in 2" or 3" widths suitable for sealing polyethylene sheeting under both wet conditions using amended water, and dry conditions.

2.1.22 Temporary Lighting: Provide general service incandescent lamps or fluorescent lamps of wattage required for adequate illumination as required by the work. Protect lamps with guard cages grounded together to distribution panel or tempered glass enclosures.

2.1.23 Wetting Agent: Non-sudsing surface active agent. Acceptable product Aqua-Gro or approved equal.

3. EXECUTION

3.1 Site Preparation

3.1.1 The glove bag removal method may only be used with approval of the on-site Asbestos Abatement Consultant.

3.1.2 A glove bag shall not be used to remove insulation from a pipe, duct or similar structure if,

3.1.2.1 It may not be possible to maintain a proper seal for any reason including, without limitation,

3.1.2.1.1 The condition of the insulation, or

3.1.2.1.2 The temperature of the pipe, duct or similar structure.

3.1.2.2 The bag could become damaged for any reason including, without limitation,

3.1.2.2.1 The type of jacketing, or

3.1.2.2.2 The temperature of the pipe, duct or similar structure.

3.1.3 Establish personal hygiene facilities for workers to wash their hands and face. Washing facilities to include sufficient supplies of disposable hand towels, hand soap, a waste receptacle and a mirror.

3.1.4 Separate the work place from the rest of the building by placing rope barriers, signage and other appropriate means at the boundary of the designated work area.

3.1.5 Display signage in all areas where access to Asbestos Work Area is possible.

Such signs shall read:

CAUTION
Asbestos Hazard Area
No Unauthorized Entry
Wear assigned protective equipment
Breathing asbestos dust may cause serious bodily harm

3.1.6 Visible dust shall be removed with a damp cloth/mop or a vacuum equipped with a HEPA filter from any surface in the work area, including the thing to be worked on, if the dust on that surface is likely to be disturbed.

3.1.7 Provide to the Asbestos Abatement Consultant an itemized list of pre-existing damage in Work Area.

3.1.8 Moving of equipment, tools, supplies, and stored materials which can be performed without disturbing ACM will be performed by the contractor.

3.1.9 Disable air-handling system affecting Asbestos Work Area. Seal ventilation ducts to and from the work area. The air handling system shall not be enabled until completion of work.

3.1.10 Shut off the source of heat for piping systems (i.e. boiler or steam line header), where possible.

3.1.11 Shut off and lock out electrical power within the work area.

3.1.12 Place polyethylene drop sheets on horizontal surfaces in Asbestos Work Area.

3.1.13 Seal with polyethylene, spray adhesive, and tape, diffusers and duct openings in the Asbestos Work Area.

3.2 Insulation Removal

3.2.1 Do not perform glove bag operations on damaged insulations.

3.2.2 Immediately before the glove bag is attached, the insulation jacketing or coating shall be inspected for damage or defects, and if any damage or defect is present, it shall be repaired using Type 2 asbestos safety precautions.

3.2.3 The glove bag shall be inspected for damage or defects,

3.2.3.1 Immediately before it is attached to the pipe, duct or other similar structure, and

3.2.3.2 At regular intervals during its use.

3.2.4 If damage or defects are observed when the glove bag is inspected, the glove bag shall be disposed of.

3.2.5 If damage or defects are observed when the glove bag inspected, prior to beginning removal work, or at any other time,

3.2.5.1 The use of the glove bag shall be discontinued,

3.2.5.2 The inner surface of the glove bag and the contents, if any, shall be thoroughly wetted,

3.2.5.3 The glove bag and the contents, if any, shall be removed and placed in the asbestos waste container, and,

3.2.5.4 The work are shall be cleaned by vacuuming with a vacuum equipped with a HEPA filter before removal work is resumed.

3.2.6 Ensure that any knife to be used inside the glove bag has a retractable blade; and that any saw used inside the glove bag is of the flexible wire type; and brush used inside a glove bag shall not have metal bristles.

3.2.7 Perform removal operations using the following procedures detailed in this Section and in accordance to the manufacturer's instructions.

3.2.8 Welds and folds of glove bags are to remain intact without modification to manufacturer's design.

3.2.9 Place any tools necessary to remove insulation in the bottom of the glove bag.

3.2.10 Install the glove bag on the pipe, duct or similar structure, using shoulder straps and zipper provided. Duct tape is not to be substituted for shoulder straps. Support the glove bag as necessary to avoid damage to the pipe, duct or similar structure, or the bag itself.

3.2.11 Insert nozzle of spray pump that is prefilled and primed with water and surfactant mixture (amended water) into the glove bag through the valve provided. Place hands in gloves and relocate the tools to the tool pouch.

3.2.12 Cut or remove exterior insulation jacket, where applicable, to expose asbestos insulations. Wet exposed insulations with sufficient amended water to suppress any dust. Remove insulation and arrange in bottom of the glove bag to obtain maximum capacity for the glove bag. Wash down exposed portion of the pipe, duct or similar structure, and top section of bag ensuring that insulation in lower portion of the glove bag, as well as any exposed end of insulation, is thoroughly saturated. Use one hand and a cloth or sponge to aid in the washing process.

3.2.13 Ensure that pipe and other surfaces are clean of visual residue, dirt or dust prior to removal or relocation of the glove bag.

3.2.14 Evacuate air from glove bag using a vacuum equipped with a HEPA filtered prior to removing bag from pipe.

3.2.15 If the glove bag is ripped, cut or opened in any way, work that may disturb asbestos insulations shall cease immediately. If the rip, cut or opening is small and easy to repair, then the glove bag shall be repaired immediately with tape. Work may continue once the repairs are completed. If the rip, cut or opening is

not small and cannot be easily repaired, place the glove bag immediately within a suitable asbestos waste container. Any spilled material containing asbestos shall be cleaned up and removed by using a vacuum equipped with a HEPA filter and/or by wet wiping.

3.2.16 If the glove bag is to be removed from the pipe, duct or similar structure for use on a new section, seal the internal zip-lock prior to removal and reinstall in new location before reopening the zip-lock.

3.2.17 If the glove bag is to be relocated along the pipe, duct or similar structure, reseal to pipe with straps and use double pull zipper to pass hangers. Repeat stripping operation.

3.2.18 To remove glove bag after completion of stripping, wash top section and tools thoroughly. Put all tools in one hand (glove), pull hand out inverted, twist to create a separate pouch, double tape to seal ends, cut and place in the next glove bag, or into a water bucket and open under water and clean and then allow to dry. Tools may also be cleaned and handed out during the movement of the glove bag while taking all precautions to prevent release of asbestos.

3.2.19 While glove bag is still on pipe, duct or similar structure, but after tools have been removed, an appropriately labelled waste disposal bag is slipped up and over the glove bag. The glove bag's straps and zippers are opened and the glove bag opening carefully folded over the lowered into the waste disposal bag. Disposal bag is then sealed with tape.

3.2.20 After removal of the glove bag, ensure pipe, duct or similar structure is clean of all residue. If necessary after removal of each section of asbestos insulations, vacuum all surface of pipe, duct or similar structure using vacuums equipped with HEPA filters.

3.2.21 Apply a sealant to all surfaces of the pipe, duct or similar structure from which asbestos insulations have been removed. Seal exposed ends of remaining asbestos insulations with encapsulant (lagging compound or tape).

3.3 Work Area Clean Up and Exit from the Work Area

3.3.1 Glove bags, disposal bags, clothe rags and any porous materials are to be handled and disposed of as asbestos waste.

3.3.2 Frequently, and at regular interval during the work, and immediately upon completion of the work, glove bags containing asbestos-contaminated dust and waste shall be placed in a suitable waste container and shall be removed from the workplace.

3.3.3 Immediately after completion of the work and removal of asbestos waste, clean all surfaces and equipment within the work area using vacuums equipped with HEPA filters and/or by wet wiping.

3.3.4 Drop sheets shall not be reused.

3.3.5 Drop sheets shall be wetted and removed, by folding inward, and placed in an asbestos waste container as soon as practicable after completion of the preceding Items of this Section.

3.3.6 After the work is completed, polyethylene sheeting and similar materials used for barriers shall not be reused, but shall be wetted and placed in an asbestos waste container as soon as practicable following completion of the preceeding Items of this Section.

3.3.7 All tools, equipment, materials and supplies that will NOT be reused shall be placed in an asbestos waste container as soon as practicable following completion of the preceeding Items of this Section.

3.3.8 All tools, equipment, materials and supplies that will be reused shall be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable following completion of the preceding Items of this Section.

3.3.9 Prior to leaving the work area, workers shall decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing.

3.3.9.1 If the protective clothing is to be reused, it shall be stored in a sealable plastic bag.

3.3.9.2 If the protective clothing will NOT be reused, place it in an asbestos waste container immediately prior to leaving the work area.

3.3.10 Immediately after leaving the work area, all workers shall proceed directly to the established washing facilities to wash hands and face.

3.3.11 All workers shall wash, remove and store respirtors as per the written procedures that have been established by the employer and as is consistent with the manufacturer's specifications.

3.3.12 Reinstall objects and items removed to facilitate removal of ACM.

End of Section

ASBESTOS ABATEMENT TYPE 3

SECTION 02 82 04

LIST OF CONTENTS

1. GENERAL

1.1 General And Related Work

1.1.1 All sections of the specifications form a part of the Contract Document and shall be read to determine their effect upon the work of this section.

1.1.2 Related Work Specified Elsewhere

Division 2	Section 02 82 00	Abatement Scope and Details
Division 2	Section 02 82 01	Type 1 Asbestos Abatement
Division 2	Section 02 82 02	Type 2 Asbestos Abatement
Division 2	Section 02 82 03	Type 2 Glove Bag Asbestos Abatement
Division 2	Section 02 83 00	Lead Abatement
Division 2	Section 02 83 10	Other Hazardous Materials
Division 2	Section 02 84 00	PCB Capacitors and Ballasts

Attachments:

1) *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021.

1.1.3 This specification fulfils the requirements of the report required by Designated Substance – *Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations*, Ontario Regulation 278/05, Section 10.

1.1.4 The Contractor is responsible to verify all measurements for removal, cleaning, and re-insulation purposes. Measurements and quantities provided herein are for reference only.

1.1.5 It is the intent that work performed as per this section will result in the removal and disposal or decontamination of all asbestos-containing material (ACM) and mould-contaminated materials, as well as all materials that have been contaminated by ACM either during or prior to work of this section.

1.1.6 Refer to Section 02 82 00, Abatement Scope and Details, for the following information and requirements;

1.1.6.1 Site Conditions,

1.1.6.2 Outline of Work,

1.1.6.3 Schedule,

1.1.6.4 Supervision,

1.1.6.5 Quality Assurance,

1.1.6.6 Regulations,

1.1.6.7 Notification,

1.1.6.8 Submittals, and

1.1.6.9 Waste Transport And Disposal.

1.2 Definitions

1.2.1 Airlock: A system for permitting ingress or egress without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least 1.5 m apart.

1.2.2 Air Monitoring: The process of measuring the fibre content of a specific volume of air.

1.2.3 Amended Water: Water with a non-ionic surfactant wetting agent added to reduce water surface tension to 35 or less dynes, to allow thorough wetting of asbestos fibres.

1.2.4 Asbestos: The serpentine and amphibole asbestiform varieties including chrysotile, actinolite, amosite, anthophyllite, crocidolite and tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.

1.2.5 Asbestos Abatement Consultant: The Owner or person designated by the owner to provide inspection and air monitoring of the Contractor's work.

1.2.6 Asbestos-Containing Material (ACM): Any material that contains 0.5 per cent or more asbestos, of any type or mixture of types, by dry weight.

1.2.7 Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.

1.2.8 Asbestos Debris: Pieces of ACM that can be identified by colour, texture, or composition, or means dust, if the dust is determined by an accredited Asbestos Abatement Consultant to be ACM.

1.2.9 Asbestos Work Area: Where the actual removal, sealing and enclosure of asbestos-containing materials takes place.

1.2.10 Authorized Visitor: The Owner or his approved representative and/or persons representing regulatory agencies.

1.2.11 Barrier: Any surface that seals off the work area to inhibit the movement of fibres.

1.2.12 Clean Area: Either an operating area or an area in which removal work has already been completed.

1.2.13 Curtained Doorway: An arrangement of closures to allow ingress and egress from one room to another while permitting minimal air movement between rooms, typically constructed by placing two overlapping sheets of polyethylene over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. All free edges of polyethylene shall be reinforced with duct tape and the bottom edge shall be weighted to ensure proper closing. Each polyethylene sheet shall overlap openings not less than 1.5 m on each side.

1.2.14 Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.

1.2.15 Disposal Bag: A properly labelled 6 mil thick leak-tight plastic bag used for transporting asbestos waste from the work area to the disposal site.

1.2.16 DOP / PAO Test: Dioctylphthalate / Poly Alpha Olefin aerosol challenge of a HEPA filter system and is used to establish the integrity and effectiveness of the system to filter out asbestos fibres.

1.2.17 Encapsulant: A material that surrounds or embeds asbestos fibres in an adhesive matrix, to prevent release of fibres.

1.2.17.1 Bridging Encapsulant: An encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.

1.2.17.2 Penetrating Encapsulant: An encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.

1.2.17.3 Removal Encapsulant: A penetrating encapsulant specifically designed to minimize fibre release during removal of asbestos-containing materials rather than for in situ encapsulation.

1.2.18 Encapsulation: Applying an encapsulant to asbestos-containing materials.

1.2.19 Enclosure: 6 mil polyethylene sheeting installed to fully isolate the Type 3 Asbestos Work Area. Enclosure may be a prefabricated self supporting structure or constructed with a rigid frame, or, when applicable, supported by the ceiling grid. Enclosure shall have polyethylene sheeting as a top at locations where the enclosure does not extend up to the underside of the ceiling or underside of structure

1.2.20 Filter: A media component used in respirators, vacuum cleaners or negative pressure filter fan units to remove solid or liquid particles from the inspired air.

1.2.21 Fitting: Unless otherwise described in Site Conditions, all connections of a pipe which include elbows, ends, caps, valves, hangers, tees and unions.

1.2.22 Friable Asbestos Material: Material that contains asbestos that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

1.2.23 Glovebag: A sack with inward projecting long sleeve gloves, which are designed to enclose an object from which an asbestos-containing material is to be removed.

1.2.24 HEPA Filter: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.

1.2.25 Negative Pressure: A system which extracts air directly from the work area, filters such extracted air through a High Efficiency Particulate Air filtering system, and discharges this air directly outside work area to exterior of building. This system shall maintain a minimum pressure differential of 0.02 inches Water Gauge relative to adjacent areas outside of work areas, be equipped with an alarm to warn of system breakdown (i.e. excessive negative pressure or insufficient negative pressure), and be equipped with an instrument to continuously monitor and automatically record pressure differences.

1.2.26 Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

1.2.27 Occupied Area: Any area of the building outside the Asbestos Work Area.

1.2.28 Polyethylene: Sheeting of type and thickness specified sealed with tape along all edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide a continuous polyethylene membrane to protect underlying surfaces from water damage or damage by sealant, and to prevent escape of asbestos fibres through the sheeting into a clean area.

1.2.29 Positive Pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is positive during inhalation and exhalation in relation to the air pressure of the outside atmosphere.

1.2.30 Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

1.2.31 Straight run pipes: Part of the building system not included under the description of Fitting, including but not limited to straight, angled or curved sections of pipe, pumps, headers and reducers.

1.2.32 Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

1.2.33 Type 3 Asbestos Operations: Defined by Ontario Regulation 278/05, Section 12, includes the following operations:

1.2.33.1 The removal or disturbance of more than one square metre of friable asbestos-containing material during the repair, alteration, maintenance or demolition of all or part of a building, aircraft, ship, locomotive, railway car or vehicle or any machinery or equipment.

1.2.33.2 The spray application of a sealant to friable asbestos-containing material.

1.2.33.3 Cleaning or removing air handling equipment, including rigid ducting but not including filters, in a building that has sprayed fireproofing that is asbestos-containing material.

1.2.33.4 Repairing, altering or demolishing all or part of a kiln, metallurgical furnace or similar structure that is made in part of refractory materials that are asbestos-containing materials.

1.2.33.5 Breaking, cutting, drilling, abrading, grinding, sanding or vibrating non-friable asbestos-containing material, if the work is done by means of power tools that are not attached to dust-collecting devices equipped with HEPA filters.

1.2.33.6 Repairing, altering or demolishing all or part of any building in which asbestos is or was used in the manufacture of products, unless the asbestos was cleaned up and removed before March 16, 1986.

1.2.33.7 Work on ceiling tiles, drywall or friable asbestos-containing material is classified according to the total area on which work is done consecutively in a room or enclosed area, even if the work is divided into smaller jobs.

1.2.34 Water Filtration System: A multi-stage filtration system for filtering shower and wastewater. Typically constructed with at least two filters, the primary stage retains 20 microns or larger particles and the final stage removes 5 micron or larger particles.

1.2.35 Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

1.2.36 Work: Includes all services, labour and material required to complete the work as specified in the contract.

1.3 Worker Protection

1.3.1 Prior to commencing work instruct workers in all aspects of work procedures and protective measures.

1.3.2 Provide workers a respirator with personally issued respiratory equipment acceptable to the Occupational Health and Safety Division of the Ontario Ministry of Labour, suitable for the Asbestos exposure.

1.3.3 Ensure that suitable respiratory protective equipment is worn by every worker who enters the Asbestos Work Area. A respirator provided by an employer and used by a worker shall be:

1.3.3.1 One of the following types depending on the classification of work and method removal;

1.3.3.1.1 Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filters;

1.3.3.1.2 Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, R-100 or P-100 particulate filters;

1.3.3.1.3 Negative pressure (demand) supplied air respirator equipped with a full-facepiece;

1.3.3.1.4 Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece);

1.3.3.1.5 Pressure demand supplied air respirator equipped with a half or full-facepiece mask;

1.3.3.2 fitted so that there is an effective seal between the respirator and the worker's face,

1.3.3.3 assigned to a worker for the worker's exclusive use,

1.3.3.4 used and maintained in accordance with the procedures specified by the equipment manufacturer,

1.3.3.5 cleaned, disinfected and inspected after use on each shift, or more often if necessary,

1.3.3.6 free of damaged or deteriorated parts replaced prior to being used by a worker,

1.3.3.7 be stored in a convenient, clean and sanitary location; when not in use,

1.3.3.8 certified by the US National Institute for Occupational Safety and Health (NIOSH) or the British Standards Institution for exposure to airborne asbestos fibre.

1.3.4 The employer shall establish written procedures regarding the selection, use and care of respirators.

1.3.5 A copy of the procedures shall be provided to and reviewed with each worker.

1.3.6 A worker shall not be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.

1.3.7 Provide all workers with full body disposable coveralls.

1.3.8 Ensure that full body disposable coveralls are worn by every worker who enters the Asbestos Work Area. The protective clothing provided by an employer and used by a worker shall be:

1.3.8.1 made of a material which does not readily retain nor permit penetration of asbestos fibres;

1.3.8.2 shall consist of head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing;

1.3.8.3 shall include suitable footwear;

1.3.8.4 shall be repaired or replaced if torn.

1.3.9 Provide other body protection required under applicable safety regulations.

1.3.10 Personnel must be fully protected at all times when possibility of disturbance of asbestos exists.

1.3.11 Provide and post the procedures described under Worker Protection.

1.3.12 Do not eat, drink, smoke or chew except in established locations outside the Asbestos Work Area.

1.3.13 <u>Asbestos Abatement Work Area Entry Procedures</u>

1.3.13.1 Use asbestos abatement precautions at all times when possibility of disturbance of ACM exists.

1.3.13.2 Remove all clothing including undergarments and footwear in Clean Change Room.

1.3.13.3 Store all street clothes, uncontaminated footwear, towels, etc. in the Clean Change Room.

1.3.13.4 Put on respirator with new or tested filters, and coveralls in Clean Change Room.

1.3.13.5 Proceed into Asbestos Work area through the Shower Unit.

1.3.14 <u>Asbestos Abatement Work Area Exit Procedures</u>

1.3.14.1 Remove gross contamination from protective clothing using HEPA vacuum or wet wiping.

1.3.14.2 Proceed to Equipment and Access Room and remove all contaminated clothing and equipment except respirator.

1.3.14.3 Store contaminated footwear, hard hats, etc. in Equipment and Access Room.

1.3.14.4 Proceed naked to showers while still wearing respirator

1.3.14.5 While in shower, clean outside of respirator with soap and water. Thoroughly wet body, head and hair, remove respirator and wash body, head and hair. Wet clean inside and outside of respirator face piece

1.3.14.6 Cover inlet side of respirator filter(s) with tape prior to entering the Clean Change Room.

1.3.14.7 If the filters are to be discarded, remove from the respirator and dispose of as asbestos waste.

1.3.15 Proceed to the Clean Change Room, dry off and dress in street clothing.

1.4 Visitor Protection

1.4.1 Provide clean protective clothing and equipment and approved respirators to Authorized Visitors.

1.4.2 Ensure Authorized Visitors have received required training for entry into Asbestos Work Area.

1.5 Air Monitoring

1.5.1 Air monitoring will be performed following the National Institute for Occupational Safety and Health method 7400.

1.5.2 The contractor shall cooperate fully with the asbestos abatement consultant in the collection of air monitoring samples, including the collection of personal worker samples, if required.

1.5.3 Results of PCM samples of 0.04 fibres per millilitre of air (fibre/mL) or greater, outside of Asbestos Work Area, will indicate asbestos contamination of these areas. The contaminated areas shall be isolated and cleaned in the same manner applicable to the Asbestos Work Area, at no cost to the Owner.

1.5.4 Clearance air monitoring samples will be collected after a suitable settling period following application of lock-down agent. Clearance air monitoring will be completed following details of Subsection 18(5) of Ontario Regulation 278/05. All clearance air samples must not exceed 0.01 fibre/mL for the Work Area to be deemed clean.

2. PRODUCTS

2.1 Materials and Equipment

2.1.1 All tools, equipment, materials and supplies brought to work site must be in good condition and free of asbestos, asbestos debris, and fibrous materials.

2.1.2 Disposable tools, equipment, materials and supplies must be of new materials only.

2.1.3 Airless Sprayer: Spray equipment for amended water: for application to asbestos-containing materials for saturation prior to removal. Airless spray units are only acceptable, such as Grace Hydrospray or approved equal.

2.1.4 Asbestos Waste Containers: Containers for dust and waste shall be, dust tight, suitable for the type of waste, impervious to asbestos and any chemicals used during the removal process, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before being removed from the work area, and removed from the workplace frequently and at regular intervals.

2.1.4.1 Waste shall be contained in two separate containers. The inner container shall be a sealable polyethylene bag (or where the glove bag method is used, the glove bag itself). Where there are sharp objects included in the waste material, the outer container shall be a sealable fibre type drum, otherwise the outer container may be a sealable polyethylene bag.

2.1.4.2 Container must be new materials only.

2.1.4.3 Containers shall be as follows:

2.1.4.3.1 Polyethylene Waste Bag: 0.15 mm (6 mil) thick leak-tight polyethylene bags.

2.1.4.3.2 Fibre Drums: 55 US gallon capacity heavy duty leak tight fibre drums with tight sealing locking metal top and metal bottom.

2.1.4.3.3 Labels: Waste containers shall have a pre-printed cautionary asbestos warning label, acceptable to local dump authorities, clearly visible when ready for removal to disposal site.

2.1.5 Caulking: One component non-staining acrylic polymer sealant to conform to GSB Specification 19GP-5M.

2.1.6 Drop Sheets: In polyethylene type and size appropriate for the work being performed.

2.1.7 Electrical Power Cords: Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas of work.

2.1.8 Encapsulant: Type 1 penetrating Class A water based encapsulant conforming to CGSB 1-GP-205M and approved by the Fire Marshall having flame spread and smoke development ratings both less than fifty (50). Acceptable products: Ocean 666, Decadex Fire Check equivalent or better.

2.1.9 Fine Atomizing Spray Nozzle: Nozzle for airless sprayer capable of delivering not less than 1 gallon per minute of fine particle spray of amended water.

2.1.10 Fire Extinguishers: Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.

2.1.11 First Aid Supplies: Comply with governing regulations and recognized recommendations within the construction industry.

2.1.12 Flame-Resistant Polyethylene Sheeting: A single polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films, 0.15 mm (6 mils) thickness.

2.1.13 Foam: Low density polyurethane expanding foam Froth-Pack or equivalent or better.

2.1.14 Garden Sprayer: A hand pump type pressure-can garden sprayer fabricated out of either metal or plastic, equipped with a metal wand at the end of a hose that can deliver a stream or fine spray of liquid of amended water under pressure.

2.1.15 Ground Fault Panel: Electrical panel, installed by licensed electrician and equipped as follows:

2.1.15.1 Ground fault circuit interrupters of sufficient capacity to power temporary electrical equipment and lights in Asbestos Work Area.

2.1.15.2 Interrupters to have a 5 mA ground fault protection.

2.1.15.3 Necessary accessories including main switch disconnect, ground fault interrupter lights, test switch to ensure unit is working, and reset switch.

2.1.15.4 Openings sealed to prevent moisture or dust penetration.

2.1.16 HEPA Vacuum: Vacuum with all necessary fittings, tools and attachments. All air must be filtered by HEPA filter before discharge.

2.1.17 Lockdown Sealer: Slow-drying sealer shall be a non-staining, clear, water dispersable type that remains tacky on the surface for a minimum of 8 hours for the purpose of trapping any residual airborne fibres during the settling period. Lock-down agent shall be compatible with replacement insulation or fireproofing where required and capable of withstanding service temperature of substrate. The product must have flame spread and smoke development ratings both less than 50 and shall leave no stain when dry. Also referred to as “Lockdown Agent”.

2.1.18 Negative Air Unit: Portable air handling system which extracts air directly from the Asbestos Work Area and discharges the air to the exterior of the Asbestos Work Area. Equipped as follows:

2.1.18.1 Prefilter and HEPA filter. Air must pass HEPA filter before discharge.

2.1.18.2 Pressure differential gauge to monitor filter loading.

2.1.18.3 Auto shut off and warning system for HEPA filter failure.

2.1.18.4 Separate hold down clamps to retain HEPA filter in place during change of prefilter.

2.1.19 Polyethylene Sheeting: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.

2.1.19.1 Fibre-Reinforced (Rip-Proof) Polyethylene Sheeting: 8 mil (0.20mm) fabric made up from one layer of 5 mil (0.13 mm) weave and two layers of 1.5 mil (0.04 mm)

poly laminate or approved equal. In sheet size to minimize on-site seams and overlaps.

2.1.19.2 Flame-Resistant Polyethylene Sheeting: A single polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films, 6 mil (0.15 mm) thickness.

2.1.20 Power Washer: Spray equipment for saturation of asbestos-containing material with amended water for cleaning of surfaces in abatement work area after asbestos removal, capable of delivering an airless stream of water at a pressure of not less than 1200 psi or exceeding 2500 psi.

2.1.21 Protective Coveralls: Disposable full body coveralls complete with hoods manufactured of a material which does not permit penetration of asbestos fibres.

2.1.22 Scaffolding: The type, erection and use of all scaffolding shall comply with all applicable OHSA provisions.

2.1.23 Shower: General shower shall be of the walk through type to permit use by one person at a time.

2.1.23.1 Shower Enclosure: Shower enclosure shall be of a minimum 24 gauge steel walls with baked enamel, galvanized steel, aluminum or stainless steel finish, 16 gauge floor with porcelain enamel finish, brass drain and tapping for mixing valve. Shower installation shall be complete with globe valve for tempered water with a shower head complete with orifice to restrict the flow to 2.5 USGPM.

2.1.23.2 Shower Head and Controls: Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Feed shower separately with water from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.

2.1.23.3 Shower Hose Bib: Provide heavy bronze angle type with wheel handle, vacuum breaker, and 3/4" National Standard male hose outlet.

2.1.23.4 Shower Filters: Provide multi-stage cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the work area. Provide units with disposable filter elements where the primary filter passes particle 20 microns and smaller and the final filter passes particles 5 microns and smaller. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.

2.1.23.5 Shower Pan: Provide one piece waterproof shower pan of minimum size 4' x 8' by 6" deep. Fabricate from seamless fibreglass minimum 1/16" thick reinforced with wood, 18 ga. stainless or galvanized steel with welded seems or, copper or lead with soldered seams.

2.1.24 Spray Cement: Spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

2.1.25 Sump Pump: Provide totally submersible waterproof sump pump with integral float switch and shall have a manual switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through

the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump.

2.1.26 Tape: Reinforced cloth or fibreglass reinforced tape, or vinyl tape, in 2" or 3" widths suitable for sealing polyethylene sheeting under both wet conditions using amended water, and dry conditions.

2.1.27 Temporary Lighting: Provide general service incandescent lamps or fluorescent lamps of wattage required for adequate illumination as required by the work. Protect lamps with guard cages grounded together to distribution panel or tempered glass enclosures.

2.1.28 Water Heater: ULC rated electric water heater appropriately sized for project to supply hot water for the Decontamination Unit shower. Activate from ground fault panel. Provide with relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with rigid piping. Drip pans shall consist of a 4'x 4' x 6" deep pan, made of 19 gauge galvanized steel, with handles.

2.1.29 Wetting Agent: Non-sudsing surface active agent. Acceptable product Aqua-Gro or approved equal.

3. EXECUTION

3.1 Preparation Prior to Contamination

3.1.1 Establish personal hygiene facilities for workers to wash their hands and face. Washing facilities to include sufficient supplies of disposable hand towels, hand soap, a waste receptacle and a mirror.

3.1.2 Provide to the Asbestos Abatement Consultant an itemized list of pre-existing damage in Work Area.

3.1.3 Move equipment, tools, supplies, stored materials, etc. which can be performed without disturbing ACM, to a location designated by the Owner's Representative.

3.1.4 Install Worker Decontamination Facility. Worker Decontamination Enclosure System shall comprise of Equipment and Access Room, a Shower Room, and a Clean Room, as follows:

3.1.4.1 Equipment and Access Room: build an Equipment and Access Room between Shower Room and work areas, with two air locks, one to the Shower Room and one to work areas. The Equipment and Access Room shall be large enough to accommodate the storage of work boots, or any other protective clothing that might be used again, and at least three workers allowing them sufficient space to undress comfortably.

3.1.4.2 Shower Room: build a Shower Room between the Clean Room and Equipment and Access Room, with two air locks, one to the Clean Room and one to Equipment and Access Room. Provide a constant supply of hot and cold water. The Shower Room shall have individual controls inside the room to regulate water temperature and flow. Provide piping/high pressure hoses and connect to

water sources and drains. Pump waste water through a 5 micrometre filter system acceptable to Consultant before directing into drains. Provide soap, clean towels and appropriate containers for disposal of used respirator filters. One shower shall be established for every 6 workers within the Asbestos Work Area.

3.1.4.3 Clean Room: build a Clean Room between the Shower Room and clean areas outside of enclosures, with two air locks, one to outside of enclosures and one to Shower Room. Provide lockers or hangers for workers street clothes and personal belongings. Provide storage for clean protective clothing and respiratory equipment. Install a mirror to permit workers to fit respiratory equipment properly, and sufficient hangers and hooks.

3.1.5 Construct three-chamber Decontamination Enclosures as follows:

3.1.5.1 Build suitable framing for enclosures, and line with polyethylene sheeting sealed with tape. Framing shall be constructed of 2" x 4" studs (stud grade) at 24" o/c (max.) with 2" x 4" wood sill and top plates (stud grade) fastened with a minimum of two 3 1/2" common nails per stud end. Use one layer of rip-proof polyethylene on floors. Use 2 layers of opaque rip-proof polyethylene sheeting on walls and ceiling: an inner layer made up of 6 mil poly, and an outer layer made up of rip-proof polyethylene.

3.1.5.2 Build curtained doorways between enclosures.

3.1.6 Erect walls separating Asbestos Work Area from Occupied Areas as follows:

3.1.6.1 Build suitable floor to ceiling lumber stud framing, cover with polyethylene sheeting sealed with tape, and apply 9 mm minimum thick plywood. Seal all joints between plywood sheets and between plywood and adjacent materials with surface film forming type sealer, to create an airtight barrier.

3.1.6.2 Cover plywood barrier with polyethylene sealed with tape, as specified for work areas.

3.1.6.3 Caulk as required, edges of partition both sides at floor, walls and around fixtures.

3.1.7 Supply water as required for Asbestos Work Area and Decontamination Facilities. Water to be supplied from an existing potable water system. Contractor is responsible for all fittings. Contractor shall install using vacuum breakers or other backflow preventer as required by local authority.

3.1.7.1 Water supply shall be by means of copper pipe, or high pressure hoses, and fittings on high-pressure hose and fittings. A master shut-off valve shall be installed adjacent to, and on the clean side, of the decontamination facility. Any hose and hose connections must be for high pressure only and downstream of the master shut-off valve and is not to be left under pressure unattended. Maintain hose connections and outlet valves in leak proof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.

3.1.8 Provide and install drainage facilities from temporary shower.

3.1.9 Provide and install drainage in removal work areas as required.

3.1.10 Provide and install a filtration system to filter all water to be disposed of from the removal and decontamination area.

3.1.11 Pre-clean all surfaces in the Asbestos Work Area. Visible dust shall be removed with a damp cloth/mop or a vacuum equipped with a HEPA filter from any surface in the work area, including the thing to be worked on, if the dust on that surface is likely to be disturbed.

3.1.12 Disable fire alarms, heat detectors, and smoke detectors in the Asbestos Work Area. At no time are the above systems to be affected in areas outside the Asbestos Work Area. Coordinate with, and notify Owner. Notify emergency services.

3.1.12.1 Provide Fire Watch services for any areas where life safety devices are deactivated and may be vacant for any period of time.

3.1.13 Erect sealed worker platforms, where necessary, as follows:

3.1.13.1 Shop drawings of all platform layouts, hoarding and details to be submitted to Asbestos Abatement Consultant prior to commencing work.

3.1.13.2 Scaffolding and platforms, if required, shall be designed by a professional engineer and built in accordance to the design.

3.1.13.3 Install support bases of sufficient dimension and strength to protect floors. Repair or replace damage caused by erection, weight or dismantling of platform.

3.1.13.4 Install platform supports in and around existing fixtures, walls, doors and equipment so as not to interfere with the operating, use, or maintenance of space or equipment. Leave 36" (900 mm) clear around all operating equipment.

3.1.13.5 Install platform to maintain a minimum clear height of 7’-0” (2135 mm).

3.1.13.6 Construct a framework of metal scaffolding or equivalent on top of which the working platform is to be placed. The working platform shall consist of one layer of rip-proof polyethylene below scaffold boards over which plywood (of sufficient thickness to support personnel and equipment as required by Occupational Health and Safety Act and Regulations) is nailed in place.

3.1.13.7 Caulk and tape plywood seams to provide a barrier to water penetration.

3.1.13.8 Seal platform to prevent any water leakage during removal by covering working platform with moisture impermeable barrier consisting of at least two layers of rip-proof polyethylene.

3.1.13.9 Install Hoarding Walls so as to completely isolate platform from Occupied Area.

3.1.13.10 Install fluorescent lighting at underside of platforms to maintain existing lighting levels.

3.1.13.11 Provide 1 emergency escape hatch for each 500 square feet (50 square meters) of platform. The hatch is to be constructed in a water and air tight manner that can be readily opened in an emergency situation. Provide emergency lighting at each hatch.

3.1.14 Erect tunnels, where necessary, as follows:

3.1.14.1 Minimum interior clear width of tunnel to be 3'-7" (1100 mm).

3.1.14.2 Install Hoarding walls at both sides of the tunnel so as to isolate the tunnel from the asbestos work area.

3.1.14.3 Maintain a minimum clear height of 7'-0" (2135 mm) to the underside of the tunnel roof.

3.1.14.4 Install 2" x 6" (50 mm x 150 mm) wood or metal roof joists at 16" (400 mm) o/c. with continuous 2" x 6" (50 mm x 150 mm) headers.

3.1.14.5 Cover roof joists with 3/4" (20 mm) plywood sheeting.

3.1.14.6 Caulk and tape joints in plywood, and cover with two layers of rip-proof polyethylene. One layer to extend continuously over rip-proof polyethylene on the perimeter walls.

3.1.14.7 Install one layer of good one side plywood at underside of joist.

3.1.14.8 Install fluorescent lighting at underside of tunnel to maintain existing lighting levels.

3.1.15 Erect equipment enclosures where specified as per Mechanical or Electrical drawings.

3.1.16 Carefully protect items scheduled to remain in place using polyethylene, spray adhesive, tape, caulking, etc.

3.1.17 Seal all below deck openings, and openings at deck level, to Asbestos Work Area using polyethylene, spray adhesive, tape, caulking, etc., including but not limited to windows, doors, vents, diffusers, etc.

3.1.18 Seal all openings in floor using plugs, tape, caulking, rip-proof polyethylene, etc. Floor openings are to be sealed independently prior to installation of floor polyethylene. Include floors of duct and service shafts.

3.1.19 For operations requiring the use of a power tool on a non-friable product, where the work area is not enclosed by walls, and where the enclosure is prepared with opaque materials (i.e. orange rip-proof polyethylene), the enclosure shall include one or more transparent (clear) window areas to allow observation of the entire work area from outside the enclosure.

3.1.20 Maintain emergency and fire exits from work areas, or establish alternative exits satisfactory to Fire Commissioner of Canada and Provincial Fire Marshall.

3.1.21 Provide a fire extinguisher at each emergency exit and in both sides of the decontamination facilities.

3.1.22 Install temporary lighting in all work areas at levels that will provide for a safe and efficient use of the work area. Install battery powered emergency lights so as to light exit routes through Asbestos Work Area.

3.1.23 Protect floors as follows, as applicable,

3.1.23.1 If plaster ceilings or other items are being demolished that may damage finishes, protect surfaces with plywood.

3.1.23.2 Sprayed fireproofing removal, install 2 layers of 6-mil rip proof polyethylene.

3.1.23.3 Floor on grade and/or concrete, install 1 layer of 6-mil rip proof polyethylene.

3.1.23.4 For all areas, extend floor protection a minimum of 12" up all vertical surfaces in the Asbestos Work Area. Each layer of polyethylene is to be laid and sealed independently of each other.

3.1.24 Install 2 layers of polyethylene on all walls forming the perimeter of the Asbestos Work Area. Each layer of polyethylene is to be laid and sealed independently of each other. Overlap wall polyethylene with floor polyethylene by a minimum of 12” (305 mm) at each layer.

3.1.25 In areas where walls do not enclose the Asbestos Work Area, erect polyethylene hoarding walls between Occupied Area and Work Area to create the Asbestos Work Area Enclosure. Construct a frame for the enclosure from 50 mm x 100 mm (2” x 4”) construction grade wood studs and polyethylene. If the potential exists for the disturbance of ACM during the construction of the enclosure, wear a respirator and suitable protective clothing; ensure that the enclosure is of adequate size to permit the storage of equipment and waste.

3.1.25.1 Support polyethylene sheeting enclosures as required or as directed by Asbestos Abatement Consultant.

3.1.25.2 Enclosure may be supported from the deck system(s), if applicable.

3.1.26 Provide a sealed polyethylene top for free standing enclosures. Overlap perimeter polyethylene to form flap doorway.

3.1.27 Establish negative pressure in Asbestos Work Areas as follows:

3.1.27.1 Distribute negative air filter/fan units evenly around the Asbestos Work Area. Remove windows, if required, and replace with 1/2" plywood with appropriately sized openings for exhaust. Switch the negative air pressure system to the "ON" mode and operate continuously until final completion of the work, including final cleanup. Exhaust air to the outside of the Work Area. A spare negative air unit will be fully installed and ready to operate as a backup unit. The negative air pressure system must have the capacity to exchange air volume of the work area four times per hour and maintain a minimum of 0.02 inches of water gauge differential. Operate negative pressure system continuously from the time the first polyethylene is installed to seal openings until final completion of the work including final cleanup and air testing. Replace pre-filters and HEPA filters as required and on a regular basis to maintain even and constant draw across negative air unit. Do not discharge negative air ducting with-in 25 feet of building access points. Replace windows removed for discharge panels upon completion of project, if window removal was required.

3.1.27.2 Provide sufficient negative air pressure to exchange a volume of air equivalent to that of the Asbestos Work Area a minimum of every 15 minutes.

3.1.27.3 Leak test negative air units in place using DOP/PAO method prior to each Type 3 or Level III operation.

3.1.27.4 Do not discharge negative air units into Occupied Areas unless specified or with written approval from Asbestos Abatement Consultant.

3.1.28 Isolate at panel and disconnect or ground existing power supply to Asbestos Work Area where necessary. Power supply to remaining areas of building must not be disrupted during work of this section.

3.1.29 Post signs at locations where access to a sealed Asbestos Work Area is possible. Signs shall be installed at Curtained Doorways leading directly into a contaminated area. Such signs shall read:

CAUTION

Asbestos Hazard Area
No Unauthorized Entry
Wear assigned protective equipment
Breathing asbestos dust may cause serious bodily harm

3.1.30 Do not proceed with work of Contaminated Preparation without obtaining written permission from the Asbestos Abatement Consultant. Provide a minimum of 24 hours notice to consultant for the need of an inspection.

3.2 Contaminated Preparation

3.2.1 Use full personal protective procedures and equipment, amended water and HEPA vacuums during contaminated preparation.

3.2.2 Disable air-handling system affecting Asbestos Work Area. Seal ventilation ducts to and from the work area. The air handling system shall not be enabled until completion of work.

3.2.3 Shut off and lock out electrical power within the enclosure. Refer to electrical specifications.

3.2.4 Remove and dispose of ceilings and other obstructions to access ducts supplying into and exhausting from the Asbestos Work Area, or ducts to remain live within the Asbestos Work Area.

3.2.5 Where applicable, seal ducts supplying into and exhausting from the Asbestos Work Area during one shift, as follows:

3.2.5.1 Cut and cap ducts as close as possible to perimeter of Asbestos Work Area.

3.2.5.2 Cap with metal of gauge equal to sheet metal being capped.

3.2.5.3 Seal seams of cap with duct sealant, tape and polyethylene sheeting.

3.3 Work above Ceilings

3.3.1 Remove and dispose of ceilings and other obstructions around perimeter to access upper perimeter of the Asbestos Work Area.

3.3.2 Remove ceilings in sections equal to the work that can be performed in one shift.

3.3.3 Seal holes in existing perimeter walls, columns, deck, etc. exposed by removal of ceiling at upper perimeter of Asbestos Work Area.

3.3.4 Cover Asbestos Work Area upper perimeter walls with 2 layers of 6-mill rip proof, independently sealed, polyethylene.

3.3.5 Remove and replace remaining ceiling tiles with grid and support systems.

3.3.6 Temporarily support and protect with polyethylene, existing items to remain that were previously supported by the ceiling systems.

3.3.7 Protect electrical systems to remain in the Asbestos Work Area with polyethylene and tape, including but not limited to communication systems, coaxial, triaxial, fire and public address systems, wiring, conduit, speakers, heat and smoke detectors, alarms, lights, equipment, junction boxes, speakers, thermostats, light fixtures, etc.

3.3.7.1 Refer to electrical specifications for additional direction.

3.3.8 Do not proceed with work of Ceiling Removal without obtaining written permission from the Asbestos Abatement Consultant. Provide a minimum of 24 hours notice to consultant for the need of an inspection.

3.4 Asbestos Removal

3.4.1 Spray asbestos material with water containing the specified wetting agent, using airless spray equipment capable of providing a "mist" application to prevent release of fibres. Saturate the asbestos material sufficiently to wet it to the substrate without causing excess dripping. Spray the asbestos material repeatedly during work process to maintain saturation and to minimize asbestos fibre dispersion. Score the outer surface where water does not penetrate the outer layers.

3.4.2 Remove the saturated asbestos material in small sections. Do not allow saturated asbestos to dry out. As it is being removed, pack the material in sealable plastic bags 0.15 mm minimum thick and place in labelled containers for transport. Collect waste water from the floor, do not allow it to pool. Mist the air continuously where asbestos is being disturbed with amended water using one dedicated airless sprayer equipped with a fine atomizing nozzle. If fibre levels exceed 2.0 f/cc, then additional dedicated sprayer(s) will be required as directed by the Asbestos Abatement Consultant. Contain waste water in sealable plastic containers, suitable for transport and disposal without leaking or dispose of by pumping into a settling tank, filtering the water using specified filters, and then pumping into a sanitary sewer.

3.4.3 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove from immediate working area to Staging Area. Clean external surfaces thoroughly again by wet sponging before moving containers to decontamination washroom. Wash containers thoroughly in decontamination washroom, and store in holding room pending removal to unloading room and outside. Ensure that containers are removed from the holding room by workers who have entered from uncontaminated areas dressed in clean coveralls.

3.4.4 After completion of removal work, all surfaces from which asbestos has been removed shall be wire brushed and wet-sponged to remove all visible material. During this work the surfaces shall be kept wet.

3.4.5 Where Asbestos Abatement Consultant decides complete removal of asbestos-containing material is impossible due to obstructions such as structural members

or major service elements, and provides written direction, seal the material as directed by the Consultant.

3.4.6 After wire brushing and wet sponging to remove visible asbestos, wet clean the entire work area including the Equipment and Access Room, and equipment used in the process.

3.4.7 All tools, equipment, materials and supplies that will NOT be reused shall be placed in an asbestos waste container as soon as practicable following completion of the preceeding Items of this Section.

3.4.8 All tools, equipment, materials and supplies that will be reused shall be cleaned, by using a vacuum equipped with a HEPA filter or by damp wiping, as soon as practicable following completion of the preceding Items of this Section.

3.4.9 Compressed air shall not be used to clean up and remove debris or dust from any surface.

3.4.10 Eating, drinking, chewing or smoking shall not be permitted in the work area.

3.4.11 Maintain all work areas in a neat and orderly fashion at all times.

3.4.12 Pre-filters on fan units shall be treated as asbestos waste and disposed of accordingly.

3.4.13 Do not proceed with work of applying Lock Down Agent without obtaining written permission from the Asbestos Abatement Consultant indicating a visual clearance inspection has been performed and the site is satisfactory to the Consultant. Provide a minimum of 24 hours notice to consultant for the need of a visual clearance inspection.

3.5 Application of Lock Down Agent

3.5.1 After completion of the final cleaning and after the Asbestos Abatement Consultant has passed a visual cleanliness inspection, spray sealant (approved by the Asbestos Abatement Consultant) on all surfaces in the Asbestos Work Area.

3.5.2 Allow an 8 hour settling period, or a time period accepted by the Asbestos Abatement Consultant, for the sealer to dry. During this settling period, no entry or activity will be permitted in the work area.

3.5.3 Obtain written permission from Asbestos Abatement Consultant to proceed with Asbestos Work Area Tear Down and Dismantling following acceptable clearance air monitoring results of 0.01 f/mL. Should clearance air monitoring results exceed 0.01 f.mL, the contractor will, at no cost to the owner, reclean the entire Asbestos Work Area and apply another coat of Lock Down Agent.

3.6 Asbestos Work Area Teardown And Dismantling

3.6.1 Maintain the perimeter seal and Type 3 procedures and use worker decontamination facility.

3.6.2 Operate negative air units during teardown.

3.6.3 Remove all polyethylene, tape, polyurethane foam, caulking and enclosures from Asbestos Work Area.

3.6.4 Remove asbestos contaminated floor polyethylene by carefully rolling away from walls to centre of Asbestos Work Area.

3.6.5 For areas that will require application of new sprayed fire proofing, remove top layer of polyethylene sheeting from surfaces protected by two layers of polyethylene sheeting. The inner layer of polyethylene will remain until all re-fireproofing is complete.

3.6.6 Cut the lower layer of polyethylene sheeting to expose the baseboards, window sills, cabinets, shelves and other horizontal surfaces that may be contaminated by fallen ACM.

3.6.7 Carefully roll polyethylene toward the centre of enclosure. Remove visible debris by means of HEPA vacuum as polyethylene is rolled away.

3.6.8 After the work is completed, polyethylene sheeting and similar materials used for barriers and enclosures shall not be reused, but shall be wetted and placed in an asbestos waste container as soon as practicable following completion of the preceeding Items of this Section.

3.6.9 Barriers and portable enclosures shall not be reused unless they are rigid and can be cleaned thoroughly.

3.6.10 Place Polyethylene, tape, cleaning material, clothing and other contaminated waste in asbestos waste containers and dispose of as asbestos waste.

3.6.11 Seal vacuum hoses and fittings, flexible ductwork and all tools used in contaminated work site in 6 mil polyethylene bags prior to removal from Work Area.

3.6.12 Wash equipment used in contaminated Asbestos Work Area to remove all asbestos contamination, or double bag for transportation prior to being removed from Asbestos Work Area, via waste and equipment decontamination facility.

3.6.13 Clean up Asbestos Work Area, Equipment and Access area, washing/Showering Room, and other enclosures that may be contaminated.

3.6.14 Remove polyethylene protection and hoarding walls where hoarding walls separate occupied areas from work area.

3.6.15 Hoarding walls to remain are identified on drawings, if applicable.

3.6.16 Remove polyethylene sheeting from contaminated side of decontamination facilities.

3.6.17 Wash and mop with clean water all surfaces in the Asbestos Work Area.

3.6.18 Remove all temporary lights, ground fault panels and Negative Pressure Units.

3.6.19 Remove negative air unit prefilters. Dispose of as asbestos contaminated waste.

3.6.20 Immediately upon shutting down negative air units, seal air inlet grill and exhaust vent with polyethylene and tape.

3.6.21 Maintain all hoarding walls adjacent to areas where ACM is present and in good condition.

3.6.22 Remove decontamination facilities, platforms and platform scaffolding, tunnels, etc.

3.6.23 Damp mop and clean with HEPA vacuum Occupied Areas previously below platforms, tunnels and decontamination facilities with HEPA vacuum.

3.7 Re-establishment of Objects and Systems

3.7.1 Make good at completion of work, all damage not identified in pre-removal survey.

3.7.2 Reinstall objects and items removed to facilitate removal of ACM.

End of Section

LEAD ABATEMENT

SECTION 02 83 00

LIST OF CONTENTS

1. GENERAL

1.1 General and Related Work

1.1.1 All sections of the specifications form a part of the Contract Document and shall be read to determine their effect upon the work of this section.

1.1.2 Related Work Specified Elsewhere

Division 2	Section 02 82 00	Abatement Scope and Details
Division 2	Section 02 82 01	Type 1 Asbestos Abatement
Division 2	Section 02 82 02	Type 2 Asbestos Abatement
Division 2	Section 02 82 03	Type 2 Glove Bag Asbestos Abatement
Division 2	Section 02 82 04	Type 3 Asbestos Abatement
Division 2	Section 02 83 10	Other Hazardous Materials
Division 2	Section 02 84 00	PCB Capacitors and Ballasts

Attachments:

1) *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021.

1.1.3 The Abatement Contractor is responsible to verify all measurements for removal, cleaning, and re-insulation purposes. Measurements and quantities provided herein are for reference only.

1.1.4 It is the intent that lead abatement performed as per this section will result in the removal and disposal of lead-based and lead-containing paint materials, as necessary, as well as any materials that may have been contaminated by lead dust either during or prior to work of this Section.

1.1.5 Refer to Section 02 82 00, Abatement Scope and Details, for the following information and requirements;

1.1.5.1 Site Conditions,

1.1.5.2 Outline of Work,

1.1.5.3 Schedule,

1.1.5.4 Supervision,

1.1.5.5 Quality Assurance,

1.1.5.6 Regulations,

1.1.5.7 Notification, and

1.1.5.8 Submittals.

1.2 Definitions

1.2.1 Airlock: A system for permitting ingress or egress without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways at least 1.5 m apart.

1.2.2 Air Monitoring: The process of measuring the lead-contaminated dust content of a specific volume of air.

1.2.3 Amended Water: Water with a non-ionic surfactant wetting agent added to reduce water surface tension to 35 or less dynes, to allow thorough wetting of settled dust.

1.2.4 Lead-Abatement Work Area: Where the actual removal of lead-containing or lead-contaminated materials takes place.

1.2.5 Authorized Visitor: The Owner or his approved representative and/or persons representing regulatory agencies.

1.2.6 Barrier: Any surface that seals off the Lead-Abatement Work Area to inhibit the movement of dust.

1.2.7 Clean Area: Either an operating area or an area in which removal work has already been completed.

1.2.8 Competent Personnel: a worker who is qualified because of knowledge, training and experience to perform the work; is familiar with the Ontario Occupational Health and Safety Act and with the provisions of the regulations that apply to the work, and; has knowledge of all potential or actual danger to health or safety in the work.

1.2.9 Curtained Doorway: An arrangement of closures to allow ingress and egress from one room to another while permitting minimal air movement between rooms, typically constructed by placing two overlapping sheets of polyethylene over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway, and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. All free edges of polyethylene shall be reinforced with duct tape and the bottom edge shall be weighted to ensure proper closing. Each polyethylene sheet shall overlap openings not less than 1.5 m on each side.

1.2.10 Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.

1.2.11 Disposal Bag: A properly labelled 6 mil thick leak-tight plastic bag used for transporting lead waste from the Lead-Abatement Work Area to the disposal site.

1.2.12 DOP / PAO Test: Dioctylphthalate / Poly Alpha Olefin aerosol challenge of a HEPA filter system and is used to establish the integrity and effectiveness of the system to filter out lead particles and dust.

1.2.13 Enclosure: 6 mil polyethylene sheeting installed to fully isolate Lead-Abatement Work Area. Enclosure may be a prefabricated self-supporting structure or constructed with a rigid frame, or, when applicable, supported by the ceiling grid.

Enclosure shall have polyethylene sheeting as a top at locations where the enclosure does not extend up to the underside of the ceiling or underside of structure.

1.2.14 Filter: A media component used in respirators, vacuum cleaners or negative pressure filter fan units to remove solid or liquid particles from the inspired air.

1.2.15 Fitting: Unless otherwise described in Site Conditions, all connections of a pipe which include elbows, ends, caps, valves, hangers, tees and unions, etc.

1.2.16 HEPA Filter: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.

1.2.17 Negative Pressure: A system which extracts air directly from the Lead-Abatement Work Area, filters such extracted air through a High Efficiency Particulate Air filtering system, and discharges this air directly outside Lead-Abatement Work Area to exterior of building. This system shall maintain a minimum pressure differential of 0.02 inches Water Gauge relative to adjacent areas outside of Lead-Abatement Work Areas, be equipped with an alarm to warn of system breakdown (i.e., excessive negative pressure or insufficient negative pressure), and be equipped with an instrument to continuously monitor and automatically record pressure differences.

1.2.18 Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

1.2.19 Occupied Area: Any area of the building outside the Lead-Abatement Work Area.

1.2.20 Polyethylene: Sheeting of type and thickness specified sealed with tape along all edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide a continuous polyethylene membrane to protect underlying surfaces from water damage or damage by sealant, and to prevent escape of lead particulate through the sheeting into a clean area.

1.2.21 Positive Pressure Respirator: A respirator in which the air pressure inside the respiratory inlet covering is positive during inhalation and exhalation in relation to the air pressure of the outside atmosphere.

1.2.22 Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

1.2.23 Straight run pipes: Part of the building system not included under the description of Fitting, including but not limited to straight, angled or curved sections of pipe, pumps, headers and reducers.

1.2.24 Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

1.2.25 Type/Class 1 Lead Operations: Defined by the Ministry of Labour document *Guideline - Lead on Construction Projects*, dated April 2011, and the Environmental Abatement Council of Canada (EACC) document; *Lead Guideline*

for Construction, Renovation, Maintenance or Repair, dated October 2014, includes the following operations:

1.2.25.1 Removal of lead-containing or lead-based paints and surface coatings with a chemical gel/stripper or paste.

1.2.25.2 Application of lead-containing or lead-based paints and surface coatings with a brush, roller or sponge.

1.2.25.3 Installation or removal of lead sheeting or flashing.

1.2.25.4 Installation or removal of lead-containing packing, babbitt, caulking, gasket or similar material.

1.2.25.5 Removal of materials coated with lead-containing or lead-based paints and surface coatings, using non-powered hand tools, where the material remains chiefly intact and is not crumbled, pulverized or powdered.

1.2.25.6 Operating construction or demolition equipment (e.g. excavator, bulldozer) during building renovation or demolition where lead-based paints or surface coatings are present on building materials and are being disturbed.

1.2.25.7 Soldering with lead solder.

1.2.25.8 Removing lead-containing or lead-based paints or surface coatings with a heat gun.

1.2.25.9 Removing lead-containing and lead-based paints and surface coatings using a high-pressure water jet (e.g. pressure washer)

1.2.26 Type/Class 2A Lead Operations: Defined by the Ministry of Labour document *Guideline - Lead on Construction Projects*, dated April 2011, and the Environmental Abatement Council of Canada (EACC) document; *Lead Guideline for Construction, Renovation, Maintenance or Repair*, dated October 2014, includes the following operations:

1.2.26.1 Removal of lead-containing or lead-based paints and surface coatings or lead-containing materials using a power tool that has an effective dust collection system equipped with a HEPA filter.

1.2.26.2 Welding, torching or high temperature cutting of lead-containing materials indoors when using an effective fume collector or smoke eater that filters and exhausts lead fume and expels it directly outdoors (away from occupants, entrances, walkways, rest areas, etc.). Fume collector or smoke eater must have effective source control and capture velocity, minimum of 0.5 metres per second (100 feet per minute) at the work surface.

1.2.26.3 Welding, torching or high temperature cutting of lead-containing and lead-based paints and surface coatings or lead-containing materials outdoors.

1.2.26.4 Removal of lead-containing mortar using handheld non-powered tools.

1.2.26.5 Removal of lead-containing and lead-based paints and surface coatings or lead-containing materials by scraping or sanding (including wet sanding) using non-powered hand tools.

1.2.26.6 Clean up and removal of a significant amount of lead-containing dust and debris (that can be made easily airborne) using wet methods or HEPA vacuums.

1.2.27 Type/Class 2B Lead Operations: Defined by the Ministry of Labour document *Guideline - Lead on Construction Projects*, dated April 2011, and the Environmental Abatement Council of Canada (EACC) document; *Lead Guideline for Construction, Renovation, Maintenance or Repair*, dated October 2014, includes the following operations:

1.2.27.1 Spray application of lead-containing paints and surface coatings.

1.2.28 Type/Class 3A Lead Operations: Defined by Ministry of Labour document *Guideline - Lead on Construction Projects*, dated April 2011, and the Environmental Abatement Council of Canada (EACC) document; *Lead Guideline for Construction, Renovation, Maintenance or Repair*, dated October 2014, includes the following operations:

1.2.28.1 Removal of lead-containing or lead-based paints and surface coatings or lead-containing materials using a power tool without an effective dust collection system equipped with a HEPA filter.

1.2.28.2 Welding, torching or high temperature cutting of lead-containing materials indoors or in a confined space (e.g. within a ditch or pit).

1.2.28.3 Removal of lead-containing mortar using a powered cutting device.

1.2.28.4 Burning of a material containing lead.

1.2.28.5 Removal, cleaning or repair of a ventilation system or ductwork used for controlling lead exposure

1.2.28.6 Spray application of lead-based paints and surface coatings.

1.2.28.7 In the absence of an exposure assessment;

1.2.28.7.1 demolition or cleanup of a facility where lead-containing products were manufactured and significant dust and debris, which can be made easily airborne, is present.

1.2.28.7.2 cleanup of dust and debris down range of a firing station in an indoor firing range.

1.2.28.7.3 an operation that may expose a worker to lead dust, fume or mist that is not a Class 1, Class 2, or Class 3B operation.

1.2.29 Type/Class 3B Lead Operations: Defined by Ministry of Labour document *Guideline - Lead on Construction Projects*, dated April 2011, and the Environmental Abatement Council of Canada (EACC) document; *Lead Guideline for Construction, Renovation, Maintenance or Repair*, dated October 2014, includes the following operations:

1.2.29.1 Abrasive blasting of lead-containing and lead-based paints and surface coatings or lead-containing materials (including wet, slurry and dry abrasive blasting and dry-ice blasting).

1.2.30 Water Filtration System: A multi-stage filtration system for filtering shower and wastewater. Typically constructed with at least two filters, the primary stage

retains 20 microns or larger particles and the final stage removes 5 micron or larger particles.

1.2.31 Work: Includes all services, labour and material required to complete the work as specified in the contract.

1.2.32 Work Area(s): Area(s) where work takes place that will, or may disturb lead-containing materials.

1.3 Worker Protection

1.3.1 Prior to commencing work, the Abatement Contractor shall instruct workers in all aspects of work procedures and protective measures.

1.3.2 The Abatement Contractor shall, provide workers with personally issued marked respiratory equipment acceptable to the Occupational Health and Safety Division of the Ontario Ministry of Labour, suitable for the expected lead dust exposure.

1.3.3 Ensure that suitable respiratory protective equipment is worn by every worker who enters the Asbestos Work Area. A respirator provided by an employer and used by a worker shall be:

1.3.3.1 One of the following types depending on the classification of work and method removal;

1.3.3.1.1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filters;

1.3.3.1.2 Air purifying full-facepiece respirator with N-100, R-100 or P-100 particulate filters;

1.3.3.1.3 Powered air purifying respirator equipped with a tight-fitting facepiece (half or full-facepiece) and a high efficiency filter or N-100, R-100 or P-100 particulate filters;

1.3.3.1.4 Negative pressure (demand) supplied air respirator equipped with a full-facepiece;

1.3.3.1.5 Continuous flow supplied air respirator equipped with a tight fitting facepiece (half or full-facepiece);

1.3.3.1.6 Pressure demand supplied air respirator equipped with a half or full-facepiece mask.

1.3.3.2 Fitted so that there is an effective seal between the respirator and the worker's face;

1.3.3.3 Assigned to a worker for the worker's exclusive use, if practical;

1.3.3.4 Used and maintained in accordance with the procedures specified by the equipment manufacturer;

1.3.3.5 Cleaned, disinfected and inspected after use on each shift, or more often if necessary;

1.3.3.6 Free of damaged or deteriorated parts replaced prior to being used by a worker;

1.3.3.7 Be stored in a convenient, clean and sanitary location; when not in use;

1.3.3.8 Certified by the US National Institute for Occupational Safety and Health (NIOSH) for exposure to airborne particulates.

1.3.4 The Abatement Contractor shall establish written procedures regarding the selection, use and care of respirators.

1.3.5 A copy of the procedures shall be provided to and reviewed with each worker by the Abatement Contractor.

1.3.6 A worker shall not be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.

1.3.7 The Abatement Contractor shall provide all workers with full body disposable coveralls.

1.3.8 The Abatement Contractor shall ensure that full body disposable coveralls are worn by every worker who enters the Lead-Abatement Work Area. The protective clothing provided by an employer and used by a worker shall:

1.3.8.1 Be made of a material which does not readily retain nor permit penetration of lead particulate;

1.3.8.2 Consist of head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent lead particulate from reaching the garments and skin under the protective clothing;

1.3.8.3 Include suitable footwear;

1.3.8.4 Be repaired or replaced if torn.

1.3.8.5 Provide other body protection required under applicable safety regulations.

1.3.9 The Abatement Contractor shall ensure that personnel are fully protected at all times when possibility of exposure to lead dust exists.

1.3.10 The Abatement Contractor shall provide and post in Clean Change Room the procedures described under Worker Protection.

1.3.10.1 No person shall eat, drink, smoke or chew except in established locations outside the Lead-Abatement Work Area.

1.3.10.2 Personnel shall be fully protected at all times when possibility of disturbance of lead dust exists.

1.4 Visitor Protection

1.4.1 The Abatement Contractor shall provide clean protective clothing and equipment and approved respirators to Authorized Visitors.

1.4.2 The Abatement Contractor shall ensure that Authorized Visitors have received required training for entry into Lead-Abatement Work Area.

1.5 Air Monitoring

1.5.1 Air monitoring may be performed by the Environmental Consultant at all stages of the abatement.

1.5.2 The Abatement Contractor shall cooperate fully with the Environmental Consultant in the collection of air monitoring samples, including the collection of personal worker samples, if required.

1.5.3 The occupational exposure limit for lead is 0.05 mg/m^3, required by the MOL, under O. Reg. 490/09, as amended. Results of air samples of 0.025 mg/m^3, or greater, outside of Abatement Work Area, will be deemed as the action level, at which will require a modification of abatement procedures to reduce airborne lead dust concentrations. Results of air samples of 0.05 mg/m^3 or greater, outside of Lead-Abatement Work Area, will indicate lead dust contamination of these areas. The contaminated areas shall be isolated and cleaned in the manner applicable for the clean-up of lead-contaminated dust by the Abatement Contractor, at no cost to the Owner.

1.5.4 Clearance air monitoring samples shall be collected by the Environmental Consultant after a suitable settling period following application of lock-down agent. Clearance levels must be less than 0.05 mg/m^3 for the Lead-Abatement Work Area to be deemed clean.

1.6 Waste Transport And Disposal

1.6.1 The Abatement Contractor shall ensure lead-contaminated materials, removed during abatement are treated, packaged, transported and disposed of as lead waste.

1.6.2 The Abatement Contractor shall drop garbage bins at designated locations. Keep bins covered and enclosed while at the site. Bin loading area shall be kept clean at all times.

1.6.3 The Abatement Contractor shall pick-up and drop off garbage bins at pre-approved times, and shall not interfere with the Owners operations.

1.6.4 The Abatement Contractor shall conform to requirements of Regulations under Environmental Protection Act for Waste Management, transporting and disposal of hazardous waste.

1.6.5 The Abatement Contractor shall ensure shipment of containers to dump is taken by a waste hauler licensed to transport lead waste.

1.6.6 The Abatement Contractor shall ensure that a bill of lading, showing the type and weight of hazardous waste being transported, is completed for each load.

1.6.7 The Abatement Contractor shall check with dump operator to determine type of waste containers acceptable.

1.6.8 The Abatement Contractor shall ensure dump operator is fully aware of hazardous material being dumped.

1.6.9 The Abatement Contractor shall co-operate with Ministry of the Environment and Climate Change inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Owner.

2. PRODUCTS

2.1 Materials and Equipment

2.1.1 The Abatement Contractor shall ensure that all tools, equipment, materials and supplies brought to work site are in good condition and free of lead, lead debris, and lead-contaminated materials.

2.1.2 The Abatement Contractor shall ensure that disposable tools, equipment, materials and supplies are of new materials only.

2.1.3 Airless Sprayer: Spray equipment for water: for application to lead dust contaminated materials. Airless spray units are only acceptable, such as Grace Hydrospray or approved equal.

2.1.4 Caulking: One component non-staining acrylic polymer sealant to conform to GSB Specification 19GP-5M.

2.1.5 Drop Sheets: In polyethylene type and size appropriate for the work being performed.

2.1.6 Electrical Power Cords: Use only grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords if single lengths will not reach areas of work.

2.1.7 Flame-Resistant Polyethylene Sheeting: A single polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films, 0.15 mm (6 mils) thickness.

2.1.8 Fine Atomizing Spray Nozzle: Nozzle for airless sprayer capable of delivering not less than 1 gallon per minute of fine particle spray of water.

2.1.9 First Aid Supplies: Comply with governing regulations and recognized recommendations within the construction industry.

2.1.10 Fire Extinguishers: Provide Type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type "ABC" dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case.

2.1.11 Foam: Low density polyurethane expanding foam Froth-Pack or equivalent or better.

2.1.12 Garden Sprayer: A hand pump type pressure-can garden sprayer fabricated out of either metal or plastic, equipped with a metal wand at the end of a hose that can deliver a stream or fine spray of liquid of water under pressure.

2.1.13 Ground Fault Panel (All sections require approval from the Owner): Electrical panel, installed by licensed electrician and equipped as follows:

2.1.13.1 Ground fault circuit interrupters of sufficient capacity to power temporary electrical equipment and lights in Lead-Abatement Work Area.

2.1.13.2 Interrupters to have a 5 mA ground fault protection.

2.1.13.3 Necessary accessories including main switch disconnect, ground fault interrupter lights, test switch to ensure unit is working, and reset switch.

2.1.13.4 Openings shall be sealed by the Abatement Contractor to prevent moisture or dust penetration.

2.1.14 HEPA Vacuum: Vacuum with necessary fittings, tools and attachments. Discharged air must pass through a HEPA filter.

2.1.15 Lead Dust Waste Containers: The Abatement Contractor shall ensure that waste is contained in two separate containers that are dust-tight and impervious to lead dust and any chemicals used during the removal process. The inner container shall be a sealable polyethylene bag. Where there are sharp objects included in the waste material, the outer container shall be a sealable fibre type drum, otherwise the outer container may either be a sealable polyethylene bag. Containers shall be as follows:

2.1.15.1 Lock-down Agent: Sealant for purpose of trapping residual dust. Product shall have flame spread and smoke development ratings both less than 50. Product shall leave no stain when dry. Lock-down agent shall be compatible with replacement insulation or fireproofing where required and capable of withstanding service temperature of substrate.

2.1.15.2 Polyethylene Waste Bag: 0.15 mm (6 mil) thick leak-tight polyethylene bags labelled as required by sub-section 3.5 Waste Disposal.

2.1.15.3 Fibre Drums: 55 US gallon capacity heavy duty leak tight fibre drums with tight sealing locking metal top and metal bottom.

2.1.15.4 Labels: Waste containers shall have a pre-printed cautionary lead dust warning label, acceptable to local dump authorities, clearly visible when ready for removal to disposal site.

2.1.16 Negative Air Unit: Portable air handling system that extracts air directly from the Lead-Abatement Work Area and discharges the air to the exterior of the Lead-Abatement Work Area. Equipped as follows:

2.1.16.1 Prefilter and HEPA filter. Air must pass HEPA filter before discharge.

2.1.16.2 Pressure differential gauge to monitor filter loading.

2.1.16.3 Auto shut off and warning system for HEPA filter failure.

2.1.16.4 Separate hold down clamps to retain HEPA filter in place during change of prefilter.

2.1.17 Polyethylene Sheeting: A single polyethylene film, 0.15 mm (6 mil) minimum thickness unless otherwise specified.

2.1.18 Power Washer: Spray equipment for saturation of lead dust contaminated material with water for cleaning of surfaces in Lead-Abatement Work Area after lead dust removal, capable of delivering an airless stream of water at a pressure of not less than 1200 psi or exceeding 2500 psi.

2.1.19 Protective Coveralls: Disposable full body coveralls complete with hoods manufactured of a material that does not permit penetration of lead particulates.

2.1.20 Rip Proof Polyethylene Sheeting: Woven fibre reinforced fabric bonded both sides with polyethylene sheeting. 0.20 mm (8 mil) fabric made up from 0.13 mm (5 mil) weave and 2 layers 0.04 mm (1.5 mil) poly laminate.

2.1.21 Scaffolding: The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.

2.1.22 Sealer: Slow-drying sealer shall be a non-staining, clear, water dispersable type that remains tacky on the surface for a minimum of 8 hours for the purpose of trapping any residual airborne dust during the settling period. The product shall have flame spread and smoke development ratings both less than 50 and shall leave no stain when dry. Acceptable products: Borden Polyco 804, Double AD TC-55, equivalent or better. Also referred to as “Lockdown Agent”.

2.1.23 Shower: General shower shall be of the walk through type to permit use by one person at a time. Receive approval from the Owner before erecting a shower system.

2.1.23.1 Shower Enclosure: Shower enclosure shall be of a minimum 24 gauge steel walls with baked enamel, galvanized steel, aluminum or stainless steel finish, 16 gauge floor with porcelain enamel finish, brass drain and tapping for mixing valve. Shower installation shall be complete with globe valve for tempered water with a showerhead complete with orifice to restrict the flow to 2.5 USGPM.

2.1.23.2 Shower Pan: Provide one piece waterproof shower pan of minimum size 4' x 8' by 6" deep. Fabricate from seamless fibreglass minimum 1/16" thick reinforced with wood, 18 ga. stainless or galvanized steel with welded seems or, copper or lead with soldered seams.

2.1.23.3 Shower Head and Controls: Provide a factory-made showerhead producing a spray of water that can be adjusted for spray size and intensity. Feed shower separately with water from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.

2.1.23.4 Hose Bib: Provide heavy bronze angle type with wheel handle, vacuum breaker, and 3/4" National Standard male hose outlet.

2.1.23.5 Filters: The Abatement Contractor shall provide multi-stage cascaded filter units on drain lines from showers or any other water source carrying lead-contaminated water from the Lead-Abatement Work Area. Provide units with disposable filter elements where the primary filter passes particle 20 microns and smaller and the final filter passes particles 5 microns and smaller. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.

2.1.24 Spray Cement: Spray adhesive in aerosol cans that is specifically formulated to stick tenaciously to sheet polyethylene.

2.1.25 Sump Pump: Provide totally submersible waterproof sump pump with integral float switch and shall have a manual switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump.

2.1.26 Tape: Reinforced cloth or fibreglass reinforced tape in 2" or 3" widths suitable for sealing polyethylene sheeting under both wet conditions, and dry conditions.

2.1.27 Temporary Lighting: Provide general service incandescent lamps or fluorescent lamps of wattage required for adequate illumination as required by the work. Protect lamps with guard cages grounded together to distribution panel or tempered glass enclosures.

2.1.28 Water Heater: ULC rated electric water heater appropriately sized for project to supply hot water for the Decontamination Unit shower. Activate from ground fault panel. Provide with relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with rigid piping. Drip pans shall consist of a 12" x 12" x 6" deep pan, made of 19 gauge galvanized steel, with handles.

3. EXECUTION

3.1 General Measures and Procedures

3.1.1 Washing facilities consisting of a wash basin, water, soap and towels shall be provided by the Abatement Contractor and workers shall use these washing facilities before eating, drinking, smoking or leaving the project.

3.1.2 Gloves shall be provided as necessary and the worker shall wear the gloves.

3.1.3 Use removal methods that minimize dust generation whenever possible.

3.1.4 Suppress any dust generated.

3.1.5 Workers shall not eat, drink, chew gum or smoke in the Lead-Abatement Work Area.

3.1.6 The Abatement Contractor shall clean up dust and waste frequently, and at regular intervals, and place the dust and waste in a container that is;

3.1.6.1 Dust tight,

3.1.6.2 Suitable for the type of waste,

3.1.6.3 Identified as containing lead waste,

3.1.6.4 Cleaned with a damp cloth or a vacuum equipped with a HEPA filter, or placed in a clean bag so that a clean exterior surface is achieved immediately prior to removal from the work area, and

3.1.6.5 Removed from the workplace frequently and at regular intervals,

3.1.6.6 Evaluated for lead-content and disposed of in accordance with applicable regulations.

3.1.7 Clean-up after each operation shall be done to prevent lead contamination and exposure to lead.

3.1.8 The use of 6 mil polyethylene bags as a waste container is acceptable provided it is appropriate for the type of waste. Double bagging of waste is recommended.

3.1.9 Drop sheets shall be used below all lead operations which may produce dust, chips, or debris containing lead.

3.1.10 Dry removal of lead-containing or lead-based paints and surface coatings shall be minimized whenever possible.

3.1.11 Wetting of materials shall be conducted whenever possible to control dust. The addition of wetting agents should be considered. Wetting should not be used if it may create a hazard or cause damage.

3.1.12 Wet methods should be incorporated in the operation to reduce dust generation. Examples of wet methods include wetting surfaces, wet mist, wet scraping and wet shovelling.

3.1.13 Dust and waste shall be cleaned up and removed by vacuuming with a HEPA filter equipped vacuum.

3.1.14 Cleaning with compressed air or dry sweeping shall not be performed. Sweeping compounds shall be used where wetting is not possible.

3.1.15 All equipment, tools, respirators and clothing shall be cleaned by damp wiping, or with a vacuum equipped with a HEPA filter, prior to removal from the work area.

3.1.16 Protection of porous or fibrous surfaces is imperative as it is very difficult to remove lead-containing dust from these surfaces. If the material cannot be adequately protected from lead dust or waste it shall be removed and disposed of.

3.1.17 Any water generated from cleaning or removal operations must be appropriately contained, treated or disposed of in accordance with applicable legislation

3.1.18 The Lead-Abatement Work Area shall be inspected at least once daily by the Abatement Contractor to ensure that the Lead-Abatement Work Area is clean.

3.2 Measures and Procedures for Type/Class 1 Operations

3.2.1 All general measures and procedures shall be implemented.

3.2.2 Respirators should not be necessary if all general health and safety procedures are followed. However, any worker who requests a respirator shall be provided with a half-mask particulate respirator with N-, R- or P- series particulate filters, and 95, 99 or 100% efficiency, or better.

3.2.3 Coveralls should not be necessary if all general health and safety procedures are followed. However, any worker who requests coveralls shall be provided with coveralls and the worker shall wear the coveralls.

3.3 Measures and Procedures for Type/Class 2 A/B Operations

3.3.1 Washing facilities consisting of a wash basin, clean water, soap (consider the use of lead-specific soaps and hygiene indicators based on the scope of the Operation) and towels shall be provided. Workers shall use these washing facilities upon leaving the work area and before eating, drinking or smoking.

3.3.2 Respirators shall be provided and the worker shall wear the respirator.

3.3.3 Gloves, coveralls and other Personal Protective Equipment (PPE) shall be provided and the worker shall wear the PPE.

3.3.4 Signage is required and the area shall be delineated to control access. Signs shall be posted in sufficient numbers to warn of the lead hazard and shall state in large clearly visible letters that, i) there is a lead hazard, and ii) access to the work area is restricted to persons wearing protective clothing.

3.3.5 Use removal methods that minimize dust generation whenever possible.

3.3.6 Suppress any dust generated.

3.3.7 Workers shall not eat, drink, chew or smoke in the work area.

3.3.8 Dust and waste shall be cleaned up at regular intervals and placed in a container that is;

3.3.8.1 dust tight,

3.3.8.2 suitable for the type of waste,

3.3.8.3 identified as lead waste,

3.3.8.4 cleaned with a damp cloth or a vacuum equipped with a HEPA filter, or placed in a clean bag so that a clean exterior surface is achieved immediately prior to removal from the work area,

3.3.8.5 removed from the workplace frequently and at regular intervals, and

3.3.8.6 evaluated for lead-content and disposed of in accordance with applicable regulations.

3.3.9 The use of 6 mil polyethylene bags as a waste container is acceptable provided it is appropriate to the type of waste. Double bagging of waste is recommended.

3.3.10 Drop sheets shall be used below all lead operations that may produce dust, chips, or debris containing lead.

3.3.11 Air-handling (supply and return) systems servicing the area of the Class 2 Operation shall be removed from service or isolated to prevent migration of lead through the air handling system.

3.3.12 Dry removal of lead-containing or lead-based paints and surface coatings shall be minimized whenever possible.

3.3.13 Wetting of materials shall be conducted whenever possible to control dust. The addition of wetting agents should be considered. Wetting should not be used if it may create a hazard or cause damage.

3.3.14 Wet methods shall be incorporated in the operation to reduce dust generation. Examples of wet methods include wetting surfaces, wet mist, wet scraping and wet shovelling.

3.3.15 Cleaning with compressed air or dry sweeping shall not be performed. Sweeping compounds shall be used where wetting is not possible.

3.3.16 All equipment, tools, respirators and clothing shall be cleaned by damp wiping, or using a vacuum equipped with a HEPA filter, prior to removal from the work area.

3.3.17 Protection of porous or fibrous surfaces is imperative as it is very difficult to remove lead-containing dust from these surfaces. If the material cannot be adequately protected from lead dust or waste it shall be removed and disposed of.

3.3.18 Any water generated from cleaning or removal operations must be appropriately contained, treated or disposed of in accordance with applicable legislation.

3.3.19 Where a dust generating operation is carried out, additional local mechanical ventilation shall be provided to remove dust, mist and fumes at the source. Local mechanical ventilation is recommended for welding, burning or high temperature cutting and for the removal of lead-containing and lead-based paints and surface coatings using power tools that are equipped with a dust collection device attached to a HEPA filter. Where local mechanical ventilation is used, the following should be met:

3.3.19.1 Air velocity at the source of dust, mist or fume generation shall be no less than 0.5 m/sec (100 ft./min).

3.3.19.2 Air discharged from the local mechanical ventilation system shall pass through a HEPA filter.

3.4 Measures and Procedures for Type/Class 3 A/B Operations

3.4.1 A competent supervisor must be present at all times during Class 3 Operations. Only workers and supervisors with proper training shall perform Class 3 Operations.

3.4.2 Washing facilities consisting of a wash basin, clean water, soap (consider the use of lead-specific soaps and hygiene indicators) and towels shall be provided. Workers shall use these washing facilities upon leaving the work area and before eating, drinking or smoking.

3.4.3 Respirators shall be provided and the worker shall wear the respirator.

3.4.4 Gloves, coveralls and other PPE shall be provided and the worker shall wear the PPE.

3.4.5 Signage is required and the area shall be delineated to control access. Signs shall be posted in sufficient numbers to warn of the lead hazard and shall state in large clearly visible letters that, i) there is a lead hazard, and ii) access to the work area is restricted to persons wearing protective clothing.

3.4.6 Use removal methods that minimize dust generation whenever possible.

3.4.7 Suppress any dust generated.

3.4.8 Workers shall not eat, drink, chew or smoke in the work area.

3.4.9 Dust and waste shall be cleaned up at regular intervals and placed in a container that is,

3.4.9.1 dust tight,

3.4.9.2 suitable for the type of waste,

3.4.9.3 identified as lead waste,

3.4.9.4 cleaned with a damp cloth or a vacuum equipped with a HEPA filter, or placed in a clean bag so that a clean exterior surface is achieved immediately prior to removal from the work area,

3.4.9.5 removed from the workplace frequently and at regular intervals, and

3.4.9.6 evaluated for lead-content and disposed of in accordance with applicable regulations.

3.4.10 The use of 6 mil polyethylene bags as a waste container is acceptable provided it is appropriate for the type of waste. Double bagging of waste is recommended.

3.4.11 Enclosures shall be used to separate the work area from other construction activities or work areas, and to prevent lead exposure to persons not directly involved in the lead operation. Barriers should only be used where full and partial enclosures are not practicable.

3.4.12 Drop sheets shall be used below all lead operations that may produce dust, chips, or debris containing lead.

3.4.13 For Class 3a operations conducted indoors where work areas are not accessible to the public, barriers, partial enclosures, or full enclosures may be used.

3.4.14 For all other all other Class 3 operations conducted indoors full enclosures shall be used.

3.4.15 For Class 3a and 3b operations conducted outdoors, barriers, partial enclosures, or full enclosures shall be provided.

3.4.16 ***Barriers, Partial Enclosures and Full Enclosures***

3.4.16.1 Ropes or barriers do not prevent the release of contaminated dust or other contaminants into the environment. However, barriers can be used to restrict access to only workers who are adequately protected with proper PPE, and prevent entry of individuals not directly involved in the operation. Ropes or barriers shall be placed at a distance far enough from the operation that allows the lead-containing dust to settle. If this is not achievable, warning signs shall be posted at the distance where the lead-containing dust settles to warn that access

is restricted to persons wearing PPE. Ropes or barriers shall be located no less than 10 metres from the work area.

3.4.16.2 Partial enclosures may consist of vertical and/or horizontal tarps and drop sheets (e.g. polyethylene sheeting). The tarps shall overlap and be securely fixed together at the seams. A partial enclosure is not a recommended containment system if significant dust is being generated, however is suitable for containing flakes and chips.

3.4.16.3 Full enclosures are tight enclosures (with tarps that are generally impermeable (e.g. polyethylene sheeting) with fully sealed joints and chambered air lock entryways/exits and upper seals). Full enclosures allow minimal or no fugitive emissions to reach the area outside the enclosure. For full enclosures, the following requirements shall be met:

3.4.16.3.1 The enclosure shall be made of windproof materials that are impermeable to dust.

3.4.16.3.2 The enclosure shall be supported by a secure, adequate and safe structure.

3.4.16.3.3 All joints in the enclosure shall be fully sealed.

3.4.16.3.4 Entrances to the enclosure shall be equipped with air locks (curtain walls, flap doors, zipper doors or solid doors).

3.4.16.3.5 The escape of dust, mist, fume, waste, blast media and debris from the enclosure shall be prevented.

3.4.16.3.6 General mechanical ventilation shall be provided by a HEPA filtered unit to remove contaminated air from the enclosure. Clean and safe make-up air that is free from hazardous dust, mist, vapours or fumes shall be provided to replace the exhausted air.

3.4.16.3.7 Filters used on ventilation equipment shall be adequate to ensure that exhausted air quality meets applicable environmental legislation and standards.

3.4.16.3.8 The air velocity within the enclosure shall provide an average minimum cross-draft or down-draft past each worker during abrasive blasting operations as follows.

3.4.16.3.8.1 cross draft capture velocity of 0.5 m/sec (100 ft./min) at the worker breathing zone.

3.4.16.3.8.2 Down draft capture velocity of 0.25 m/sec (50 ft./min) at the worker breathing zone.

3.4.17 The spread of lead dust from the work area shall be prevented by creating and maintaining within the enclosed area a minimum negative air pressure of 0.02 inches of water column (5 pascal), relative to the area outside the enclosed work area and/or 6 air changes per hour. Pressure differential readings must be taken and logged at regular intervals during lead removal.

3.4.18 Air-handling systems (supply and return) servicing the area of the Class 3 Operation shall be removed from service or isolated to prevent migration of lead through the air handling system.

3.4.19 Dry removal of lead-containing or lead-based paints and surface coatings shall be minimized whenever possible.

3.4.20 Wetting of materials shall be conducted whenever possible to control dust. The addition of wetting agents should be considered. Wetting should not be used if it may create a hazard or cause damage.

3.4.21 Wet methods shall be incorporated in the operation to reduce dust generation. Examples of wet methods include wetting surfaces, wet mist, wet scraping and wet shovelling.

3.4.22 Cleaning with compressed air or dry sweeping shall not be performed. Sweeping compounds shall be used where wetting is not possible.

3.4.23 All equipment, tools, respirators and clothing shall be cleaned by damp wiping, or using a vacuum equipped with a HEPA filter, prior to removal from the work area.

3.4.24 Protection of porous or fibrous surfaces is imperative as it is very difficult to remove lead-containing dust from these surfaces. If the material cannot be adequately protected from lead dust or waste it shall be removed and disposed of.

3.4.25 Any water generated from cleaning or removal operations must be appropriately contained, treated or disposed of in accordance with applicable legislation.

3.4.26 Where a dust generating operation is carried out, additional local mechanical ventilation shall be provided to remove dust, mist and fumes at the source. Local mechanical ventilation is recommended for welding, burning or high temperature cutting and for the removal of lead-containing and lead-based paints and surface coatings using power tools that are not equipped with a dust collection device attached to a HEPA filter. Where local mechanical ventilation is used, the following should be met:

3.4.26.1 Air velocity at the source of dust, mist or fume generation shall be no less than 0.5 m/sec (100 ft./min).

3.4.26.2 Air discharged from the local mechanical ventilation system shall pass through a HEPA filter.

3.4.27 ***Class 3 Decontamination Facility***

3.4.28 Establishing a decontamination facility is required for workers conducting Class 3 operations. The decontamination facility shall be located as close as practicable to the work area and shall consist of:

3.4.29 A suitable area for taking off contaminated protective clothing.

3.4.30 A shower that includes;

3.4.30.1 Hot and cold water with individual controls inside the room to regulate water flow and temperature; or

3.4.30.2 Water of a constant temperature that is not less than 40° Celsius or more than 50° Celsius.

3.4.30.3 Clean towels.

3.4.30.4 Soap that is suitable for removing lead, and

3.4.30.5 Hygiene indicators to visually confirm that lead has been removed from workers hands.

3.4.31 A suitable area for changing in to street clothes and for storing clean clothing and equipment

3.5 Measures and Procedures for Cleaning of Lead Dust

3.5.1 Should contamination be discovered, either by visual inspections or by results of air sample analysis, clean-up of effected areas shall be cleaned by the Abatement Contractor using the procedures of this Section. All general measures and procedures and measures for Type 2 Operations shall be implemented.

3.5.1.1 Using vacuums equipped with HEPA filters, the Abatement Contractor shall clean all surfaces prior to using detergent solution.

3.5.1.2 The Abatement Contractor shall clean and rinse all hard surfaces by any one, or combination, of the following methods: Container, rinse bucket and clean rags; OR spray bottle, rinse bucket and clean rags; OR Mop and two buckets.

3.5.1.3 For porous and other hard-to-clean surfaces, the Abatement Contractor shall scrub surfaces with detergent solution and allow soaking for 10 minutes prior to rinsing. In addition to pre-cleaning with vacuums equipped with HEPA filters, hard-to-clean or very dirty surfaces may require additional pre-cleaning with heavy duty or degreasing detergent.

3.5.1.4 Regardless of chosen methodology, the Abatement Contractor shall work from top to bottom (i.e. from deck to floor), beginning in the farthest point of entry into the work enclosure.

3.5.1.5 The Abatement Contractor shall clean and rinse all mechanical, electrical components and conduits.

3.5.1.6 The Abatement Contractor shall clean and rinse any exposed structural components (i.e. deck, exposed beams, columns, etc.).

3.5.1.7 The Abatement Contractor shall clean and rinse a small area at a time before doing the next area.

3.5.1.8 When using rags, the Abatement Contractor shall use folding technique to expose fresh rag for cleaning. Rinse rag in clean water prior to solution application. Frequently, and at regular intervals, replace soiled rags with clean rags.

3.5.1.9 Frequently, and at regular intervals, the Abatement Contractor shall dispose of dirty water and use clean rinse water.

3.5.1.10 The Abatement Contractor shall complete final rinsing with clean water.

3.5.1.11 The Abatement Contractor shall avoid re-contamination of clean areas.

3.5.2 The Abatement Contractor shall clean the deck surface and all surfaces within the Lead-Abatement Work Area.

3.5.3 The Abatement Contractor shall dispose of as lead waste, all materials that may be contaminated with lead dust (i.e. rags and/or un-restorable items).

3.6 Preparation Prior to Contamination

3.6.1 The Abatement Contractor shall move equipment, tools, supplies and stored materials that can be moved without disturbing lead dust.

3.6.1.1 The Abatement Contractor shall erect polyethylene hoarding walls to separate the Work from any Occupied Area.

3.6.2 The Abatement Contractor shall pre-clean all surfaces in the Lead-Abatement Work Area, using a HEPA vacuum or damp cloth prior to installing protection.

3.6.3 The Abatement Contractor shall remove fixtures, equipment etc. specified to be removed, and that can be removed without disturbing the lead dust.

3.6.4 The Abatement Contractor shall seal all below ceiling openings to Lead-Abatement Work Area using polyethylene, tape, caulking, etc., including but not limited to windows, doors, vents, diffusers, etc.

3.6.5 The Abatement Contractor shall seal all openings in floor using plugs, tape, caulking, rip-proof polyethylene, etc. Floor openings are to be sealed independently prior to installation of floor polyethylene. Include floors of duct and service shafts.

3.6.6 The Abatement Contractor shall maintain emergency and fire exits from Lead-Abatement Work Area, or establish alternative exits satisfactory to Fire Commissioner of Canada and Provincial Fire Marshall.

3.6.7 The Abatement Contractor shall provide a fire extinguisher at each emergency exit and in both sides of the decontamination facilities.

3.6.8 The Abatement Contractor shall install temporary lighting in all Lead-Abatement Work Areas at levels that will provide for a safe and efficient use of the Lead-Abatement Work Area. Install battery powered emergency lights so as to light exit routes through Lead-Abatement Work Area.

3.6.9 The Abatement Contractor shall install a minimum of 1 layer of rip proof polyethylene over floor surfaces. Extend floor protection a minimum of 12" up all vertical surfaces in the Lead-Abatement Work Area. If more than 1 layer is used, each layer of polyethylene is to be laid and sealed independently of each other.

3.6.10 The Abatement Contractor shall install 2 layers of polyethylene all walls forming the perimeter of the Lead-Abatement Work Area. Each layer of polyethylene is to be laid and sealed independently of each other. Overlap floor polyethylene with wall polyethylene by a minimum of 12” (305 mm) at each layer.

3.6.11 The Abatement Contractor shall isolate at panel and disconnect or ground existing power supply to Lead-Abatement Work Area where necessary. Power supply to remaining areas of building must not be disrupted during work of this section.

3.6.12 The Abatement Contractor shall not proceed with work of Contaminated Preparation without obtaining written permission from the Environmental

Consultant. The Abatement Contractor shall provide a minimum of 24 hours notice to consultant for the need of an inspection.

3.7 Contaminated Preparation

3.7.1 The Abatement Contractor shall use full personal protective procedures and equipment, and HEPA vacuums during contaminated preparation.

3.7.2 The Abatement Contractor shall shut down HVAC systems affecting the Lead-Abatement Work Area after normal building operating hours only.

3.7.3 The Abatement Contractor shall remove and dispose of obstructions to access ducts supplying into and exhausting from the Lead-Abatement Work Area.

3.7.4 The Abatement Contractor shall seal ducts supplying into and exhausting from the Lead-Abatement Work Area during one shift.

3.7.4.1 The Abatement Contractor shall clean outside and seal duct or equipment with rip-proof polyethylene and other products so as to make air tight.

3.7.4.2 The Abatement Contractor shall smoke test seals regularly.

3.8 Lead-Abatement Work Area Dismantling

3.8.1 The Abatement Contractor shall remove all polyethylene, tape, polyurethane foam, caulking and enclosures from Lead-Abatement Work Area.

3.8.2 The Abatement Contractor shall remove lead contaminated floor polyethylene by carefully rolling away from walls to centre of the Lead-Abatement Work Area.

3.8.3 The Abatement Contractor shall remove visible dust or residue found during removal of polyethylene using a HEPA vacuum.

3.8.4 The Abatement Contractor shall place Polyethylene, tape, cleaning material, clothing and other contaminated waste in lead waste containers and dispose of as lead waste.

3.8.5 The Abatement Contractor shall seal vacuum hoses and fittings, flexible ductwork and all tools used in contaminated work site in 6 mil polyethylene bags prior to removal from Lead-Abatement Work Area.

3.8.6 The Abatement Contractor shall decontaminate equipment used in Lead-Abatement Work Area, or double bag for transportation prior to being removed from Lead-Abatement Work Area.

3.8.7 The Abatement Contractor shall remove polyethylene protection and hoarding walls where hoarding walls separate occupied areas from Lead-Abatement Work Area.

3.8.8 The Abatement Contractor shall wash and mop with clean water all surfaces in the Lead-Abatement Work Area.

3.8.9 The Abatement Contractor shall remove all temporary lights, ground fault panels.

3.8.10 The Abatement Contractor shall maintain all hoarding walls adjacent to areas where lead dust is present.

3.8.11 The Abatement Contractor shall damp mop and clean with HEPA vacuum Occupied Areas previously below platforms, tunnels and decontamination facilities with HEPA vacuum.

3.8.12 Prior to leaving the work area,

3.8.12.1 Workers shall decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing.

3.8.12.2 Remove protective clothing by rolling the clothing outward and downward onto itself so the clean interior of the protective clothing is on the exterior after removal.

3.8.12.3 Workers shall remove all contaminated clothing and equipment except respirator.

3.8.12.4 If the protective clothing is to be reused, it shall be stored in a sealable plastic bag by the worker.

3.8.12.5 If the protective clothing will NOT be reused, the worker shall place it in a lead waste container immediately prior to leaving the work area.

3.8.12.6 Immediately after leaving the work area, all workers shall proceed directly to the established washing facilities to wash hands and face while wearing the respirator.

3.8.12.7 Workers shall wash exposed skin and respirator with soap and water.

3.8.12.8 All workers shall wash, remove and store respirators as per the written procedures that have been established by the employer and as is consistent with the manufacturer's specifications. Respirator filters for re-use shall be removed from respirators prior to washing the respirator or shall be disposed of as lead waste.

End of Section

OTHER HAZARDOUS MATERIALS

SECTION 02 83 10

LIST OF CONTENTS

1. GENERAL

1.1 General and Related Work

1.1.1 All sections of the specifications form a part of the Contract Document and shall be read to determine their effect upon the work of this section.

1.1.2 Related Work Specified Elsewhere:

Division 2	Section 02 82 00	Abatement Scope and Details
Division 2	Section 02 82 01	Type 1 Asbestos Abatement
Division 2	Section 02 82 02	Type 2 Asbestos Abatement
Division 2	Section 02 82 03	Type 2 Glove Bag Asbestos Abatement
Division 2	Section 02 82 04	Type 3 Asbestos Abatement
Division 2	Section 02 83 00	Lead Abatement
Division 2	Section 02 84 00	PCB Capacitors and Ballasts

Attachments:

1) *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021.

1.1.3 The Contractor is responsible to verify all measurements for removal, cleaning, and re-insulation purposes. Measurements and quantities provided herein are for reference only.

1.1.4 It is the intent that abatement performed as per this section will result in the removal and disposal of all hazardous materials as well as any materials that may have been contaminated either during or prior to work of this Section.

1.1.5 Refer to Section 02 82 00, Abatement Scope and Details, for the following information and requirements;

1.1.5.1 Site Conditions,

1.1.5.2 Outline of Work,

1.1.5.3 Schedule,

1.1.5.4 Supervision,

1.1.5.5 Quality Assurance,

1.1.5.6 Regulations,

1.1.5.7 Notification, and

1.1.5.8 Submittals.

1.2 Definitions

1.2.1 Air Monitoring: The process of measuring the concentration of a substance in a specific volume of air.

1.2.2 Authorized Visitor(s): The Owner or his approved representative and/or persons representing regulatory agencies.

1.2.3 Clean Area: Either an operating area or an area in which removal work has already been completed.

1.2.4 Competent Personnel: a worker who is qualified because of knowledge, training and experience to perform the work; is familiar with the Ontario Occupational Health and Safety Act and with the provisions of the regulations that apply to the work, and; has knowledge of all potential or actual danger to health or safety in the work.

1.2.5 DOP / PAO Test: Dioctylphthalate / Poly Alpha Olefin aerosol challenge of a HEPA filter system and is used to establish the integrity and effectiveness of the system to filter out particles and dust.

1.2.6 Filter: A media component used in respirators, vacuum cleaners or negative pressure filter fan units to remove solid or liquid particles from the inspired air.

1.2.7 HEPA Filter: High Efficiency Particulate Aerosol filter that is at least 99.97 percent efficient in collecting a 0.3 micrometre aerosol.

1.2.8 HEPA Vacuum: High Efficiency Particulate Aerosol filtered vacuum equipment acceptable to local provincial Ministry of Labour, and Health and Welfare Canada. Ensure vacuums are equipped with hoses, fittings, and nozzle attachments. Maintain vacuum equipment and system properly.

1.2.9 Occupied Area: Any area of the building outside the Abatement Work Area.

1.2.10 Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

1.2.11 Type 1 Silica Operations: Defined by the Ministry of Labour document "*Guideline - Silica on Construction Projects"*, dated April 2011, includes the following operations:

1.2.11.1 The drilling of holes in concrete or rock that is not part of a tunneling operation or road construction.

1.2.11.2 Milling of asphalt from concrete highway pavement.

1.2.11.3 Charging mixers and hoppers with silica sand (sand consisting of at least 95 per cent silica) or silica flour (finely ground sand consisting of at least 95 per cent silica).

1.2.11.4 Any other operation at a project that requires the handling of silica-containing materials in a way that may result in a worker being exposed to airborne silica.

1.2.11.5 Entry into a dry mortar removal or abrasive blasting areas while airborne dust is visible for less than 15 minutes for inspection and/or sampling.

1.2.11.6 Working within 25 metres of an area where compressed air is being used to remove silica-containing dust outdoors.

1.2.12 Type 2 Silica Operations: Defined by the Ministry of Labour document "*Guideline - Silica on Construction Projects"*, dated April 2011, includes the following operations:

1.2.12.1 Removal of silica containing refractory materials with a jackhammer.

1.2.12.2 The drilling of holes in concrete or rock that is part of a tunnelling or road construction.

1.2.12.3 The use of a power tool to cut, grind, or polish concrete, masonry, terrazzo or refractory materials.

1.2.12.4 The use of a power tool to remove silica containing materials.

1.2.12.5 Tunnelling (operation of the tunnel boring machine, tunnel drilling, tunnel mesh installation).

1.2.12.6 Tuckpoint and surface grinding.

1.2.12.7 Dry mortar removal with an electric or pneumatic cutting device.

1.2.12.8 Dry method dust cleanup from abrasive blasting operations.

1.2.12.9 The use of compress air outdoors for removing silica dust.

1.2.12.10 Entry into area where abrasive blasting is being carried out for more than 15 minutes.

1.2.13 Type 3 Silica Operations: Defined by the Ministry of Labour document "*Guideline - Silica on Construction Projects"*, dated April 2011, includes the following operations:

1.2.13.1 Abrasive blasting with an abrasive that contains $\geq$ 1 per cent silica.

1.2.13.2 Abrasive blasting of a material that contains $\geq$ 1 per cent silica.

1.2.14 Work: Includes all services, labour and material required to complete the work as specified in the contract.

1.2.15 Work Area(s): Area(s) where work takes place that will, or may disturb hazardous materials.

1.3 Worker and Visitor Protection

1.3.1 Prior to commencing work, the Contractor shall instruct workers in all aspects of work procedures and protective measures.

1.3.2 The Contractor shall provide workers and visitors with protective clothing and equipment where contact with hazardous materials may occur.

1.3.3 The Contractor shall provide workers and visitors with clothing and equipment appropriate for the potential level of exposure.

1.3.4 Before commencing work, the Contractor shall provide satisfactory proof that every worker has had instruction and training in hazardous material exposure, in personal hygiene and work practices, and in use, cleaning, and disposal of respirators and protective clothing.

1.3.5 The Contractor shall provide workers with instruction and training on respirators. This includes:

1.3.5.1 Limitations of equipment,

1.3.5.2 Inspection and maintenance of equipment,

1.3.5.3 Fitting of equipment, and

1.3.5.4 Disinfecting of equipment.

1.3.6 **Instructions:** Before entering hazardous material work area(s), the Contractor shall instruct workers and Authorized Visitor(s) in use of respirators, and all aspects of Work procedures and protective measures. Provide instruction by competent person as defined by The Occupational Health and Safety Act.

1.3.7 **Respirators:**

1.3.7.1 The Contractor shall provide workers with personally issued and marked respirators appropriate for the hazardous material encountered. The Contractor shall provide approved respirators to Authorized Visitor(s). The Contractor shall provide sufficient filters and cartridges so workers can install new filters and cartridges following disposal of used filters and cartridges before re-entering contaminated areas. Respirators shall be acceptable to Occupational Health Branch of the Ministry of Labour.

1.3.7.2 The Contractor shall provide instruction to users in use of respirators, including qualitative fit testing. No worker or Authorized Visitor(s) shall have facial hair that prevents proper contact between respirator face piece and skin. Alternatively, supplied air positive pressure respirator or supplied air positive pressure hood or helmet may be provided. The Contractor shall maintain respirators in proper functioning and clean condition, or remove from Site.

1.3.8 Protective Clothing and Goggles: Workers and Authorized Visitor(s) shall wear personal protective apparel appropriate for the hazardous material encountered and as required by Ministry of Labour construction regulations.

1.3.9 Eating, drinking, chewing or smoking shall not be permitted in the work area.

1.3.10 Workers and Authorized Visitors shall wash hands and face when leaving hazardous material removal work area.

1.4 Visitor Protection

1.4.1 The Contractor shall provide clean protective clothing and equipment and approved respirators to Authorized Visitors.

1.4.2 The Contractor shall ensure that Authorized Visitors have received required training for entry into Work Areas.

1.5 Air Monitoring

1.5.1 Air monitoring, if completed, shall be performed following the National Institute for Occupational Safety and Health Methods, as is applicable for the hazardous material being assessed.

1.5.2 The Contractor shall cooperate fully with the Environmental Consultant in the collection of air monitoring samples, including requiring workers to wear sampling pumps for a full work shift, if required. Workers shall exercise care not to damage sampling equipment.

1.5.3 If air monitoring shows a hazardous material removal work area is contaminated above acceptable levels, based upon Occupational Health and Safety exposure limits, the Contractor shall stop work and notify Owner Designee for additional instructions.

1.6 Waste Transport And Disposal

1.6.1 The Contractor shall ensure hazardous materials are treated, packaged, transported and disposed of as hazardous material.

1.6.2 The Contractor shall drop garbage bins at designated locations. Keep bins covered and enclosed while at the site. Bin loading area shall be kept clean at all times.

1.6.3 The Contractor shall pick-up and drop off garbage bins at pre-approved times, and shall not interfere with the Owners operations.

1.6.4 The Contractor shall conform to requirements of Regulations under Environmental Protection Act for Waste Management, transporting and disposal of hazardous waste.

1.6.5 The Contractor shall ensure shipment of containers to dump is taken by waste hauler licensed to transport hazardous waste.

1.6.6 The Contractor shall ensure that a bill of lading, showing the type and weight of hazardous waste being transported, is completed for each load.

1.6.7 The Contractor shall check with dump operator to determine type of waste containers acceptable.

1.6.8 The Contractor shall ensure dump operator is fully aware of hazardous material being dumped.

1.6.9 The Contractor shall co-operate with Ministry of the Environment and Climate Change inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Owner.

2. PRODUCTS

2.1 Materials and Equipment

2.1.1 The Contractor shall ensure that all tools, equipment, materials and supplies brought to work site are in good condition and free of containing or being contaminated with hazardous materials.

2.1.2 The Contractor shall ensure that disposable tools, equipment, materials and supplies are of new materials only.

2.1.3 Drop Sheet: Minimum 0.15 mm (6 mil) thick polyethylene unreinforced, or minimum 0.15 mm (6 mil) thick woven fibre reinforced fabric bonded both sides with polyethylene of size to minimize joints.

2.1.4 HEPA Filter: High Efficiency Particulate Aerosol filter at least 99.97 percent efficient in collecting 0.3 micrometer aerosol.

2.1.5 HEPA Vacuum: Vacuum with all necessary fittings, tools and attachments. All air must be filtered by HEPA filter before discharge.

2.1.6 Negative Air Unit: Portable air handling system which extracts air directly from the Hazardous Material Work Area and discharges the air to the exterior of the Hazardous Material Work Area. Equipped as follows:

2.1.6.1 Prefilter and HEPA filter. Air must pass HEPA filter before discharge.

2.1.6.2 Pressure differential gauge to monitor filter loading.

2.1.6.3 Auto shut off and warning system for HEPA filter failure.

2.1.6.4 Separate hold down clamps to retain HEPA filter in place during change of pre-filter.

2.1.7 Negative Pressure: Reduced pressure within work area(s) established by extracting air directly from work area, and discharging it directly to exterior of building. Discharged air first passes through HEPA filter. Extract sufficient air to ensure constant reduced pressure at perimeter of work area with respect to surrounding areas.

2.1.7.1 Establishing Negative Pressure: Distribute negative air filter/fan units evenly around the Hazardous Material Work Area. Remove windows, if required, and replace with 1/2" plywood with appropriately sized openings for exhaust. Switch the negative air pressure system to the "ON" mode and operate continuously until final completion of the work, including final cleanup. Exhaust air to the outside of the building using sealed ducting. A spare negative air unit will be fully installed and ready to operate as a backup unit. The negative air pressure system must have the capacity to exchange air volume of the work area three times per hour and maintain a minimum of 0.02 inches of water gauge differential. Operate negative pressure system continuously from the time the first polyethylene is installed to seal openings until final completion of the work including final cleanup and air testing. Replace pre-filters and HEPA filters as required and on a regular basis to maintain even and constant draw across negative air unit. Do not discharge negative air ducting with-in 25 feet of building access points. Replace windows removed for discharge panels upon completion of project, if window removal was required.

2.1.8 Polyethylene Sheeting: 6 mil (0.15 mm) minimum thickness unless otherwise specified, in sheet size to minimize joints.

2.1.8.1 Fibre-Reinforced (Rip-Proof) Polyethylene Sheeting: 8 mil (0.20mm) fabric made up from one layer of 5 mil (0.13 mm) weave and two layers of 1.5 mil (0.04 mm) poly laminate or approved equal. In sheet size to minimize on-site seams and overlaps.

2.1.8.2 Flame-Resistant Polyethylene Sheeting: A single polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films, 6 mil (0.15 mm) thickness.

2.1.9 Protective Coveralls: Disposable full body coveralls complete with hoods manufactured of a material that does not permit penetration of asbestos fibres or other hazardous materials.

3. EXECUTION

3.1 General Precautions

3.1.1 Demolition construction work of building materials found not to contain, or not suspected of containing any hazardous materials shall be completed using (at a minimum) general worker health and safety precautions which includes, in part, appropriate dust suppression methods and proper respiratory protection.

3.1.2 The Contractor shall prevent spread of dust from work area using measures appropriate to work to be completed.

3.1.3 The Contractor shall perform work in manner to reduce dust creation to lowest levels practicable. Work is subject to visual inspection and air monitoring. Any contamination of surrounding areas indicated by visual inspection or air monitoring shall require complete enclosure and clean-up of affected areas

3.1.4 Washing facilities consisting of a wash basin, water, soap and towels shall be provided by the Contractor and workers shall use these washing facilities before eating, drinking, smoking or leaving the project.

3.1.5 Gloves shall be provided as necessary and the worker shall wear the gloves.

3.1.6 Use removal methods that minimize dust generation whenever possible.

3.1.7 Suppress any dust generated.

3.1.8 Workers shall not eat, drink, chew gum or smoke in the Work Area.

3.1.9 The Contractor shall clean up dust and waste frequently, and at regular intervals, and place the dust and waste in a container that is;

3.1.9.1 Dust tight,

3.1.9.2 Suitable for the type of waste,

3.1.9.3 Identified as containing waste,

3.1.9.4 Cleaned with a damp cloth or a vacuum equipped with a HEPA filter, or placed in a clean bag so that a clean exterior surface is achieved immediately prior to removal from the work area, and

3.1.9.5 Removed from the workplace frequently and at regular intervals,

3.1.9.6 Disposed of in accordance with applicable regulations.

3.1.10 Clean-up after each operation shall be done to prevent spread of waste.

3.1.11 The use of 6 mil polyethylene bags as a waste container is acceptable provided it is appropriate for the type of waste. Double bagging of waste is recommended.

3.1.12 Drop sheets shall be used below all operations which may produce dust, chips, or debris.

3.1.13 Dry removal of materials shall be minimized whenever possible.

3.1.14 Wetting of materials shall be conducted whenever possible to control dust. The addition of wetting agents should be considered. Wetting should not be used if it may create a hazard or cause damage.

3.1.15 Wet methods should be incorporated in the operation to reduce dust generation. Examples of wet methods include wetting surfaces, wet mist, wet scraping and wet shovelling.

3.1.16 Dust and waste shall be cleaned up and removed by vacuuming with a HEPA filter equipped vacuum.

3.1.17 Cleaning with compressed air or dry sweeping shall not be performed. Sweeping compounds shall be used where wetting is not possible.

3.1.18 All equipment, tools, respirators and clothing shall be cleaned by damp wiping, or with a vacuum equipped with a HEPA filter, prior to removal from the work area.

3.1.19 Protection of porous or fibrous surfaces is imperative as it is very difficult to remove dust from these surfaces. If the material cannot be adequately protected from dust it shall be removed and disposed of.

3.1.20 Any water generated from cleaning or removal operations must be appropriately contained, treated or disposed of in accordance with applicable legislation

3.1.21 The Work Area shall be inspected at least once daily by the Contractor to ensure that the Work Area is clean

3.2 Acrylonitrile

3.2.1 Acrylonitrile may be present in stable form within paints, adhesives, and piping (i.e. black plumbing piping known as ABS (Acrylonitrile Butadiene Styrene) piping) in the Work Area.

3.2.2 During demolition work, the management of acrylonitrile compounds, if present in paint finishes, can be adequately addressed utilizing standard best practices for dust control and general health and safety precautions.

3.2.3 If present on-site in adhesives or as piping, these stable forms of acrylonitrile would not be expected to be a health & safety concern during routine demolition work.

3.3 Arsenic

3.3.1 Arsenic would not be expected in the Work Area and was not noted during previous investigations.

3.3.2 Arsenic compounds, however, may be present in paints and adhesives.

3.3.3 During demolition work, the management of arsenic compounds, if present in paint finishes, can be adequately addressed utilizing standard best practices for dust control and general health and safety precautions.

3.4 Benzene

3.4.1 Benzene would not be expected in the Work Area and was not observed during previous investigations. However, benzene may be present in stable form as a constituent within roofing materials, paints and adhesives.

3.4.2 During demolition work, the management of benzene compounds, if present in roofing materials, paints and adhesives, can be adequately addressed utilizing standard best practices for dust control and general health and safety precautions.

3.5 Coke Oven Emissions

3.5.1 Coke Oven Emissions would not be expected in the Work Area and was not observed during previous investigations.

3.6 Ethylene Oxide

3.6.1 Ethylene oxide would not be expected in the Work Area and was not observed during previous investigations.

3.7 Foam Glass

3.7.1 Foam glass insulation would not be expected in the Work Area and was not observed during previous investigations.

3.8 Isocyanates

3.8.1 Free isocyanate compounds would not be expected in the Work Area and were not noted during previous investigations.

3.8.2 Historically, these compounds are known to have been present in paint finishes.

3.8.3 During demolition work, the management of these compounds, if present in paint finishes, can be adequately addressed utilizing standard best practices for dust control and general health and safety precautions.

3.9 Mercury

3.9.1 Mercury may be present in minor quantities within the Work Area in the following forms:

3.9.1.1 Vapour within fluorescent light tubes or compact fluorescent bulbs,

3.9.1.2 Liquids within glass ampules associated with thermostats, switches and switchgears, pressure and/or temperature gauges, flow relays, pressure transmitter units, etc., and

3.9.1.3 Mercury may also be present as a constituent of paints and adhesives.

3.9.2 The Contractor shall collect all mercury-containing items (fluorescent light tubes, thermostats, etc.) from all buildings in a central location. All mercury-containing items shall be submitted to a qualified recycling facility for mercury reclamation.

3.9.3 The Contractor shall store and transport mercury-containing items in a manner to avoid incidental breakage.

3.9.4 In the event of incidental breakage, the Contractor shall implement the procedures below as applicable for site-specific circumstances.

3.9.5 During demolition work, the management of these compounds, if present in paint finishes, can be adequately addressed using safety precautions utilized during the removal or demolition of painted surfaces.

3.9.6 **General Measures and Procedures for Mercury Work**

3.9.6.1 Avoid direct skin contact with mercury and avoid inhalation of mercury vapour.

3.9.6.2 Have a mercury spill kit available on-site when doing work.

3.9.6.3 Removal of mercury-containing items should be completed with the item sealed and intact at all times.

3.9.6.4 Store and transport mercury-containing items in a manner to avoid incidental breakage.

3.9.6.5 Transport and disposal of mercury-containing items to be completed following Regulatory requirements and submitted to qualified recycling facility for mercury reclamation.

3.9.7 **Response in the event of a spill**

3.9.7.1 **DO NOT** use a vacuum cleaner to clean up mercury. Vacuuming a mercury spill will increase the mercury vapor in the air and increase the likelihood of exposure. Any vacuum cleaner used for cleanup will become contaminated and will need to be discarded as hazardous waste.

3.9.7.2 **DO NOT** use a broom to clean up mercury. The broom will break the mercury into smaller droplets and spread them around a larger area, making it more difficult to find and clean up.

3.9.7.3 **DO NOT** pour mercury down a drain. This could contaminate the plumbing system and the sewage system.

3.9.7.4 **DO NOT** walk out of the spill area in shoes or clothes that may have become contaminated with mercury.

3.9.7.5 **DO NOT** put contaminated items in the washing machine as this may contaminate the machine and sewage system.

3.9.7.6 Check to see if mercury was splashed on any person or their clothing. If so, carefully remove all contaminated clothing, including shoes, and place in a sealed bag before leaving the spill area. Mercury on the skin should be carefully wiped off with a damp paper towel.

3.9.7.7 Evacuate and isolate the spill area to ensure that people and pets are kept well away from the spill.

3.9.7.8 If any mercury was ingested, contact your local poison control centre.

3.9.7.9 Close interior doors leading to other indoor areas.

3.9.7.10 Open windows and exterior doors to ventilate the area.

3.9.7.11 Turn off any ventilation that could circulate air from the spill site to other indoor areas. This may involve turning down heaters or air conditioners and turning off fans.

3.9.7.12 Turn down the thermostat in order to minimize mercury vaporisation.

3.9.7.13 Stop the spread of mercury by blocking the spill with damp rags. Prevent mercury droplets from entering cracks or rolling under cabinets and other items

3.9.8 **Mercury Cleanup Procedures for Hard and Smooth Surfaces**

3.9.8.1 Follow Procedures as applicable in previous sections.

3.9.8.2 Prepare for cleanup by assembling appropriate supplies, such as,

3.9.8.2.1 rubber, nitrile or latex gloves,

3.9.8.2.2 protective eyewear or safety glasses

3.9.8.2.3 ziploc bags,

3.9.8.2.4 rubber squeegee or two pieces of paper or cardboard,

3.9.8.2.5 plastic dust pan,

3.9.8.2.6 wide-mouth plastic container with a lid,

3.9.8.2.7 garbage bags,

3.9.8.2.8 damp paper towels and/or rags,

3.9.8.2.9 duct tape, masking tape, or packing tape,

3.9.8.2.10 large tray or box,

3.9.8.2.11 flashlight,

3.9.8.2.12 tweezers,

3.9.8.2.13 eye dropper, and

3.9.8.2.14 other tools and supplies necessary for the given circumstance.

3.9.8.3 Don disposable coveralls with integral hood, boot covers and elasticized cuffs (e.g. Tyvek or equivalent).

3.9.8.4 Remove all jewelry (re: as mercury may bond with the metal).

3.9.8.5 Put on gloves and protective eyewear or safety glasses.

3.9.8.6 Using stiff paper, cardboard, or a rubber squeegee, and using slow sweeping motions, push the mercury beads together from the furthest point of the spill towards the middle of the spill. Gently push the beads onto a plastic dust pan or draw them into an eye dropper.

3.9.8.7 Use a flashlight to check for any remaining mercury droplets that may have been missed. Hold the flashlight at a low angle close to the floor, and other horizontal surfaces if affected, in a darkened room and look for additional glistening beads of mercury that may be sticking to the surface or in small cracked areas of the surface.

NOTE: Mercury can move surprising distances on hard and flat surfaces. Inspection is required of the entire spill area.

3.9.8.8 Very carefully pour the mercury droplets into a wide-mouth container and secure the lid.

3.9.8.9 Use the sticky side of tape to pick up any droplets that could not be picked up with the cardboard. Place the tape on a paper towel, fold, and place in a plastic bag that can be sealed.

3.9.8.10 If the mercury spill involves broken glass, carefully pick up the glass pieces using tweezers. Place the glass pieces on the paper towel, fold, and place in a sealed plastic bag. Small pieces of glass can be picked up using sticky tape, such as duct tape.

3.9.8.11 Pour or transfer collected mercury into a large mouth container slowly and carefully. This should be done over a large tray or box lined with plastic to prevent spillage. Close the container with an air tight lid and seal with tape. Place inside a sealable bag and seal.

3.9.8.12 Dispose of all items that may have been contaminated with mercury. Supplies used for cleanup, as well as any contaminated clothing, protective clothing, shoes, and gloves, should be placed in garbage bags (double or triple wrapped) and sealed with tape. Contaminated items should be cleaned or disposed of in accordance with the Regulatory requirements.

3.9.8.13 Using soap, thoroughly wash hands and any other body parts that may have come into contact with the mercury.

3.9.8.14 Keep the work area isolated and ventilated for 24-to-48 hours after successful cleanup. Alternatively, post cleanup testing for mercury vapors can be completed to confirm that adequate cleanup has been completed and that the area is suitable for re-occupancy

3.9.9 **Mercury Cleanup Procedures for Other Surfaces and Items**

3.9.9.1 Follow Procedures as applicable in previous sections.

3.9.9.2 Don disposable coveralls with integral hood, boot covers and elasticized cuffs (e.g. Tyvek or equivalent).

3.9.9.3 Remove all jewellery (re: as mercury may bond with the metal).

3.9.9.4 Put on gloves and protective eyewear or safety glasses.

3.9.9.5 Porous items, such as clothing, carpets, upholstery, etc., may be very difficult to remove all mercury. Mercury in these items may collect in the fibers and backing materials.

3.9.9.6 Where possible, discard items and/or cut out contaminated section of porous materials.

3.9.9.7 If cleaning of porous materials is attempted, implement cleaning procedures as applicable in the previous sections. Post cleanup testing for mercury vapours should be completed after attempting to clean porous materials.

3.9.9.8 Where mercury may have seeped into porous or rough surfaces, and thorough cleaning is not possible, an encapsulation sealant can be applied as a management strategy.

3.9.9.9 During removal of plumbing (e.g. spills in sink drains), complete sink trap removal work over a tray or bucket. It is preferable to place the contaminated trap in a sealed plastic bag. If the old trap is not discarded, the contents of the trap should

be poured into a wide-mouth, sealable jar and disposed of. The trap should then be thoroughly washed.

3.9.9.10 Dispose of all items that may have been contaminated with mercury. Supplies used for cleanup, as well as any contaminated clothing, protective clothing, shoes, and gloves, should be placed in garbage bags (double or triple wrapped) and sealed with tape. Contaminated items should be cleaned or disposed of in accordance with the Regulatory requirements.

3.9.9.11 Using soap, thoroughly wash hands and any other body parts that may have come into contact with the mercury.

3.9.9.12 Keep the work area isolated and ventilated for 24-to-48 hours after successful cleanup. Alternatively, post cleanup testing for mercury vapors can be completed to confirm that adequate cleanup has been completed and that the area is suitable for re-occupancy

3.10 Mould

3.10.1 Mould may be present in the Work Area.

3.10.2 Removal of mould-contaminated materials shall be completed in compliance with the following documents;

3.10.2.1 Canadian Construction Association, Standard Construction Document CCA 82, 2004; "*mould guidelines for the Canadian construction industry*" and the Environmental Abatement Council of Canada (EACC) document; "*Mould Abatement Guidelines*", Edition 3, 2015.

3.10.2.2 Environmental Abatement Council of Canada (EACC) document; "*Construction Worker Hygiene Practices Guideline*", dated 2014.

3.11 Ozone Depleting Substances (ODS)

3.11.1 Servicing, maintenance and decommissioning of equipment and systems that contain refrigerants must be completed by certified personnel.

3.11.2 All refrigerants from cooling equipment or systems must be recovered prior to deconstruction/demolition work.

3.11.3 Recovery, storage, transportation, and handling of the refrigerant must be completed by a certified professional and must follow all applicable requirements and regulations for ozone depleting substances.

3.12 Radioactive Materials

3.12.1 Servicing, maintenance and decommissioning of equipment that may contain radioactive materials must be completed by certified personnel in compliance with Federal Regulatory requirements.

3.13 Silica

3.13.1 Free crystalline silica, in the form of common construction sand, is present in all concrete and masonry products within the Work Area.

3.13.2 **General Measures and Procedures for Silica Operations**

3.13.2.1 Clean-up after each operation is required to prevent dust containing silica from spreading.

3.13.2.2 Compressed air or dry sweeping should be avoided when cleaning a work area.

3.13.2.3 Compressed air should not be used for removing dust from clothing.

3.13.2.4 Workers exposed to silica should be provided with or have access to washing facilities equipped with clean water, soap, and individual towels.

3.13.2.5 Silica dust on personal protective clothing and equipment should be removed by damp wiping or HEPA vacuuming.

3.13.2.6 Contaminated personal protective clothing and equipment should be handled with care to prevent disturbing the silica dust and the generation of airborne silica dust.

3.13.2.7 Washing facilities and laundering procedures must be suitable for handling silica contaminated laundry.

3.13.2.8 Preparation of the Work Area

3.13.2.9 Warning signs should be posted in sufficient number to warn of the hazard. If it is an indoor operation, signs should be posted at each entrance to the work area. The signs should display the following information in large, clearly visible letters:

3.13.2.9.1 There is a silica dust hazard.

3.13.2.9.2 Access to the work area is restricted to authorized persons.

3.13.2.9.3 Respirators must be worn in the work area.

3.13.2.10 *Dust Control Measures*

3.13.2.11 The generation of airborne silica-containing dust should be controlled with a mechanical ventilation system, wetting, or the use of a dust collection system. If silica-containing airborne dust is generated, mechanical ventilation with an air flow sufficient to remove airborne contaminants from workers' breathing zone should be provided. The air flow of the mechanical ventilation system should be at least 50 cubic feet per minute per square foot of face area (0.25 m^3/s per square meter of face area). However, if it is determined that none of these methods are practical, workers may be provided with respirators to protect them from exposure. The following should be considered before assigning respirators:

3.13.2.11.1 Risk to workers using wetting or a dust collection system.

3.13.2.11.2 Likelihood of damage to equipment if wetting or a dust collection system is used.

3.13.2.11.3 Frequency and duration of the operation.

3.13.2.12 If compressed air is being used to remove silica-containing dust outdoors, the operator and workers within 25 metres of the work area who may be exposed to the dust must either be removed from the path of the dust cloud or provided with respirators.

3.13.2.13 Where effective dust control measures are in place and where an employer can demonstrate on a continual basis that the silica exposure levels are below the Occupational Exposure Limit, respirators may not be required

3.13.3 **Measures and Procedures for Type 1 Silica Operations**

3.13.3.1 Implement all general protective measures and procedures detailed in the previous section.

3.13.3.2 Half-mask particulate respirator with N-, R-, or P-series filter and 95, 99 or 100 per cent efficiency should be provided for workers performing Type 1 operations.

3.13.3.3 Respirators should also be provided when,

3.13.3.3.1 entering a dry mortar removal area with visible airborne dust for less than 15 minutes for the purposes of inspection and/or sampling purposes.

3.13.3.3.2 work is being performed within 25 metres of an outdoor area where silica-containing dust is being removed with compressed air

3.13.4 **Measures and Procedures for Type 2 Silica Operations**

3.13.4.1 Implement all general protective measures and procedures detailed in previous sections.

3.13.4.2 Respirators with a NIOSH APF of 50 should be provided for workers performing Type 2 operations.

3.13.4.3 The generation of silica-containing airborne dust should be controlled by thoroughly wetting the area prior to and/or during drilling or cutting operations and during the loading, scraping or moving of rock.

3.13.4.4 Other workers entering a work area where Type 2 operations are being performed should remain at least 10 metres away.

3.13.4.5 Ropes or barriers should be set up to prevent unauthorized personnel from entering the work area. If this is not possible and there are workers within the 10-metre limit, the Type 2 operation should be enclosed to prevent the escape of airborne silica-containing dust (i.e. Barriers, Partial Enclosures or Full Enclosures)

3.13.5 **Measures and Procedures for Type 3 Silica Operations**

3.13.5.1 Implement all general protective measures and procedures detailed in previous sections.

3.13.5.2 The operator of the abrasive blasting nozzle should wear a Type CE abrasive blast supplied air respirator operated in a pressure demand or positive pressure mode with a tight-fitting half-mask or full facepiece.

3.13.5.3 It is recommended that compressed air that is used to supply supplied air respirators meet the breathing air purity requirements of CSA Standard Z180.1-00. Where an oil-lubricated compressor is used to supply breathing air, a continuous carbon monoxide monitor/alarm should be provided.

3.13.5.4 While abrasive blasting is in progress or the airborne dust from abrasive blasting is visible,

3.13.5.4.1 any worker entering the work area where abrasive blasting is being carried out for less than 15 minutes for inspection and/or sampling purposes should wear a half-mask particulate respirator with N-, R-, or P-series filter and 95, 99 or 100 per cent efficiency.

3.13.5.4.2 any worker entering a work area where abrasive blasting is being carried out for more than 15 minutes should wear a respirator with a NIOSH APF of 50.

3.13.5.4.3 workers engaged in cleaning dust from abrasive blasting operations, should wear a respirator with a NIOSH APF of 50.

3.13.5.5 Where abrasive blasting is conducted, barriers, partial enclosures and full enclosures should be in place to prevent other workers from being exposed to silica-containing dust and to prevent the spread of dust to other work areas.

3.13.5.6 *Barriers, Partial Enclosures and Full Enclosures*

3.13.5.7 Barriers, partial enclosures, and full enclosures are used to separate the work area from the rest of the project, and in some cases, to prevent silica exposure to other workers not directly involved in the operation. Partial and full enclosures can also prevent or reduce the dispersion of silica into the surrounding work area and environment. Barriers should only be used where full and partial enclosures are not practicable.

3.13.5.8 *Barriers*

3.13.5.9 Ropes or barriers do not prevent the release of contaminated dust or other contaminants into the environment. However, they can be used to restrict access of workers who are not adequately protected with proper PPE, and also prevent the entry of workers not directly involved in the operation.

3.13.5.10 Ropes or barriers should be placed at a distance far enough from the operation that allows the silica-containing dust to settle. If this is not achievable, warning signs should be posted at the distance where the silica-containing dust settles to warn that access is restricted to persons wearing PPE.

3.13.5.11 For example, the removal of mortar and cutting operations, ropes or barriers should be located at least 10 metres away. All workers within the barrier or warning sign zone must be adequately protected.

3.13.5.12 *Partial Enclosures*

3.13.5.13 Partial enclosures allow some level of emission to the atmosphere outside of the enclosure.

3.13.5.14 Partial enclosures may consist of vertical tarps and floor tarps so long as the tarps are overlapped and securely fixed together at the seams.

3.13.5.15 A partial enclosure is not a recommended containment system if significant dust is being generated.

3.13.5.16 *Full Enclosures*

3.13.5.17 Full enclosures are tight enclosures (with tarps that are generally impermeable and fully sealed joints and entryways).

3.13.5.18 Full enclosures allow minimal or no fugitive emissions to reach the outside environment.

3.13.5.19 For full enclosures, the following requirements should be met.

3.13.5.19.1 entry ways in the enclosure should be equipped with air locks, overlapping door tarps or doors.

3.13.5.19.2 the enclosure should be supported by a secure structure.

3.13.5.19.3 all joints in the enclosure should be fully sealed

3.13.5.19.4 the escape of abrasive and debris from the enclosure should be controlled, at air supply points, by the use of baffles, louvers, flap seals and filters.

3.13.5.19.5 general mechanical ventilation should be provided to remove contaminated air from the enclosure and replacement air should be provided to replace the exhausted air

3.13.5.19.6 the air pressure within the enclosure should be negative relative to the outside.

3.13.5.19.7 equipment venting such air shall be equipped with filters adequate to control vented air to provincial environmental standards.

3.13.5.19.8 the air velocity within the enclosure should provide an average minimum cross-draft or down-draft past each worker during abrasive blasting operations as follows:

3.13.5.19.8.1 cross draft capture velocity of 0.5 m/sec (100 ft./min) at the worker breathing zone.

3.13.5.19.8.2 Down draft capture velocity of 0.25 m/sec (50 ft./min) at the worker breathing zone.

3.13.5.20 If the enclosure is located outdoors these additional requirements should be met:

3.13.5.20.1 the enclosure should be made of windproof materials that are impermeable to dust.

3.13.5.20.2 the enclosure should be supported by a structure that prevents more than minor movement of the enclosure.

3.13.5.21 *Indoor Operations*

3.13.5.22 If abrasive blasting is being conducted indoors and persons other than those doing the abrasive blasting may be exposed to silica-containing dust, the abrasive blasting area should be separated from the rest of the project by an enclosure that will confine the dust within the abrasive blasting area.

3.13.5.23 When an indoor abrasive blasting operation is completed, dust and waste should be cleaned up and removed by vacuuming with a HEPA-filter-equipped vacuum, wet sweeping or wet shoveling.

3.13.5.24 *Outdoor Operations*

3.13.5.25 If abrasive blasting is being conducted outdoors and persons other than those doing the abrasive blasting may be exposed to silica-containing dust, the work area should be identified by ropes or barriers located at least 25 metres from the

abrasive blasting area, to prevent entry by workers not directly involved in the operation.

3.13.5.26 If it is not possible to locate the ropes or barriers at least 25 metres from the abrasive blasting operation, the employer should ensure that the abrasive blasting area is separated from the rest of the project by an enclosure that will confine the dust within the abrasive blasting area

3.14 Vinyl Chloride Monomer

3.14.1 Vinyl chloride monomer would not be expected in the Work Area and was not noted during previous investigations.

3.14.2 Vinyl chloride monomer, however, is typically a component of Poly Vinyl Chloride (PVC) piping and conduits. If present on site, this form of vinyl chloride would not be expected to be a health & safety concern during routine demolition work.

3.15 Urea Formaldehyde Foam Insulation (UFFI)

3.15.1 Urea Formaldehyde Foam Insulation (UFFI) would not be expected in the Work Area and was not noted during previous investigations.

End of Section

PCB CAPACITORS AND BALLASTS

SECTION 02 84 00

LIST OF CONTENTS

1. GENERAL

1.1 General and Related Work

1.1.1 All sections of the specifications form a part of the Contract Document and shall be read to determine their effect upon the work of this section.

1.1.2 Related Work Specified Elsewhere

Division 2	Section 02 82 00	Abatement Scope and Details
Division 2	Section 02 82 01	Type 1 Asbestos Abatement
Division 2	Section 02 82 02	Type 2 Asbestos Abatement
Division 2	Section 02 82 03	Type 2 Glove Bag Asbestos Abatement
Division 2	Section 02 82 04	Type 3 Asbestos Abatement
Division 2	Section 02 83 00	Lead Abatement
Division 2	Section 02 83 10	Other Hazardous Materials

Attachments:

1) *Pre-Renovation Designated Substances and Hazardous Materials Survey, Adelaide Resource Centre for Women, 67 Adelaide Street East, Toronto, ON*, prepared by ECOH Management Inc., February 17, 2021.

1.1.3 The Contractor is responsible to verify all measurements for removal, cleaning, and re-insulation purposes. Measurements and quantities provided herein are for reference only.

1.1.4 It is the intent that abatement performed as per this section will result in the removal and disposal of all hazardous materials as well as any materials that may have been contaminated either during or prior to work of this Section.

1.1.5 This Section includes requirements for electrical capacitors and ballasts containing Polychlorinated Biphenyl (PCBs) liquids including; Identification, Removal, Preparation for disposal, Transportation, Temporary Storage, and Permanent Disposal.

1.1.6 Refer to Section 02 82 00, Abatement Scope and Details, for the following information and requirements;

1.1.6.1 Site Conditions,

1.1.6.2 Schedule,

1.1.6.3 Supervision,

1.1.6.4 Quality Assurance,

1.1.6.5 Regulations,

1.1.6.6 Notification, and

1.1.7 Submittals.

1.2 Outline of Work

1.2.1 Using safety precautions outlined in this section and accepted by the Environmental Consultant, the Contractor shall safely remove, handle and inspect all fluorescent light ballasts throughout the subject demolition area for the presence of PCBs.

1.2.2 Ballasts with unidentifiable serial codes, or from manufacturers who are not included in the standard PCB Identifier Code literature, or are not clearly marked as “PCB Free” or no date is clearly visible, must be assumed to contain PCBs.

1.2.3 The Contractor shall protect all surfaces, building fabric and items not affected by work of this project.

1.2.4 The Contractor shall replace or repair any items damaged during work of this project that will not be subject to demolition.

1.3 Definitions

1.3.1 Authorized Visitor(s): The Owner or his approved representative and/or persons representing regulatory agencies.

1.3.2 Competent Personnel: a worker who is qualified because of knowledge, training and experience to perform the work; is familiar with the Ontario Occupational Health and Safety Act and with the provisions of the regulations that apply to the work, and; has knowledge of all potential or actual danger to health or safety in the work.

1.3.3 Disposal: Means transportation to specified disposal facility for permanent disposal, or to an approved site for temporary storage and subsequent transportation to the specified permanent disposal facility.

1.3.4 Removal: Means detachment of PCB-containing capacitors and ballasts from applicable fixtures and includes preparation for disposal as described in this Section.

1.3.5 Work: Includes all services, labour and material required to complete the work as specified in the contract.

1.3.6 Work Area(s): Area(s) where work takes place that will, or may disturb hazardous materials.

1.4 Reference Material and Regulations

1.4.1 The Contractor Shall perform work in accordance with the recommendations in the following Environment Canada publications:

1.4.1.1 Handbook on PCBs in Electrical Equipment by Environment Canada.

1.4.1.2 Identification of Fluorescent Lamp Ballasts Containing PCBs, EPS 2/CG/2, April 1986, by Environment Canada.

1.4.2 The Contractor Shall comply with Federal, Provincial, and local requirements pertaining to hazardous waste removal and general demolition activities,

provided that in any case of conflict among those requirements or with these specifications, the more stringent requirement shall apply. The regulations and guidelines shall include but not be limited to the following:

1.4.2.1 Government of Canada – Canadian Environmental Protection Act,

1.4.2.2 Government of Canada – Canadian Environmental Protection Act – Chlorobiphenyls Regulations,

1.4.2.3 Government of Canada – Transportation of Dangerous Goods Act and Regulations,

1.4.2.4 Government of Ontario – Dangerous Goods Transportation Act and Regulations,

1.4.2.5 Government of Ontario - Environmental Protection Act and Regulations,

1.4.2.6 Regulations for Construction Projects Ontario Regulation 213/91,

1.4.2.7 Office of the Fire Commissioner of Canada,

1.4.2.8 Electrical Safety Code,

1.4.2.9 WHMIS Regulations RRO 1990 Reg. 860,

1.4.2.10 Ontario Occupational Health and Safety Act RSO 1990 c0.1, as amended,

1.4.2.11 Other legislation and regulations that apply to the performance of the work of this section.

1.5 Worker and Visitor Protection

1.5.1 The Contractor shall require workers and visitors to wear PCB resistant gloves in addition to normal work clothing where exposure risk is low.

1.5.2 The Contractor shall provide workers and visitors with additional protective clothing and equipment where contact with liquid PCBs may occur.

1.5.3 The Contractor shall provide workers and visitors clothing and equipment appropriate for the potential level of exposure.

1.6 Removal Contractor Qualifications

1.6.1 Persons employed for the removal of capacitors and other energized electrical equipment shall be qualified electricians.

1.6.2 Where contact with liquid PCB is possible, personnel shall be instructed in handling procedures, safety precautions, use of safety equipment and applicable Federal and Provincial legislation and regulations.

1.7 Disposal Contractor Qualifications

1.7.1 Handling and transportation of hazardous wastes shall be performed by a company registered as a carrier with the Government of Ontario.

1.7.2 The Contractor shall submit proof that all persons involved in handling, packing, loading, transportation, unloading, unpacking and disposal of PCB waste are

trained in accordance with the Dangerous Goods Transportation and Handling Act.

1.8 Waste Transport and Disposal

1.8.1 The Contractor shall transport waste PCBs in accordance with Federal and Provincial regulations.

1.8.2 The Contractor shall ensure that all materials are properly packaged and labelled prior to transportation.

1.8.3 The Contractor shall ensure PCB-containing equipment and PCB-contaminated materials, removed during the work are treated, packaged, transported and disposed of as PCB waste.

1.8.4 The Contractor shall ensure shipment of containers for disposal is taken by waste hauler licensed to transport PCB waste.

1.8.5 The Contractor shall transport hazardous waste materials in properly placarded vehicles equipped with a rainproof and windproof box.

1.8.6 Each load shall be accompanied by a properly completed Transportation of Dangerous Goods Regulation (TDGR) Waste Manifest. The Contractor shall provide the Owner with a copy of each waste manifest.

1.8.7 The Contractor shall arrange and pay for permanent disposal of PCBs and PCB contaminated material in an environmentally safe manner, at a registered PCB waste disposal site, in accordance with Federal and Provincial regulations.

1.8.8 The Contractor shall co-operate with Ministry of Environment inspectors and immediately carry out instructions for remedial work at dump to maintain environment, at no additional cost to Owner.

2. PRODUCTS

2.1 Materials and Equipment

2.1.1 Absorbent Material: PCB absorbent materials and/or products which will create a quasi-solid product which can be swept or shovelled include;

2.1.1.1 Sawdust,

2.1.1.2 Vermiculite,

2.1.1.3 Activated charcoal,

2.1.1.4 Oclansorb,

2.1.1.5 Inbiber Beads,

2.1.1.6 Hy-Dry,

2.1.1.7 Diasorb,

2.1.1.8 Stay-Dry,

2.1.1.9 Oil-Dry,

2.1.1.10 Conwed,

2.1.1.11 3-M matting, and

2.1.1.12 Graboil.

2.1.2 Disposal Drums: To CAN/CGSB-43.150-97, steel drum (1A2), 205 litre capacity, minimum 1.2 mm thick sheet steel, fitted with removable steel lids, with lid gaskets made of PCB resistant materials and meeting Transportation of Dangerous Goods Regulations and applicable Provincial requirements.

2.1.3 Plastic Bags: To CAN/CGSB-43.150-97, minimum 150-micrometer thick sheet polyethylene. Bag seams shall be sufficiently strong to resist pressure and shocks that occur under normal conditions of transport. Designed and manufactured to contain a maximum net mass of 50 kg.

2.1.4 Solvent: Following solvents are acceptable;

2.1.4.1 Varsol,

2.1.4.2 Kerosene,

2.1.4.3 Turpentine,

2.1.4.4 Number 1 fuel oil, and

2.1.4.5 1,1,1-trichloroethane.

3. EXECUTION

3.1 Identification

3.1.1 The Contractor shall inspect luminaries listed in the “Schedule of Possible PCB Containing Equipment” (section below) to identify capacitors and ballasts containing PCBs. Take care to accurately identify capacitors and ballasts as PCB type or non-PCB type.

3.2 Removal of Luminaire Capacitors and Ballasts

3.2.1 The Contractor shall remove all PCB containing capacitors and ballasts as follows:

3.2.1.1 Fluorescent Luminaires and HID Luminaires with Potted Ballasts: remove entire ballast, including capacitor.

3.2.1.2 HID Luminaires with Non-potted Ballasts: remove capacitor only. If capacitor is leaking also dispose of ballast.

3.2.2 The Contractor shall clean any black residue from luminaires using rags and solvent. Black residue may contain PCBs. The Contractor shall dispose of rags as PCB waste.

3.2.3 The Contractor shall dispose of non-PCB containing ballasts as construction waste.

3.3 Temporary Storage of PCB-Containing Equipment

3.3.1 Should temporary storage of PCB-containing equipment be required, the Contractor shall establish temporary storage facility as follows;

3.3.1.1 Construct on-site temporary storage facility within the project construction area.

3.3.1.2 The on-site temporary storage facility is to be of sufficient size for the intended use.

3.3.1.3 Signs are to be posted to indicate the presence of a temporary PCB storage facility.

3.3.1.4 Two layers of fibre-reinforced (rip-proof) polyethylene sheeting, each independently sealed, is to be installed on the floor surface and is to be extended a minimum of 2-inchs on perimeter walls and/or extended over temporary retention structures (i.e. 2 x 4 lumber).

3.3.1.5 Wood shipping pallets are to be placed on top of the layered polyethylene.

3.3.1.6 Two additional layers of rip-proof polyethylene sheeting are to be placed on the pallet. The sheeting is to be placed with sufficient excess to enclose materials to be placed on the pallet.

3.3.1.7 PCB-containing equipment are to be neatly stockpiled on the pallet.

3.3.1.8 All PCB-contaminated materials (including used personal protective equipment) are to be sealed within clear polyethylene bags and then placed on the pallet.

3.3.1.9 Once the capacity of the pallet has been reached, the excess rip-proof polyethylene sheeting is to be used to enclose the PCB-containing equipment and PCB-contaminated materials. The rip-proof polyethylene sheeting is to be sealed in a manner to prevent unintentional unravelling.

3.3.2 Inspections of the on-site temporary storage facility, including the area immediately below the pallet, is to be completed on a daily basis by the Contractor to ensure that integrity of the rip-proof polyethylene sheeting is maintained.

3.4 Preparation for Disposal

3.4.1 The Contractor shall place contaminated materials into plastic bags. Close bags securely using appropriate ties. The Contractor shall handle bags containing material in a manner to prevent bag puncture.

3.4.2 The Contractor shall place minimum 75 mm of absorbent material in bottom of drum.

3.4.3 The Contractor shall place capacitors into drum with terminals facing up.

3.4.4 The Contractor shall package PCB contaminated gloves, work clothes and rags in plastic bags and place in drums.

3.4.5 The Contractor shall seal drums and store in a designated storage area pending transportation and disposal.

3.4.6 The Contractor shall label drums containing liquid PCB, contaminated material and equipment, with a severe hazard labels.

3.4.7 Each container must be marked in accordance with the Dangerous Goods Transportation and Handling Act, showing the shipping name (polychlorinated biphenyl), the product identification number (UN2315) and a Class 9 label by the Contractor.

3.5 Schedule of Possible PCB Containing Equipment

3.5.1 Fluorescent light ballasts and capacitors throughout the specified work area may contain PCBs. The Contractor shall inspect items to confirm the presence or absence of PCB. Remove items where the absence of PCBs cannot be confirmed from equipment and dispose of as PCB waste.

3.5.2 Abbreviations:

MC	Motor Capacitor
FFB	Fluorescent Fixture Ballast
HID-C	High Intensity Discharge Luminaire-Capacitor
HID-PH	High Intensity Discharge Luminaire-Potted Ballast

3.6 Schedule of PCB Identification Guide

3.6.1 The following schedule provides a guide to identify ballasts containing PCBs. Other ballasts should be considered to contain PCBs if they were manufactured prior to July 01, 1980, or if the absence of PCBs cannot be confirmed.

3.6.2 Table 1: PCB Identification Guide

Manufacturer	Code Interpretation
Aerovox Incorporated Canada	Codes are located on labels attached to capacitors. Two Possibilities; 1) Four number code on capacitor label. The first two numbers are the year and the last two are the month (e.g. January 1980 = 8001). PCBs **are** present up to and including June 1978 (7806). 2) Six-digit letter and number code stamped on capacitor. PCBs **are** present if the fifth digit is “F”.
Advanced Ballasts (supplied by Philips)	Three or four digit number code on the ballast cover. The first one or two numbers indicate the month and the last two numbers are the year. PCBs **are** present up to and including 1978 (e.g. 1278 or lower)
Allanson Division of Jannock Ltd.	Two letter code stamped on ballast nameplate located on the end of ballasts. The first letter is the month, starting with “A” for January and the second letter is the year, starting with “A” for 1969 (e.g. February 1972 = BD). PCBs **are** present up to and including December 1980 (LL).

Manufacturer	Code Interpretation
Canadian General Electric	Codes are located on nameplates attached to ballasts. Date codes are stamped on nameplates or on reverse side of ballast housing. Two Possibilities; 1) Seven letter and number digit code on ballast name plate. PCBs **are not** present if one of the two final letters is "E" and *likely present* if it is "T". 2) Four number code on ballast housing. The first two numbers, when reversed, are the year (e.g., 1976 = 67) and the last two numbers are the month. PCBs **are** present up to and including March 1978 (8703).
Westinghouse Canada	Same as for Canadian General Electric (above).
Magnatex Polygon	Letter and number code on the ballast. The last four numbers represent the year and the month. PCBs **may** be present up to and including June 1980 (June 1980 = 8006). PCBs **are** present in capacitors made in 1978-79 unless there is a green "NO PCB" sticker on the ballast label.
Magnatex Universal Manufacturing (USA)	Three digit letter and number code on ballast cover. The first letter is the month (A = January) and the last two numbers are the year. PCBs **are** present up to and including December 1978 (L78). PCBs **are not** present if "N" follows the code.
Phillips Electronics	Date codes are stamped onto ballast housings, on a tab on the side, or on the side facing the ceiling. Coding system changed in 1980. Units made after early 1979 are marked as being free of PCBs. Treat units as **PCB containing** if not marked "PCB Free" or if having a digit code ending with 79 or earlier.
Sola Canada	Three digit letter and number code on ballast label. The first letter is the month (A = January) and the last two numbers are the year. PCBs **are** present up to and including December 1979 (L79).
Sola Electric (USA)	Eight digit letter and number code on ballast nameplate. The first two numbers are the year. Assume PCBs **are** present up to and including December 1979.
Other Manufacturers	Assume PCBs **are** present if the unit is not marked "PCB Free" or not clearly dated 1980 or later.

Manufacturer	Code Interpretation
High Intensity Discharge Lamps	*Allanson Division of Jannock Ltd*. Puts "N" before the code if PCBs **are not** present. Others are usually marked "PCB" or "NO PCB". Assume PCBs **are** present if the label is not marked otherwise. *Holophane Canada Inc.* puts "BAA" before its three-digit code number on capacitors where PCBs **are** present. *Sola Canada* marks capacitors where PCBs **are** present with a code beginning "ACA".

3.6.3 Identification may require disassembly of fluorescent lamp ballasts or other lighting systems such as High Intensity Discharge (HID) systems that are open to view.

End of Section

1.0 GENERAL

1.1 SUMMARY

.1 This Section includes requirements for selective demolition and removal of electrical, safety and security, communications components including removal of conduit, junction boxes, and panels to source (home run removal)] and incidentals required to complete work describe in this Section ready for new construction.

1.2 REFERENCE STANDARDS

.1 CSA Group (CSA)

.1 CSA S350 M1980 [(R2003)], Code of Practice for Safety in Demolition of Structures

.2 Temporary wiring shall be in compliance with Section 75 of Ontario Electrical Safety Code

1.3 DEFINITIONS

.1 Demolish: Detach items from existing construction and legally dispose of items off site, unless indicated as removed and salvaged, or removed and reinstalled.

.2 Remove: Planned deconstruction and disassembly of electrical items from existing construction including removal of conduit, junction boxes, cabling and wiring from electrical component to panel taking care not to damage adjacent assemblies designated to remain; legally dispose of items off site, unless indicated as removed and salvaged, or removed and reinstalled.

.3 Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.

.4 Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

.5 Existing to Remain: Existing items of construction that are not removed and that are not otherwise indicated as being removed and salvaged, or removed and reinstalled.

.6 Hazardous Substances: Dangerous substances, dangerous goods, hazardous commodities and hazardous products may include asbestos, mercury and lead, PCB s, poisons, corrosive agents, flammable substances, radioactive substances, or other material that can endanger human health or wellbeing or environment if handles improperly as defined by Federal Hazardous Products Act (RSC 1985) including latest amendments.

1.4 ADMINISTRATIVE REQUIREMENTS

.1 Coordination: Coordinate work of this Section to avoid interference with work by other Sections.

1.5 QUALITY ASSURANCE

.1 Regulatory Requirements: Perform work of this Section in accordance with:

.1 Provincial Occupational Health and Safety Standards and Programs.

1.6 SITE CONDITIONS

.1 Existing Conditions: Conditions of materials identified as being salvaged or demolished are based on their observed condition.

.2 Existing Hazardous Substances:

.1 Hazardous substances will be removed by a hazardous abatement specialist engaged by Owner before start of Work.

.3 Discovery of Hazardous Substances: It is not expected that Hazardous Substances will be encountered in Work; immediately notify Consultant if materials suspected of containing hazardous substances are encountered and perform following activities:

.1 Hazardous substances will be as defined in Hazardous Product Act.

.2 Stop work in area of suspected hazardous substances.

.3 Take preventive measures to limit users’ and workers’ exposure, provide barriers and other safety devices and do not disturb.

.4 Proceed only after written instructions have been received Consultant.

1.7 SALVAGE AND DEBRIS MATERIALS

.1 Demolished items become Contractor ‘s property and will be removed from Project

.2 Carefully remove materials and items designated for salvage and store in a manner to prevent damage or devaluation of materials

.1 Provide new main electrical distribution panel and meter (to THES requirements) to replace existing; panel can be used for temporary construction power for this and subsequent contracts.

.2 Leave main telephone terminal backboard in place; panel can be used for temporary construction telephone system for this and subsequent contracts.

2.0 PRODUCTS

2.1 MATERIALS

.1 Electrical Repair Materials: Use only new materials, CSA or ULC labelled as appropriate and matching components remaining after work associated with components identified from removal or demolition are completed.

.2 Fire stopping Repair Materials: Use fire stopping materials compatible with existing fire stopping systems where removal or demolition work affects rated assemblies, restore to match existing fire rated performance.

3.0 EXECUTION

3.1 EXAMINATION

.1 Verification of Existing Conditions: Visit site, thoroughly examine and become familiar with conditions that may affect the work of this Section before tendering the Bid

3.2 PREPARATION

.1 Protection of Existing Systems to Remain: Protect systems and components indicated to remain in place during selective demolition operations.

.1

3.3 EXECUTION

.1 Demolition: Coordinate requirements of this Section with work of other trades and as follows:

.1 Disconnect electrical circuits and panel feeders;

.2 Remove existing luminaires, electrical devices and equipment including associated conduits, boxes, wiring, and similar items [unless specifically noted otherwise].

.3 Existing fire alarm system: existing fire alarm control panel shall remain and existing detectors, pull stations and speakers shall be relocated to new positions as show on drawings. Provide testing and verification of system as required by CSA S536 and S537.

.4 Disconnect and remove communication systems including associated conduits, boxes, cabling, and similar items unless specifically noted otherwise.

.5 Disconnect and remove telephone outlets, associated conduits, cabling and sub terminal backboards and related accessories; maintain telephone service and main terminal backboard as is.

.6 Perform demolition work in a neat and workmanlike manner:

.1 Remove tools or equipment after completion of work, and leave site clean and ready for subsequent work.

.2 Repair and restore damages caused as a result of the work of this Section to match existing materials and finishes.

.7 Disconnect panel feeders back to main distribution panel and re label respective circuit breaker as “SPARE”.

.8 Remove existing conduits, boxes, cabling and wiring associated with removed luminaires, electrical devices and equipment.

.9 Grind off conduits and make flush with surface of concrete where conduits are cast into concrete; seal open ends of conduit with silicone sealant and leave in place.

.10 Seal open ends of conduit with silicone sealant and leave in place where they are inaccessible or cannot be removed without damaging adjacent construction.

.11 Provide new emergency battery lighting and exit lights as shown on drawings with battery backup for 30 minutes.

.12 Provide power connections to mechanical heating units at locations show on the drawings.

.13 Provide temporary lighting, from normal power, in stairs and on each floor to allow safe egress. Existing light fixtures may be re-used.

3.4 CLOSEOUT ACTIVITIES

.1 Demolition Waste Disposal: Arrange for legal disposal and remove demolished materials to accredited provincial landfill site or alternative disposal site (recycle centre) except where explicitly noted otherwise for materials being salvaged.

.2 Hazardous Substances Disposal: Arrange for disposal of hazardous substances in accordance with requirements of Section 02 81 00 – Hazardous Materials.

END OF SECTION

ECOH
Environmental Consulting
Occupational Health

PRE-RENOVATION DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS SURVEY

ADELAIDE RESOURCE CENTRE FOR WOMEN
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ECOH Project No.: **26341**
February 17, 2021

EXECUTIVE SUMMARY

ECOH Management Inc. (ECOH) was retained by the City of Toronto to conduct a Pre-Renovation Designated Substances and Hazardous Materials assessment, at the Adelaide Resource Centre located at 67 Adelaide Street East in Toronto, ON. The objectives of the survey were to identify potential environmental considerations associated with areas of the building to be impacted by the planned facility renovations and provide recommendations, as necessary, to fulfil requirements set forth within the Ministry of Labour Codes as well as the Ontario Occupational Health and Safety Act. The scope of this current assessment is limited to interior areas only of the facility. Ms. Vanessa Taylor and Ms. Asra Ismail of ECOH performed the survey and assessment on February 3, 2021 .

This executive summary provides a brief overview of the key survey findings and associated recommendations. Detailed information regarding the findings and recommendations are discussed in the body of the report.

FINDINGS

Table 1 presents a brief outline of ECOH's findings within the Project Area. For analytical results for asbestos, refer to Appendix I - Results of Bulk Sample Analysis for Asbestos & Lead. Refer to the main body of the report and Appendix II and III for specific details, quantities and locations of Designated Substances and Hazardous Materials in the Project Area.

Table 1: Summary of Findings

Material	Findings
Asbestos	Asbestos-containing materials (ACM) are present in various locations throughout the Project Area in the following forms: • Aircell Pipe Insulation **(40% Chrysotile)** • Parging Cement **(10%-70% Chrysotile)** • Fire Door Insulation **(60% Chrysotile)** • Ceiling Tiles (ACT06, ACT07) (**Presumed**) Additional asbestos-containing materials may be present within concealed conditions of the Project Area (i.e. above fixed ceilings, within wall cavities, pipe chases, etc.).
Lead	Under current City of Toronto policies, building materials containing a lead concentration of ≥0.1% by dry weight (1000 parts per million [ppm]) are considered lead-based. The following lead-based paints (i.e. concentrations of lead equal to or greater than 0.1% by weight, or 1000 parts per million (ppm), were identified during this assessment: • Beige Paint on Wall – Various Locations Throughout Project Area.

Table 1: Summary of Findings	
Material	**Findings**
	• Yellow Paint on Wall – Various Locations Throughout the Project Area. All other paints sampled as part of this assessment were non-lead-based, however, all paints are assumed to contain varying percentages or trace amounts of lead. No other major sources of lead or lead-containing products were identified during the survey; however, lead may be present in: • Internal batteries associated with emergency lighting system, • Ceramic tile glazing, • Wiring connectors and electric cable sheathing, and • Solder joints on copper piping.
Mould	Mould-growth was not observed to be present at the time of the assessment.
Mercury	Thermostats throughout the Project Area contain mercury liquid. Minor quantities are also present as a vapour within fluorescent tubes lights and as a possible constituent of paints and adhesives.
Polychlorinated Biphenyls (PCBs)	Not observed within light ballasts throughout the Project Area.
Silica	Present in all concrete and masonry products.
Other Designated Substances and Hazardous Materials	Acrylonitrile, Arsenic, Benzene, Coke Oven Emissions, Ethylene Oxide, Mould, Ozone Depleting Substances, Isocyanates, Urea Formaldehyde Foam Insulation (UFFI) and Vinyl Chloride Monomer were not noted in significant quantities or forms, if at all.

RECOMMENDATIONS

The following recommendations meet the requirements of the Occupational Health and Safety Act. Asbestos recommendations meet the requirements of the Designated Substance – Regulation respecting *Asbestos on Construction Projects and in Buildings and Repair Operations*, Ontario Regulation 278/05. Based upon review of historical reports, as well as analytical results and observations of this assessment, ECOH offers the following for your consideration.

Asbestos

Based on survey results, the following conclusion are made with regards to asbestos-containing materials (ACMs) within the Project Area:

- As asbestos-containing materials (ACM) are present with the Project Area, ECOH recommends that all workers have asbestos awareness and respirator training before commencing work. Asbestos awareness training will provide on-site workers the understanding of asbestos-related health and safety issues; the ability to recognize ACM and any situation that may present a potential asbestos exposure, and' the ability to respond appropriately to an inadvertent disturbance of ACM in the work area.
- **Type 3 Asbestos Safety Precautions** should be utilized for the disturbance or removal of more than one (1) square metre of friable asbestos-containing materials (i.e. Aircell, parging cement pipe fitting insulation or fire door insulation).
- **Type 2 Asbestos Safety Precautions** should be utilized for the disturbance or removal of one (1) square metre or less of friable asbestos-containing materials (i.e. Aircell, parging cement pipe fitting insulation or fire door insulation) provided the material is wetted to control the spread of dust and work is done by means of non-powered hand-tools or power tools that are attached to dust-collecting devices equipped with HEPA filters.
- **Type 2 Asbestos Safety Precautions** should be utilized for the disturbance or removal of 7.5 square meters or more of non-friable asbestos-containing materials (i.e. ceiling tiles) provided the material is wetted to control the spread of dust and removal work can be done without being broken, cut, drilled, abraded, ground, sanded or vibrated.
- **Type 1 Asbestos Safety Precautions** should be utilized for the disturbance or removal of less than 7.5 square meters of non-friable asbestos-containing materials (i.e. ceiling tiles) provided the material is wetted to control the spread of dust and done without being broken, cut, drilled, abraded, ground, sanded or vibrated.
- Any demolition, renovation or maintenance activities involving materials found NOT to contain asbestos, or not suspected of containing asbestos, should implement general health and safety precautions including, in part, the use of dust suppression techniques and appropriate respiratory protection.
- The asbestos-related findings of this report and any required removal of identified ACM should be used to update information within, or be inserted into, the facility's inventory of asbestos-containing building materials.

- During project work, if any additional materials are found beyond those which are described in this report or described in the existing inventory of asbestos-containing materials (i.e. materials not previously identified, or materials that are not homogenous to those previously identified, or materials that become revealed during the work), additional testing for asbestos-content should be completed immediately and prior to disturbance of the material. Alternatively, these materials can be assumed to contain asbestos, and the appropriate level of asbestos safety precautions must be implemented.
- Prior to renovation work, confirmed asbestos-containing materials that have the potential to be disturbed during the renovation work must be removed using asbestos safety procedures detailed within Ontario Regulation 278/05. Classification of the asbestos operation should be determined by an experienced and qualified person.

Lead

The removal of all building materials assumed or confirmed to be lead-based (i.e. having lead concentrations >0.1% (1000ppm)) should be conducted following recommendations detailed within the Environmental Abatement Council of Ontario (EACO) guidance document, "*EACO Lead Guideline For Construction, Renovation, Maintenance or Repair*", dated 2014, which incorporates the guidelines set forth in the Ontario Ministry of Labour's *"Guideline: Lead on Construction Projects"*, dated April, 2011.

Renovation, demolition or general construction work involving the removal of materials containing only **trace concentrations** of lead (< 1000ppm) can be completed without lead-specific safety precautions provided that:

a) work does not include 'fume generating activities' (heat producing) such as welding, torching, burning, high temperature cutting, etc.,

b) work does not include dust-generating activities such as grinding, cutting or chemical stripping,

c) dust levels are maintained below 3mg/m^3, and

d) general health and safety construction procedures are implemented, which would include dust suppression methods, proper respiratory protection (minimum of a 1/2-face respirator) and protective clothing, as is appropriate for the work being completed.

Mercury

The presence of mercury within wall-mounted thermostats, fluorescent tubes lights, paints and adhesives should not be considered a hazard provided the assembled units remain sealed and intact. Avoid direct skin contact with mercury and avoid inhalation of mercury vapour. Dispose of mercury following requirements of the Canada Environmental Protection Act, the Transportation of Dangerous Goods Act and provincial legislative requirements that may be applicable.

Silica

Cutting, grinding, or demolition of materials containing silica should be completed using general health and safety precautions including the use of dust suppression techniques and appropriate respiratory protection.

During major renovations, removal of materials containing silica should be removed following recommendations detailed within the Ministry of Labour document, *Guideline - Silica on Construction Projects*, dated, April 2011.

Polychlorinated Biphenyls (PCBs)

Fluorescent light ballasts should be removed and disassembled to observe serial codes which should be compared to standard PCB Identify Code literature. Ballasts with unidentifiable serial codes, or from manufacturers who are not included in the standard PCB Identifier Code literature or are not clearly labelled as “PCB Free”, or no date is clearly visible (ballasts dated 1981 or later do not contain PCBs), must be assumed to contain PCBs. Ballasts confirmed or assumed to contain PCBs must be disposed of following applicable legislative requirements (e.g. Canada Environmental Protection Act, the Transportation of Dangerous Goods Act and provincial legislative requirements as may be applicable).

This executive summary provides a brief overview of the study findings. It is not intended to substitute for reading the complete report, nor does it discuss specific issues documented in the report.

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APPENDICES

1. INTRODUCTION AND REGULATORY REQUIREMENTS

1.1 Introduction and scope

ECOH Management Inc. (ECOH) was retained by the City of Toronto to conduct a Pre-Renovation Designated Substances and Hazardous Materials assessment at the Adelaide Resource Centre located at 67 Adelaide Street East in Toronto, ON. The objectives of the survey were to identify potential environmental considerations associated with areas of the building to be impacted by the planned facility renovations and provide recommendations, as necessary, to fulfil requirements set forth within the Ministry of Labour Codes as well as the Ontario Occupational Health and Safety Act. The scope of this current assessment is limited to interior areas only of the facility. An assessment for exterior materials are planned for Ms. Vanessa Taylor and Ms. Asra Ismail of ECOH performed the survey and assessment on February 3, 2021.

The survey included an investigation for the presence of Designated Substances including:

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

And for Hazardous Materials including:

- Polychlorinated Biphenyls (PCB)s
- Mould
- Ozone Depleting Substances (ODS)
- Other Hazardous Materials

The following report details the project scope of work, regulatory requirements, survey and analytical methodologies, survey findings and recommendations, and survey statement of limitations.

1.2 Regulatory Requirements

A Designated Substances and Hazardous Materials Report is completed to fulfil the Owner's requirements under Section 30 of the Ontario Occupational Health and Safety Act. Prior to tendering project work in a building, the building owner must provide this report to contractors tendering on the work.

Ministry of Labour Regulation 278/05, *Regulation respecting Asbestos on Construction Projects and in Buildings and Repair Operations*, controls the disturbance of asbestos materials on construction projects. Ministry of Environment Regulation, R.R.O. 347, controls the disposal of asbestos waste. The Ministry of Labour has also issued guidelines for the control of Lead and

Silica on construction projects, these entitled, *Guideline - Lead on Construction Projects* and *Guideline - Silica on Construction Projects*.

There are no specific Ministry of Labour regulations for control of the remaining Designated Substances on construction projects. However, the Ministry of Labour actively enforces the general duty clause of the Occupational Health and Safety Act which protects workers and provides guidance on exposure monitoring, permissible exposure levels, medical monitoring, etc., for all Designated Substances in an occupational setting.

2. SURVEY SCOPE OF WORK AND METHODOLOGY

2.1 General Approach

During the survey, the surveyor looked for the most common applications of building materials made with Designated Substances based on historical applications. The investigation performed was generally non-intrusive in nature (i.e. with the exception of test cuts, the investigation did not include demolition of building systems to verify concealed conditions).

As part of this survey, ECOH reviewed the following reports:

- *Survey for Designated Substances and Hazardous Materials, Adelaide Resource Centre, 67 Adelaide Street East, Toronto, Ontario*, prepared for City of Toronto by ECOH Management Inc., dated November 27, 2020. ECOH Project #25715-SSH01.

2.1.1 Asbestos Sampling Strategy and Analytical Methods

Where sampling was required, bulk samples of potential asbestos containing materials collected for analysis during the designated substances and hazardous materials survey were collected as per the requirements of Ontario Regulation 278/05; multiple samples (ranging from 1 to 7 depending on quantity and type of material) are required to confirm the absence of asbestos. Only one positive result (i.e. confirming the presence of asbestos) is required to classify a material as asbestos-containing. Therefore, ECOH's sampling strategy involves the collection of sufficient numbers of samples to meet regulatory requirements, followed by instructions to the laboratory to cease analysis when one sample within a series has already proven positive for asbestos.

Where possible, ECOH has used existing analytical data, rather than collect and analyze additional bulk samples. Although historical sample information is used to confirm the presence of asbestos in suspect materials, historical samples are not used in defining materials as non-asbestos. Historical sample results were only used if the surveyor, based on his/her experience, could clearly associate the sample information with the material present at the Site.

Sampling required a small volume of material to be removed either from a damaged section of suspect material or cut from intact material and then repaired by sealing with tape to prevent fibre release. The collected samples were placed in plastic bags and sealed during shipment to an independent laboratory. A formal chain of custody procedure was maintained between

ECOH and the sub-contract laboratory during sample transport. Samples were then analysed following the analytical procedure prescribed by the Regulation 278/05 U.S. Environmental Protection Agency Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials. October 1993. Although not required by provincial regulation, all laboratories used by ECOH are accredited under the U.S. National Voluntary Laboratory Accreditation Program (NVLAP) to ensure consistent, accurate and defendable results.

2.1.2 Asbestos Survey Omissions from Scope

When conducting an asbestos survey, it is standard practice to assume that certain building materials potentially contain asbestos. Depending on the material, this assumption is undertaken for one or more of the following reasons:

- The material is inaccessible (i.e., underground piping).
- There is an inherent danger in sampling the material (i.e., high voltage wires).
- Sampling will compromise the integrity of the building structure or envelope (i.e., roofing felts).

Therefore, for the purpose of this survey, ECOH assumed the following materials (if present) are asbestos-containing:

- Fire doors
- High voltage wiring
- Mechanical packing and gaskets
- Underground services or piping

In addition, no identification was made of asbestos products used in manufacturing processes or operations (i.e. manufacturing equipment, laboratories, etc.).

2.2 Analysis of Lead in Paint

The presence of lead-in-paint was assessed by the collection and submission of bulk material samples to a professional laboratory for analysis by atomic absorption spectroscopy. Lead bulk samples that are collected are placed in plastic bags, sealed, and shipped to an independent laboratory. A formal chain of custody procedure is maintained between ECOH and the sub-contracted laboratory during sample transport. All laboratories used by ECOH are accredited under the U.S. EPA National Environmental Lead Laboratory Accreditation Program (NLLAP) and/or American Industrial Hygiene Association (AIHA) Environmental Lead Laboratory Accreditation Program (ELLAP) to ensure consistent, accurate and defensible results.

For the laboratory chain of custody and the certificate of analysis, which detail analytical results for all bulk samples referenced in the Findings Sections, refer to Appendix I - Results of Bulk Sample Analysis for Asbestos & Lead.

2.3 Mould Assessment

A limited visual mould assessment of the Project Area was conducted in accordance with industry-accepted protocols.

2.4 Survey of Other Hazardous Materials

Materials suspected of containing Designated Substances and Hazardous Materials, other than lead in paint or asbestos, were identified by appearance, age, and knowledge of historic applications in building construction and equipment design.

3. FINDINGS

3.1 Asbestos

The following is a brief discussion of the extent to which asbestos-containing materials (ACM) were identified in the Project Area. The discussion is organized under the headings of materials that are generally suspected of containing asbestos. Please refer to Table 1 for sample details and laboratory analysis results.

Table 1: Summary of Analysis of Asbestos Bulk Samples

Sample Number	Sample Location	Sample Description	Results
26341-ASB-01A	Loc. #1-03	Clay Speed Tile Mortar on Wall	None Detected
26341-ASB-01B	Loc. #2-10	Clay Speed Tile Mortar on Wall	None Detected
26341-ASB-01C	Loc. #3-06	Clay Speed Tile Mortar on Wall	None Detected
26341-ASB-02A	Loc. #1-22	Brick Mortar on Wall	None Detected
26341-ASB-02B	Loc. #1-22	Brick Mortar on Wall	None Detected
26341-ASB-02C	Loc. #1-16	Brick Mortar on Wall	None Detected
26341-ASB-03A	Loc. #1-03	Horsehair	None Detected
26341-ASB-03B	Loc. #1-03	Horsehair	None Detected
26341-ASB-03C	Loc. #1-03	Horsehair	None Detected
26341-ASB-04A	Loc. #3-08	Brown Duct Mastic	None Detected
26341-ASB-04B	Loc. #3-04	Brown Duct Mastic	None Detected
26341-ASB-04C	Loc. #3-04	Brown Duct Mastic	None Detected

Table 1: Summary of Analysis of Asbestos Bulk Samples			
Sample Number	**Sample Location**	**Sample Description**	**Results**
26341-ASB-05A	Loc. #3-14	Beige Vinyl Floor Tile Mastic	None Detected
26341-ASB-05B	Loc. #3-14	Beige Vinyl Floor Tile Mastic	None Detected
26341-ASB-05C	Loc. #3-14	Beige Vinyl Floor Tile Mastic	None Detected
26341-ASB-06A	Loc. #2-09	Brown Vinyl Floor Tile Mastic	None Detected
26341-ASB-06B	Loc. #2-09	Brown Vinyl Floor Tile Mastic	None Detected
26341-ASB-06C	Loc. #2-09	Brown Vinyl Floor Tile Mastic	None Detected
26341-ASB-07A	Loc. #3-06	Black Vinyl Floor Tile Mastic	None Detected
26341-ASB-07B	Loc. #3-06	Black Vinyl Floor Tile Mastic	None Detected
26341-ASB-07C	Loc. #3-06	Black Vinyl Floor Tile Mastic	None Detected
26341-ASB-08A	Loc. #3-12	Brown Baseboard Mastic	None Detected
26341-ASB-08B	Loc. #3-12	Brown Baseboard Mastic	None Detected
26341-ASB-08C	Loc. #3-12	Brown Baseboard Mastic	None Detected
26341-ASB-09A	Loc. #2-16	Light Beige Baseboard Mastic	None Detected
26341-ASB-09B	Loc. #2-16	Light Beige Baseboard Mastic	None Detected
26341-ASB-09C	Loc. #2-16	Light Beige Baseboard Mastic	None Detected
26341-ASB-10A	Loc. #3-08	ACT08 – 2'x4' Lay-In, Very Small Fissures and Pinholes	None Detected
26341-ASB-10B	Loc. #3-08	ACT08 – 2'x4' Lay-In, Very Small Fissures and Pinholes	None Detected
26341-ASB-10C	Loc. #3-08	ACT08 – 2'x4' Lay-In, Very Small Fissures and Pinholes	None Detected
26341-ASB-11A	Loc. #3-04	ACT09 – 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes	None Detected
26341-ASB-11B	Loc. #3-04	ACT09 – 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes	None Detected
26341-ASB-11C	Loc. #3-04	ACT09 – 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes	None Detected
26341-ASB-12A	Loc. #1-04	Plaster on Ceiling – Skim Coat	None Detected

Table 1: Summary of Analysis of Asbestos Bulk Samples			
Sample Number	**Sample Location**	**Sample Description**	**Results**
		Plaster on Ceiling – Rough Coat	None Detected
26341-ASB-12B	Loc. #1-04	Plaster on Ceiling – Skim Coat	None Detected
		Plaster on Ceiling – Rough Coat	None Detected
26341-ASB-12C	Loc. #1-04	Plaster on Ceiling – Skim Coat	None Detected
		Plaster on Ceiling – Rough Coat	None Detected
26341-ASB-13A	Loc. #2-23	Plaster on Ceiling – Skim Coat	None Detected
		Plaster on Ceiling – Rough Coat	None Detected
26341-ASB-13B	Loc. #2-23	Plaster on Ceiling – Skim Coat	None Detected
		Plaster on Ceiling – Rough Coat	None Detected
26341-ASB-13C	Loc. #2-23	Plaster on Ceiling – Skim Coat	None Detected
		Plaster on Ceiling – Rough Coat	None Detected
26341-ASB-14A	Loc. #1-08	VFT09 – 12”x12” Light Grey and White Marble Pattern	None Detected
26341-ASB-14B	Loc. #1-08	VFT09 – 12”x12” Light Grey and White Marble Pattern	None Detected
26341-ASB-14C	Loc. #1-08	VFT09 – 12”x12” Light Grey and White Marble Pattern	None Detected
26341-ASB-15A	Loc. #3-14	VFT10 – 12”x12” Blue-Grey Marble Pattern	None Detected
26341-ASB-15B	Loc. #3-14	VFT10 – 12”x12” Blue-Grey Marble Pattern	None Detected
26341-ASB-15C	Loc. #3-14	VFT10 – 12”x12” Blue-Grey Marble Pattern	None Detected
26341-ASB-16A	Loc. #3-02	VFT11 – 12”x12” Brown with Light Brown and White Specks	None Detected
26341-ASB-16B	Loc. #3-02	VFT11 – 12”x12” Brown with Light Brown and White Specks	None Detected
26341-ASB-16C	Loc. #3-02	VFT11 – 12”x12” Brown with Light Brown and White Specks	None Detected

Table 1: Summary of Analysis of Asbestos Bulk Samples			
Sample Number	**Sample Location**	**Sample Description**	**Results**
26341-ASB-17A	Loc. #3-02	VFT12 – 12”x12” Light and Dark Green with White Specks	None Detected
26341-ASB-17B	Loc. #3-02	VFT12 – 12”x12” Light and Dark Green with White Specks	None Detected
26341-ASB-17C	Loc. #3-02	VFT12 – 12”x12” Light and Dark Green with White Specks	None Detected
26341-ASB-18A	Loc. #3-02	VFT13 – 12”x12” Dark Blue with White Specks	None Detected
26341-ASB-18B	Loc. #3-02	VFT13 – 12”x12” Dark Blue with White Specks	None Detected
26341-ASB-18C	Loc. #3-02	VFT13 – 12”x12” Dark Blue with White Specks	None Detected
26341-ASB-19A	Loc. #3-02	VFT14 – 12”x12” Light Yellow with Mustard Specks	None Detected
26341-ASB-19B	Loc. #3-02	VFT14 – 12”x12” Light Yellow with Mustard Specks	None Detected
26341-ASB-19C	Loc. #3-02	VFT14 – 12”x12” Light Yellow with Mustard Specks	None Detected
26341-ASB-20A	Loc. #3-02	VFT15 – 12”x12” Navy Blue with White Specks	None Detected
26341-ASB-20B	Loc. #3-02	VFT15 – 12”x12” Navy Blue with White Specks	None Detected
26341-ASB-20C	Loc. #3-02	VFT15 – 12”x12” Navy Blue with White Specks	None Detected
26341-ASB-21A	Loc. #3-02	VFT16 – 12”x12” Orange with White Specks	None Detected
26341-ASB-21B	Loc. #3-02	VFT16 – 12”x12” Orange with White Specks	None Detected
26341-ASB-21C	Loc. #3-02	VFT16 – 12”x12” Orange with White Specks	None Detected
26341-ASB-22A	Loc. #2-20	Paper Backing on VSF02	None Detected
26341-ASB-22B	Loc. #2-20	Paper Backing on VSF02	None Detected
26341-ASB-22C	Loc. #2-20	Paper Backing on VSF02	None Detected
26341-ASB-23A	Loc. #1-12	Sticky Black Window Caulking	None Detected

Table 1: Summary of Analysis of Asbestos Bulk Samples			
Sample Number	**Sample Location**	**Sample Description**	**Results**
26341-ASB-23B	Loc. #1-12	Sticky Black Window Caulking	None Detected
26341-ASB-23C	Loc. #1-12	Sticky Black Window Caulking	None Detected
26341-ASB-24A	Loc. #2-08	Brown Window Caulking	None Detected
26341-ASB-24B	Loc. #2-08	Brown Window Caulking	None Detected
26341-ASB-24C	Loc. #2-08	Brown Window Caulking	None Detected
	- shading indicates sample result positive for asbestos (if applicable)		

3.1.1 Spray Applied Fireproofing or Thermal Insulation (Friable)

Spray applied fireproofing was not observed within the Project Area at the time of the assessment.

3.1.2 Texture Finishes (Friable)

Texture finishes were not observed within the Project Area at the time of the assessment.

3.1.3 Thermal Mechanical Insulation (Friable)

Asbestos-containing and non-asbestos containing mechanical insulations are present throughout the facility. The following presents a brief description of the mechanical insulations and the systems to which they are applied. Thermal mechanical insulation may be present within concealed conditions of the Project Area (i.e. above fixed ceilings, within wall cavities, pipe chases, etc.) and may not be denoted on Survey Drawings included as Appendix II.

3.1.3.1 Piping Systems

Pipe fittings (which may include elbows, valves, tees, hangers, etc.) observed throughout the building are either not insulated, insulated with non-asbestos materials (e.g. fibreglass, foam, etc.), or insulated with **asbestos-containing** materials or.

- Parging cement pipe fittings are present within various locations of the Project Area. This material was previously sampled and determined by laboratory analysis to contain **10-70% Chrysotile asbestos**. This material may be disturbed during upcoming renovations.

Straight sections of pipe present throughout the Project Area were observed to be not insulated, insulated with non-asbestos materials (e.g. fiberglass, foam, etc.) or insulated with **asbestos-containing** materials.

- Aircell pipe insulation is present within various locations of the Project Area. This material was previously sampled and determined by laboratory analysis to contain **40% Chrysotile asbestos**. This material may be disturbed during upcoming renovations.
- Horsehair pipe insulation is present within various locations of the Project Area. Three (3) representative samples this material was collected (26341-ASB-03A-C) and determined by laboratory analysis to be non-asbestos.
- Paper pipe insulation is present within the Project Area. This material was previously sampled and determined by laboratory analysis to be non-asbestos.
- Sweat wrap pipe insulation is present within the Project Area. This material was previously sampled and determined by laboratory analysis to be non-asbestos.

3.1.3.2 Duct Systems

Ducts observed throughout the Project Area are either not insulated or insulated with non-asbestos materials (i.e. fiberglass).

- Brown Duct Mastic is present within various locations of the Project Area. Three (3) representative samples of this material were collected (26341-ASB-04A-C) and determined by laboratory analysis to be non-asbestos.

3.1.3.3 Mechanical Equipment

Mechanical equipment was observed to be uninsulated within the Project Area.

3.1.4 Acoustic Ceiling Tiles (Non-Friable)

Eleven (11) visually distinct types of acoustic ceiling tiles (ACT) were observed within the Project Area during this assessment:

- ACT01 described as 24" x 48" Lay-in Widthwise Fissure ceiling tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- ACT02 described as 24" x 48" Lay-in Fleck and Pinhole ceiling tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- ACT03 described as 24" x 48" Lay-in Pinprick ceiling tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- ACT04 described as 24” x 48” Lay-in, White with Pinhole and Round Fleck ceiling tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- ACT05 described as 24” x 48” Lay-in, White with Pinhole, Fleck and Lengthwise Fissure Pattern ceiling tiles were previously sampled and determined by laboratory analysis to be non-asbestos.

- ACT06 described as 12" x 12" Glue on, White with Pinhole and Fleck ceiling tiles were inaccessible at the time of reassessment (i.e. too high) and are therefore, assumed to be **asbestos-containing**.
- ACT07 described as 12" x 12" Glue on, White with Pinhole and Lengthwise Fissure ceiling tiles were inaccessible at the time of reassessment (i.e. too high) and are therefore, assumed to be **asbestos-containing**.
- ACT08 described as 2'x4' Lay-In, Very Small Fissures and Pinholes ceiling tiles. Three (3) representative samples of this material were collected (26341-ASB-10A-C) and determined by laboratory analysis to be non-asbestos.
- ACT09 described as 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes ceiling tiles. Three (3) representative samples of this material were collected (26341-ASB-11A-C) and determined by laboratory analysis to be non-asbestos.
- ACT10 described as 2'x4' Grouped Small Holes and Pinholes ceiling tiles were visually confirmed to be non-asbestos, which was determined by the manufacturing date stamped on the ceiling tiles (04/15/1997).
- ACT01 described as 2'x4' Random Small Straight Fissures and Pinholes ceiling tiles were visually confirmed to be non-asbestos, which was determined by the manufacturing date stamped on the ceiling tiles (10/20/2005).

3.1.5 Vinyl Floor Tiles (Non-Friable)

Sixteen (16) visually distinct types of vinyl floor tiles were observed within the Project Area during this assessment:

- VFT01 described as 12" x 12" Grey/White Mottled vinyl floor tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- VFT02 described as 12" x 12" Light Grey and White vinyl floor tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- VFT03 described as 12" x 12" Blue and White vinyl floor tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- VFT04 described as 12" x 12" White with Grey Flecks vinyl floor tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- VFT05 described as 12" x 12" Grey/Green with White Streak vinyl floor tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- VFT06 described as 12" x 12" Turquoise and Beige Checkered vinyl floor tiles were previously sampled and determined by laboratory analysis to be non-asbestos.

- VFT07 described as 12" x 12" Cream Mottled with Random Colours vinyl floor tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- VFT08 described as 12" x 12", Light Blue/Grey with Dark Blue/Grey and White Streaks vinyl floor tiles were previously sampled and determined by laboratory analysis to be non-asbestos.
- VFT09 described as 12"x12" Light Grey and White Marble Pattern vinyl floor tiles. Three (3) representative samples were collected (26341-ASB-14A-C) and determined by laboratory analysis to be non-asbestos.
- VFT10 described as 12"x12" Blue-Grey Marble Pattern vinyl floor tiles. Three (3) representative samples were collected 26341-ASB-15A-C) and determined by laboratory analysis to be non-asbestos.
- VFT11 described as 12"x12" Brown with Light Brown and White Specks vinyl floor tiles. Three (3) representative samples were collected (26341-ASB-16A-C) and determined by laboratory analysis to be non-asbestos.
- VFT12 described as 12"x12" Light and Dark Green with White Specks vinyl floor tiles. Three (3) representative samples were collected (26341-ASB-17A-C) and determined by laboratory analysis to be non-asbestos.
- VFT3 described as 12"x12" Dark Blue with White Specks vinyl floor tiles. Three (3) representative samples were collected (26341-ASB-18A-C) and determined by laboratory analysis to be non-asbestos.
- VFT14 described as 12"x12" Light Yellow with Mustard Specks vinyl floor tiles. Three (3) representative samples were collected (26341-ASB-19A-C) and determined by laboratory analysis to be non-asbestos.
- VFT15 described as 12"x12" Navy Blue with White Specks vinyl floor tiles. Three (3) representative samples were collected (26341-ASB-20A-C) and determined by laboratory analysis to be non-asbestos.
- VFT16 described as 12"x12" Orange with White Specks vinyl floor tiles. Three (3) representative samples were (26341-ASB-21A-C) and determined by laboratory analysis to be non-asbestos.

3.1.6 Vinyl Sheet Flooring (Potentially-Friable)

Two (2) visually distinct types of vinyl sheet flooring were observed within the Project Area during this assessment:

- Orange and Brown vinyl sheet flooring (VSF01) was previously sampled and determined by laboratory analysis to be non-asbestos.

- Grey, White and Black vinyl sheet flooring (VSF02) was previously sampled and determined by laboratory analysis to be non-asbestos.
    - Black Paper Backing associated with this material was observed within the Project Area. Three (3) representative samples were collected (26341-ASB-22A-C) and determined by laboratory analysis to be non-asbestos.

3.1.7 Drywall Joint Compound (DJC) (Non-Friable)

Drywall with joint compound was observed to be present on drywall walls and ceilings, throughout the Project Area. Drywall joint compound has been previously extensively sampled within the Project Area and determined by laboratory analysis to be non-asbestos.

3.1.8 Plaster (Non-Friable)

Plaster was observed to be present on walls and columns throughout the Project Area. Plaster on walls and columns has been previously sampled within the Project Area and determined by laboratory analysis to be non-asbestos.

Plaster was observed to be present on ceilings within various locations of the Project Area.

- Six (6) samples of this material were collected (26341-ASB-12A-C and 26341-ASB-13A-C) and determined by laboratory analysis to be non-asbestos.

3.1.9 Firestop (Non-Friable)

Firestop was previously sampled and determined by laboratory analysis to be non-asbestos.

3.1.10 Mastics (Non-Friable)

Six (6) visually distinct types of mastics were observed within the Project Area during this assessment:

- Brown Duct Mastic. Three (3) samples of this material were collected (26341-ASB-04A-C) and determined by laboratory analysis to be non-asbestos.
- Beige Vinyl Floor Tile Mastic. Three (3) samples of this material were collected (26341-ASB-05A-C) and determined by laboratory analysis to be non-asbestos.
- Brown Vinyl Floor Tile Mastic. Three (3) samples of this material were collected (26341-ASB-06A-C) and determined by laboratory analysis to be non-asbestos.
- Black Vinyl Floor Tile Mastic. Three (3) samples of this material were collected (26341-ASB-07A-C) and determined by laboratory analysis to be non-asbestos.
- Brown Baseboard Mastic. Three (3) samples of this material were collected (26341-ASB-08A-C) and determined by laboratory analysis to be non-asbestos.

- Light Beige Baseboard Mastic. Three (3) samples of this material were collected (26341-ASB-09A-C) and determined by laboratory analysis to be non-asbestos.

3.1.11 Caulking (Non-Friable)

Two (2) visually distinct types of caulking were observed within the Project Area during this assessment:

- Sticky Black Interior Window Caulking. Three (3) samples of this material were collected (26341-ASB-23A-C) and determined by laboratory analysis to be non-asbestos.
- Brown Interior Window Caulking. Three (3) samples of this material were collected (26341-ASB-24A-C) and determined by laboratory analysis to be non-asbestos.

3.1.12 Other (Non-Friable)

Several other materials were observed within the Project Area:

- Clay Speed Tile Mortar. Three (3) samples of this material were collected (26341-ASB-01A-C) and determined by laboratory analysis to be non-asbestos.
- Brick Mortar. Three (3) samples of this material were collected (26341-ASB-02A-C) and determined by laboratory analysis to be non-asbestos.
- Fire door insulation. This material was previously sampled and determined by laboratory analysis to contain **60% Chrysotile asbestos**.

3.2 Lead

Under current City of Toronto policies, building materials containing a lead concentration of ≥0.1% by dry weight (1000 parts per million [ppm]) are considered lead-based. Samples of any suspected lead-containing surface coatings were collected and submitted for laboratory analysis by Flame Atomic Absorption Spectroscopy (bulk samples) during this survey. A result from samples exceeding 1000ppm lead content indicates the material is lead-based. All laboratories used by ECOH are accredited under the U.S. EPA National Environmental Lead Laboratory Accreditation Program (NLLAP) and/or American Industrial Hygiene Association (AIHA) Environmental Lead Laboratory Accreditation Program (ELLAP) to ensure consistent, accurate and defensible results.

Please refer to Table 2 for sample details and laboratory analysis results for paints scheduled for potential disturbance. For the laboratory chain of custody and the certificate of analysis, refer to Appendix I - Results of Bulk Sample Analysis for Asbestos & Lead.

Table 2: Summary of Analysis for Lead Bulk Samples

Sample Number	Sample Location	Sample Description	Analytical Results (ppm)
26341-Pb-01	Loc. #1-03	Clay Speed Tile Mortar	<40
26341-Pb-02	Loc. #3-03	Clay Speed Tile Mortar	<40
26341-Pb-03	Loc. #1-22	Brick Mortar on Wall	<40
26341-Pb-04	Loc. #1-22	Brick Mortar on Wall	<40
26341-Pb-05	Loc. #3-13	Blue Paint on Wall	<80
26341-Pb-06	Loc. #3-14	Sky Blue Paint on Wall	<80
26341-Pb-07	Loc. #3-12	Sky Blue Paint on Wall	<85
26341-Pb-08	Loc. #2-11	Green-Yellow Paint on Wall	<80
26341-Pb-09	Loc. #2-11	Green-Yellow Paint on Wall	<82
26341-Pb-10	Loc. #3-08	Pink Paint on Wall	<80
26341-Pb-11	Loc. #3-08	Pink Paint on Wall	<81
26341-Pb-12	Loc. #2-02	White Paint on Wall and Ceiling	<210
26341-Pb-13	Loc. #2-02	White Paint on Wall and Ceiling	<210
26341-Pb-14	Loc. #1-07	Orange Paint on Wall	<82
26341-Pb-15	Loc. #1-07	Orange Paint on Wall	<81
26341-Pb-16	Loc. #S02	Parrot Green Paint on Wall	<82
26341-Pb-17	Loc. #S02	Parrot Green Paint on Wall	<81
26341-Pb-18	**Loc. #2-08**	**Yellow Paint on Wall**	**1200**
26341-Pb-19	**Loc. #2-08**	**Yellow Paint on Wall**	**1300**
26341-Pb-20	Loc. #1-18	Periwinkle Paint on Wall	<80
26341-Pb-21	Loc. #1-18	Periwinkle Paint on Wall	<82
	- shading indicates sample result positive for lead (if applicable)		

Laboratory analysis determined the following material is lead-based:

- **Yellow Paint on Wall (1200-1300 ppm)**

- **Beige Paint on Wall (5900-6100 ppm)**. This material was previously sampled and confirmed to be lead-based.

No other major sources of lead or lead-containing products were observed during this survey. However, lead may be present in:

- Internal batteries associated with emergency lighting system,
- Ceramic tile glazing,
- Wiring connectors and electric cable sheathing, and
- Solder joints on copper piping.

3.3 Mercury

Mercury is presumed to be present within wall-mounted thermostats throughout the Project Area.

Mercury is also present in minor quantities throughout the Project Area in the following forms:

- As a possible constituent of paints and adhesives, and
- As a vapour within fluorescent tubes lights.

3.4 Silica

Free crystalline silica, in the form of common construction sand, is present in all concrete and masonry products within the Project Area.

3.5 Mould

Mould-affected building materials were not identified within the Project Area at the time of assessment.

3.6 Ozone Depleting Substances (ODS)

Ozone depleting substances may be present in refrigeration and cooling units.

3.7 Polychlorinated Biphenyls (PCBs)

Fluorescent light ballasts were observed in various locations throughout the Project Area.

3.8 Other Designated Substances and Hazardous Materials

The environmental audit also included an investigation for the following compounds, none of which were found to be present in significant quantities, if at all.

- Acrylonitrile
- Arsenic
- Benzene
- Coke Oven Emissions
- Ethylene Oxides
- Isocyanates
- Vinyl Chloride Monomer

Please note: paint, adhesives and plastics present throughout the project area may contain trace amounts of Acrylonitrile, Arsenic, Benzene, Ethylene Oxides, Isocyanates, Lead, Mercury, and Vinyl Chloride Monomer. However, none of these materials were observed in a hazardous or unsafe condition. Dust suppression and personal protection procedures should be implemented during the demolition of materials that may contain any of the above-mentioned substances.

4. CONCLUSIONS AND RECOMMENDATIONS

The following recommendations meet the requirements of the Occupational Health and Safety Act. Asbestos recommendations meet the requirements of the Designated Substance – Regulation respecting *Asbestos on Construction Projects and in Buildings and Repair Operations*, Ontario Regulation 278/05. Based upon review of historical reports, as well as analytical results and observations of this assessment, ECOH offers the following

4.1 Asbestos

Based on survey results, the following conclusion are made with regards to asbestos-containing materials (ACMs) within the Project Area:

- As asbestos-containing materials (ACM) are present with the Project Area, ECOH recommends that all workers have asbestos awareness and respirator training before commencing work. Asbestos awareness training will provide on-site workers the understanding of asbestos-related health and safety issues; the ability to recognize ACM and any situation that may present a potential asbestos exposure, and' the ability to respond appropriately to an inadvertent disturbance of ACM in the work area.
- **Type 3 Asbestos Safety Precautions** should be utilized for the disturbance or removal of more than one (1) square metre of friable asbestos-containing materials (i.e. Aircell, parging cement pipe fitting insulation or fire door insulation).
- **Type 2 Asbestos Safety Precautions** should be utilized for the disturbance or removal of one (1) square metre or less of friable asbestos-containing materials (i.e. Aircell, parging cement pipe fitting insulation or fire door insulation) provided the material is wetted to control the spread of dust and work is done by means of non-powered hand-tools or power tools that are attached to dust-collecting devices equipped with HEPA filters.

- **Type 2 Asbestos Safety Precautions** should be utilized for the disturbance or removal of 7.5 square meters or more of non-friable asbestos-containing materials (i.e. ceiling tiles) provided the material is wetted to control the spread of dust and removal work can be done without being broken, cut, drilled, abraded, ground, sanded or vibrated.
- **Type 1 Asbestos Safety Precautions** should be utilized for the disturbance or removal of less than 7.5 square meters of non-friable asbestos-containing materials (i.e. ceiling tiles) provided the material is wetted to control the spread of dust and done without being broken, cut, drilled, abraded, ground, sanded or vibrated.
- Any demolition, renovation or maintenance activities involving materials found NOT to contain asbestos, or not suspected of containing asbestos, should implement general health and safety precautions including, in part, the use of dust suppression techniques and appropriate respiratory protection.
- The asbestos-related findings of this report and any required removal of identified ACM should be used to update information within, or be inserted into, the facility's inventory of asbestos-containing building materials.
- During project work, if any additional materials are found beyond those which are described in this report or described in the existing inventory of asbestos-containing materials (i.e. materials not previously identified, or materials that are not homogenous to those previously identified, or materials that become revealed during the work), additional testing for asbestos-content should be completed immediately and prior to disturbance of the material. Alternatively, these materials can be assumed to contain asbestos, and the appropriate level of asbestos safety precautions must be implemented.
- Prior to renovation work, confirmed asbestos-containing materials that have the potential to be disturbed during the renovation work must be removed using asbestos safety procedures detailed within Ontario Regulation 278/05. Classification of the asbestos operation should be determined by an experienced and qualified person.

4.2 Lead

The removal of all building materials assumed or confirmed to be lead-based (i.e. having lead concentrations >0.1% (1000ppm)) should be conducted following recommendations detailed within the Environmental Abatement Council of Ontario (EACO) guidance document, "*EACO Lead Guideline For Construction, Renovation, Maintenance or Repair*", dated 2014, which incorporates the guidelines set forth in the Ontario Ministry of Labour's *"Guideline: Lead on Construction Projects"*, dated April, 2011.

Renovation, demolition or general construction work involving the removal of materials containing only **trace concentrations** of lead (< 1000ppm) can be completed without lead-specific safety precautions provided that:

a) work does not include 'fume generating activities' (heat producing) such as welding, torching, burning, high temperature cutting, etc.,

b) work does not include dust-generating activities such as grinding, cutting or chemical stripping,

c) dust levels are maintained below 3mg/m3, and

d) general health and safety construction procedures are implemented, which would include dust suppression methods, proper respiratory protection (minimum of a 1/2-face respirator) and protective clothing, as is appropriate for the work being completed.

4.3 Mercury

The presence of mercury within wall-mounted thermostats, fluorescent tubes lights, paints and adhesives should not be considered a hazard provided the assembled units remain sealed and intact. Avoid direct skin contact with mercury and avoid inhalation of mercury vapour. Dispose of mercury following requirements of the Canada Environmental Protection Act, the Transportation of Dangerous Goods Act and provincial legislative requirements that may be applicable.

4.4 Mould

Water-damaged and mould-affected building materials should be removed following mould remediation protocols consistent with appropriate guidelines and industry best practices (i.e. Canadian Construction Association, Standard Construction Document CCA 82, 2004; *Mould Guidelines for the Canadian Construction Industry*, and the Environmental Abatement Council of Ontario (EACO) document, *Mould Abatement Guidelines*, 3rd Edition – 2015).

4.5 Silica

Cutting, grinding, or demolition of materials containing silica should be completed using general health and safety precautions including the use of dust suppression techniques and appropriate respiratory protection, as is appropriate for the work being completed.

Removal of building materials containing silica should be completed following recommendations detailed within the Ministry of Labour document, *Guideline - Silica on Construction Projects*, dated, April 2011.

4.6 Polychlorinated Biphenyls (PCBs)

Fluorescent light ballasts should be removed and disassembled to observe serial codes which should be compared to standard PCB Identify Code literature. Ballasts with unidentifiable serial codes, or from manufacturers who are not included in the standard PCB Identifier Code literature or are not clearly labelled as “PCB Free”, or no date is clearly visible (ballasts dated 1981 or later do not contain PCBs), must be assumed to contain PCBs. Ballasts confirmed or

assumed to contain PCBs must be disposed of following applicable legislative requirements (e.g. Canada Environmental Protection Act, the Transportation of Dangerous Goods Act and provincial legislative requirements as may be applicable).

5. STATEMENT OF LIMITATIONS

Due to the nature of building construction, and on-going building activities, some limitations exist to the thoroughness of a building assessment. The field observations, measurements and analysis are considered sufficient in detail and scope to form a reasonable basis for the findings and conclusions presented in this report. The observations, results and conclusions drawn by ECOH Management Inc. (ECOH) are limited to the specific scope of work for which ECOH was retained, and are based solely on information generated as a result of the specific scope of work authorized by City of Toronto. Only those items that are capable of being observed, and are reasonably obvious to ECOH personnel or have been identified to ECOH by other parties, can be reported. ECOH has exercised a degree of thoroughness and competence that is consistent with the profession during the execution of this assessment. ECOH considers the opinions and information as they are presented in this report to be factual at the time of the assessment. The conclusions are limited to the specific locations of where testing and/or observations were completed during the course of the assessment.

It is important to note that work was completed with the utmost care and our extensive expertise in carrying out assessments. ECOH believes that the information collected during the assessment concerning the Work Area is reliable. No other warranties are implied or expressed. ECOH, to the best of its knowledge, believes this report to be accurate, however, ECOH cannot guarantee the completeness or accuracy of information supplied to ECOH by third parties. It should also be noted that any investigation regarding the presence of hazardous materials in the work area is based on interpretation of conditions determined at specific sampling locations, and conditions may vary between sampling locations.

ECOH is an Environmental Consulting Company and as such any results or conclusions presented in this report should not be construed as legal advice. The material in this report reflects ECOH's professional interpretation of information available at the time of report preparation. 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 such third parties. ECOH accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report. Should additional information become available that suggests other environmental issues of concern beyond that described in this report, ECOH retains the right to review this information and modify conclusions and recommendations presented in this report accordingly.

ECOH
Environmental Consulting
Occupational Health

Prepared by:

Vanessa Taylor, M.Env.Sc., EPt
Environmental Scientist

Reviewed by:

Steve Bizi
Project Manager

APPENDIX I

Results of Bulk Sample Analysis for Asbestos & Lead

EMSL Canada Inc.

2756 Slough Street Mississauga, ON L4T 1G3
Tel/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com / torontolab@emsl.com

EMSL Canada Order:	552101733
Customer ID:	55ECOH45
Customer PO:	26341
Project ID:	

Attention:	Vanessa Taylor	**Phone:**	(905) 795-2800
	ECOH Management, Inc.	**Fax:**	(905) 795-2870
	75 Courtneypark Drive West	**Received Date:**	02/05/2021 9:11 AM
	Unit 1	**Analysis Date:**	02/09/2021 - 02/10/2021
	Mississauga, ON L5W 0E3	**Collected Date:**	02/03/2021
Project:	26341 - 67 Adelaide Street East, Adelaide Resource Center 2021 DSS		

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
26341-ASB- 01A *552101733-0001*	Clay Speed Tile Motar on Wall - Loc. #1-03 (Pit)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 01B *552101733-0002*	Clay Speed Tile Mortar on Wall - Loc. #2-10 (Office (Room 206))	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 01C *552101733-0003*	Clay Speed Tile Mortar on Wall - Loc. #3-06 (Computer Lab)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 02A *552101733-0004*	Brick Mortar on Wall - Loc. #1-22 (Compressor Room)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 02B *552101733-0005*	Brick Mortar on Wall - Loc. #1-22 (Compressor Room)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 02C *552101733-0006*	Brick Mortar on Wall - Loc. #1-16 (Boiler Room)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 03A *552101733-0007*	Horsehair - Loc. #1-03 (Pit)	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
26341-ASB- 03B *552101733-0008*	Horsehair - Loc. #1-03 (Pit)	Brown Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
26341-ASB- 03C *552101733-0009*	Horsehair - Loc. #1-03 (Pit)	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
26341-ASB- 04A *552101733-0010*	Brown Duct Mastic - Loc. #3-08 (Office)	Brown Non-Fibrous Homogeneous	5% Wollastonite	95% Non-fibrous (Other)	None Detected
26341-ASB- 04B *552101733-0011*	Brown Duct Mastic - Loc. #3-04 (Office)	Brown Non-Fibrous Homogeneous	5% Wollastonite	95% Non-fibrous (Other)	None Detected
26341-ASB- 04C *552101733-0012*	Brown Duct Mastic - Loc. #3-04 (Office)	Brown Non-Fibrous Homogeneous	5% Wollastonite	95% Non-fibrous (Other)	None Detected
26341-ASB- 05A *552101733-0013*	Beige Vinyl Floor Tile Mastic - Loc. #3-14	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 05B *552101733-0014*	Beige Vinyl Floor Tile Mastic - Loc. #3-14	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 05C *552101733-0015*	Beige Vinyl Floor Tile Mastic - Loc. #3-14	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 06A *552101733-0016*	Brown Vinyl Floor Tile Mastic - Loc. #2-09 (Crafts Room #205)	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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EMSL Canada Order:	552101733
Customer ID:	55ECOH45
Customer PO:	26341
Project ID:	

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
26341-ASB- 06B *552101733-0017*	Brown Vinyl Floor Tile Mastic - Loc. #2-09 (Crafts Room #205)	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 06C *552101733-0018*	Brown Vinyl Floor Tile Mastic - Loc. #2-09 (Crafts Room #205)	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 07A *552101733-0019*	Black Vinyl Floor Tile Mastc - Loc. #3-06 (Computer Lab)	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 07B *552101733-0020*	Black Vinyl Floor Tile Mastc - Loc. #3-06 (Computer Lab)	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 07C *552101733-0021*	Black Vinyl Floor Tile Mastc - Loc. #3-06 (Computer Lab)	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 08A *552101733-0022*	Brown Baseboard Mastic - Loc. #3-12 (Women's Washroom)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 08B *552101733-0023*	Brown Baseboard Mastic - Loc. #3-12 (Women's Washroom)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 08C *552101733-0024*	Brown Baseboard Mastic - Loc. #3-12 (Women's Washroom)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 09A *552101733-0025*	Light Beige Baseboard Mastic - Loc. #2-16 (Medical Lab)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 09B *552101733-0026*	Light Beige Baseboard Mastic - Loc. #2-16 (Medical Lab)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 09C *552101733-0027*	Light Beige Baseboard Mastic - Loc. #2-16 (Medical Lab)	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 10A *552101733-0028*	ACT08 - 2'x4' Lay-In, Very Small Fissures and Pinholes - Loc. #3-08 (Office)	Gray Fibrous Homogeneous	45% Cellulose 35% Min. Wool	20% Non-fibrous (Other)	None Detected
26341-ASB- 10B *552101733-0029*	ACT08 - 2'x4' Lay-In, Very Small Fissures and Pinholes - Loc. #3-08 (Office)	Gray Fibrous Homogeneous	55% Cellulose 25% Min. Wool	20% Non-fibrous (Other)	None Detected
26341-ASB- 10C *552101733-0030*	ACT08 - 2'x4' Lay-In, Very Small Fissures and Pinholes - Loc. #3-08 (Office)	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
26341-ASB- 11A *552101733-0031*	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes - Loc.#3-04 (Office)	Gray Fibrous Homogeneous	35% Cellulose 45% Min. Wool	20% Non-fibrous (Other)	None Detected

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EMSL Canada Order:	552101733
Customer ID:	55ECOH45
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Project ID:	

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
26341-ASB- 11B *552101733-0032*	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes - Loc.#3-04 (Office)	Gray Fibrous Homogeneous	35% Cellulose 45% Min. Wool	20% Non-fibrous (Other)	None Detected
26341-ASB- 11C *552101733-0033*	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes - Loc.#3-04 (Office)	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
26341-ASB- 12A-Skim Coat *552101733-0034*	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 12A-Rough Coat *552101733-0034A*	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 12B-Skim Coat *552101733-0035*	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 12B-Rough Coat *552101733-0035A*	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 12C-Skim Coat *552101733-0036*	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 12C-Rough Coat *552101733-0036A*	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 13A-Skim Coat *552101733-0037*	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 13A-Rough Coat *552101733-0037A*	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 13B-Skim Coat *552101733-0038*	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 13B-Rough Coat *552101733-0038A*	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 13C-Skim Coat *552101733-0039*	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 13C-Rough Coat *552101733-0039A*	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
26341-ASB- 14A *552101733-0040*	VFT09 - 12"x12" Light Grey and White Marble Pattern - Loc #1-08 (Meeting Room 1)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 14B *552101733-0041*	VFT09 - 12"x12" Light Grey and White Marble Pattern - Loc #1-08 (Meeting Room 1)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 14C *552101733-0042*	VFT09 - 12"x12" Light Grey and White Marble Pattern - Loc #1-08 (Meeting Room 1)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 15A *552101733-0043*	VFT10 - 12"x12" Blue-Grey Marble Pattern - Loc. #3-14 (Office)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 15B *552101733-0044*	VFT10 - 12"x12" Blue-Grey Marble Pattern - Loc. #3-14 (Office)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 15C *552101733-0045*	VFT10 - 12"x12" Blue-Grey Marble Pattern - Loc. #3-14 (Office)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 16A *552101733-0046*	VFT11- 12"x12" Brown with Light Brown and White Specks - Loc. 3-02 (Lunchroom)	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 16B *552101733-0047*	VFT11- 12"x12" Brown with Light Brown and White Specks - Loc. 3-02 (Lunchroom)	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 16C *552101733-0048*	VFT11- 12"x12" Brown with Light Brown and White Specks - Loc. 3-02 (Lunchroom)	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 17A *552101733-0049*	VFT12 - 12"x12" Light and Dark Green with White Specks - Loc. #3-02 (Luncroom)	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 17B *552101733-0050*	VFT12 - 12"x12" Light and Dark Green with White Specks - Loc. #3-02 (Luncroom)	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 17C *552101733-0051*	VFT12 - 12"x12" Light and Dark Green with White Specks - Loc. #3-02 (Luncroom)	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 18A *552101733-0052*	VFT13 - 12"x12" Dark Blue with White Specks - Loc. #3-02 (Lunchroom)	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
26341-ASB- 18B *552101733-0053*	VFT13 - 12"x12" Dark Blue with White Specks - Loc. #3-02 (Lunchroom)	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 18C *552101733-0054*	VFT13 - 12"x12" Dark Blue with White Specks - Loc. #3-02 (Lunchroom)	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 19A *552101733-0055*	VFT14 - 12"x12" Light Yellow with Mustard Specks - Loc. #3-02 (Lunchroom)	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 19B *552101733-0056*	VFT14 - 12"x12" Light Yellow with Mustard Specks - Loc. #3-02 (Lunchroom)	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 19C *552101733-0057*	VFT14 - 12"x12" Light Yellow with Mustard Specks - Loc. #3-02 (Lunchroom)	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 20A *552101733-0058*	VFT15 - 12"x12" Navy Blue with White Specks - Loc. #3-02 (Lunchroom)	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 20B *552101733-0059*	VFT15 - 12"x12" Navy Blue with White Specks - Loc. #3-02 (Lunchroom)	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 20C *552101733-0060*	VFT15 - 12"x12" Navy Blue with White Specks - Loc. #3-02 (Lunchroom)	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 21A *552101733-0061*	VFT 16 - 12"x12" Orange with White Specks - Loc.3-02 (Lunchroom)	Orange Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 21B *552101733-0062*	VFT 16 - 12"x12" Orange with White Specks - Loc.3-02 (Lunchroom)	Orange Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 21C *552101733-0063*	VFT 16 - 12"x12" Orange with White Specks - Loc.3-02 (Lunchroom)	Orange Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 22A *552101733-0064*	Paper Backing on VSF02 - Loc. #2-20 (Storage and Bell Telephone Room)	Black Fibrous Homogeneous	55% Cellulose	45% Non-fibrous (Other)	None Detected
26341-ASB- 22B *552101733-0065*	Paper Backing on VSF02 - Loc. #2-20 (Storage and Bell Telephone Room)	Black Fibrous Homogeneous	55% Cellulose	45% Non-fibrous (Other)	None Detected
26341-ASB- 22C *552101733-0066*	Paper Backing on VSF02 - Loc. #2-20 (Storage and Bell Telephone Room)	Black Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
26341-ASB- 23A *552101733-0067*	Sticky Black Window Caulking - Loc. #1-12 (Kitchen)	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
26341-ASB- 23B *552101733-0068*	Sticky Black Window Caulking - Loc. #1-12 (Kitchen)	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 23C *552101733-0069*	Sticky Black Window Caulking - Loc. #1-12 (Kitchen)	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 24A *552101733-0070*	Brown Window Caulking - Loc. #2-08 (Board Room # 204)	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 24B *552101733-0071*	Brown Window Caulking - Loc. #2-08 (Board Room # 204)	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26341-ASB- 24C *552101733-0072*	Brown Window Caulking - Loc. #2-08 (Board Room # 204)	Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Kira Ramphal (26)
Stephanie Achaiya (52)

Matthew Davis or other approved signatory
or Other Approved Signatory

Initial report from: 02/10/2021 09:01:25

OrderID: 552101733

EMSL CANADA, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 552101733

EMSL CANADA, INC.
2756 SLOUGH STREET
MISSISSAUGA, ON L4T 1G3
PHONE: (289) 997-4602
FAX: (289) 997-4609

Company: ECOH		**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*	
Street: 75 Courtneypark Dr. W., Unit 1			
City: Mississauga	**State/Province:** Ontario	**Zip/Postal Code:** L5W 0E3	**Country:** Canada
Report To (Name): Vanessa Taylor, Asra Ismail, Steve Bizi		**Fax #:** 905-795-2870	
Telephone #: 905.795.2800		**Email Address:** vtaylor@ecoh.ca, aismail@ecoh.ca, sbizi@ecoh.ca	
Project Name/Number: 26341 - 67 Adelaide Street East, Adelaide Resource Centre 2021 DSS			
Please Provide Results: ☐ Fax ☑ Email	**Purchase Order:**	**U.S. State Samples Taken:**	

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hours	☐ 6 Hours	☐ 24 Hrs	☐ 48 Hrs	☑ 3 Days	☐ 4 Days	☐ 5 Days	☐ 10 Days

**For TEM Air 3 hours/6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air	TEM - Air	TEM-Dust
☐ NIOSH 7400	☐ AHERA 40 CFR, Part 763	☐ Microvac - ASTM D 5755
☐ w/ OSHA 8hr. TWA	☐ NIOSH 7402	☐ Wipe - ASTM D6480
PLM - Bulk (reporting limit)	☐ EPA Level II	☐ Carpet Sonication (EPA 600/J-93/167)
☑ PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312	Soil/Rock/Vermiculite
☐ PLM EPA NOB (<1%)	TEM - Bulk	☐ PLM CARB 435 - A (0.25% sensitivity)
Point Count	☐ TEM EPA NOB	☐ PLM CARB 435 - B (0.1% sensitivity)
☑ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ NYS NOB 198.4 (non-friable-NY)	☐ TEM CARB 435 - B (0.1% sensitivity)
Point Count w/Gravometric	☐ Chatfield SOP	☐ TEM CARB 435 - C (0.01% sensitivity)
☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM Mass Anaylsis-EPA 600 sec 2.5	☐ EPA Protocol (Semi-Quantitative)
☐ NYS 198-1 (friable in NY)	TEM - Water: EPA 100.2	☐ EPA Protocol (Quantitative)
☐ NYS 198-1 NOB (non-friable-NY)	Fibres > 10µm ☐ Waste ☐ Drinking	Other:
☐ NIOSH 9002 (<1%)	All Fibre Sizies ☐ Waste ☐ Drinking	☐

☑ **Check For Positive Stop - Clearly Identify Homogenous Group**

Samplers Name: Vanessa Taylor & Asra Ismail **Samplers Signature:**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
26341-ASB- 01A	Clay Speed Tile Mortar on Wall - Loc. #1-03 (Pit)	N/A	February 3, 2021
26341-ASB- 01B	Clay Speed Tile Mortar on Wall - Loc. #2-10 (Office (Room 206))	N/A	February 3, 2021
26341-ASB- 01C	Clay Speed Tile Mortar on Wall - Loc. #3-06 (Computer Lab)	N/A	February 3, 2021

Client Sample # (s): 26341-ASB-01A - **24C Total # of Samples:** 72

Relinquished (Client): Vanessa Taylor **Date:** February 4, 2021 **Time:**

Received (Lab): **Date:** **Time:**

Comments/Special Instructions: Analyze all Layers. Do not analyze mastic on vinyl floor tile samples (Sample #26341-ASB-14A-21C).

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EMSL CANADA, INC.
TORONTO
2021 FEB -5 A 9:11

IW

OrderID: 552101733

EMSL CANADA, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only):*

EMSL CANADA, INC.
2756 SLOUGH STREET
MISSISSAUGA, ON L4T 1G3
PHONE: (289) 997-4602
FAX: (289) 997-4609

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
26341-ASB- 02A	Brick Mortar on Wall - Loc. #1-22 (Compressor Room)		February 3, 2021
26341-ASB- 02B	Brick Mortar on Wall - Loc. #1-22 (Compressor Room)		February 3, 2021
26341-ASB- 02C	Brick Mortar on Wall - Loc. #1-16 (Boiler Room)		February 3, 2021
26341-ASB- 03A	Horsehair - Loc. #1-03 (Pit)		February 3, 2021
26341-ASB- 03B	Horsehair - Loc. #1-03 (Pit)		February 3, 2021
26341-ASB- 03C	Horsehair - Loc. #1-03 (Pit)		February 3, 2021
26341-ASB- 04A	Brown Duct Mastic - Loc. #3-08 (Office)		February 3, 2021
26341-ASB- 04B	Brown Duct Mastic - Loc. #3-04 (Office)		February 3, 2021
26341-ASB- 04C	Brown Duct Mastic - Loc. #3-04 (Office)		February 3, 2021
26341-ASB- 05A	Beige Vinyl Floor Tile Mastic - Loc. #3-14 (Office)		February 3, 2021
26341-ASB- 05B	Beige Vinyl Floor Tile Mastic - Loc. #3-14 (Office)		February 3, 2021
26341-ASB- 05C	Beige Vinyl Floor Tile Mastic - Loc. #3-14 (Office)		February 3, 2021
26341-ASB- 06A	Brown Vinyl Floor Tile Mastic - Loc. #2-09 (Crafts Room #205)		February 3, 2021
26341-ASB- 06B	Brown Vinyl Floor Tile Mastic - Loc. #2-09 (Crafts Room #205)		February 3, 2021
26341-ASB- 06C	Brown Vinyl Floor Tile Mastic - Loc. #2-09 (Crafts Room #205)		February 3, 2021
26341-ASB- 07A	Black Vinyl Floor Tile Mastic - Loc. #3-06 (Computer Lab)		February 3, 2021
26341-ASB- 07B	Black Vinyl Floor Tile Mastic - Loc. #3-06 (Computer Lab)		February 3, 2021
26341-ASB- 07C	Black Vinyl Floor Tile Mastic - Loc. #3-06 (Computer Lab)		February 3, 2021
26341-ASB- 08A	Brown Baseboard Mastic - Loc. #3-12 (Women's Washroom)		February 3, 2021
26341-ASB- 08B	Brown Baseboard Mastic - Loc. #3-12 (Women's Washroom)		February 3, 2021
26341-ASB- 08C	Brown Baseboard Mastic - Loc. #3-12 (Women's Washroom)		February 3, 2021
26341-ASB- 09A	Light Beige Baseboard Mastic - Loc. #2-16 (Medical Lab)		February 3, 2021

Comments/Special Instructions: Analyze all Layers. Do not analyze mastic on vinyl floor tile samples (Sample #26341-ASB-14A-21C).

OrderID: 552101733

EMSL CANADA, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only):*

EMSL CANADA, INC.
2756 SLOUGH STREET
MISSISSAUGA, ON L4T 1G3
PHONE: (289) 997-4602
FAX: (289) 997-4609

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
26341-ASB- 09B	Light Beige Baseboard Mastic - Loc. #2-16 (Medical Lab)		February 3, 2021
26341-ASB- 09C	Light Beige Baseboard Mastic - Loc. #2-16 (Medical Lab)		February 3, 2021
26341-ASB- 10A	ACT08 - 2'x4' Lay-In, Very Small Fissures and Pinholes - Loc. #3-08 (Office)		February 3, 2021
26341-ASB- 10B	ACT08 - 2'x4' Lay-In, Very Small Fissures and Pinholes - Loc. #3-08 (Office)		February 3, 2021
26341-ASB- 10C	ACT08 - 2'x4' Lay-In, Very Small Fissures and Pinholes - Loc. #3-08 (Office)		February 3, 2021
26341-ASB- 11A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes - Loc. #3-04 (Office)		February 3, 2021
26341-ASB- 11B	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes - Loc. #3-04 (Office)		February 3, 2021
26341-ASB- 11C	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes - Loc. #3-04 (Office)		February 3, 2021
26341-ASB- 12A	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)		February 3, 2021
26341-ASB- 12B	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)		February 3, 2021
26341-ASB- 12C	Plaster on Ceiling - Loc. #1-04 (Janitor's Closet)		February 3, 2021
26341-ASB- 13A	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)		February 3, 2021
26341-ASB- 13B	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)		February 3, 2021
26341-ASB- 13C	Plaster on Ceiling - Loc. #2-23 (Janitor's Closet)		February 3, 2021
26341-ASB- 14A	VFT09 - 12"x12" Light Grey and White Marble Pattern - Loc. #1-08 (Meeting Room 1)		February 3, 2021
26341-ASB- 14B	VFT09 - 12"x12" Light Grey and White Marble Pattern - Loc. #1-08 (Meeting Room 1)		February 3, 2021
26341-ASB- 14C	VFT09 - 12"x12" Light Grey and White Marble Pattern - Loc. #1-08 (Meeting Room 1)		February 3, 2021
26341-ASB- 15A	VFT10 - 12"x12" Blue-Grey Marble Pattern - Loc. #3-14 (Office)		February 3, 2021
26341-ASB- 15B	VFT10 - 12"x12" Blue-Grey Marble Pattern - Loc. #3-14 (Office)		February 3, 2021
26341-ASB- 15C	VFT10 - 12"x12" Blue-Grey Marble Pattern - Loc. #3-14 (Office)		February 3, 2021
26341-ASB- 16A	VFT11 - 12"x12" Brown with Light Brown and White Specks - Loc. 3-02 (Lunchroom)		February 3, 2021
26341-ASB- 16B	VFT11 - 12"x12" Brown with Light Brown and White Specks - Loc. 3-02 (Lunchroom)		February 3, 2021
26341-ASB- 16C	VFT11 - 12"x12" Brown with Light Brown and White Specks - Loc. 3-02 (Lunchroom)		February 3, 2021

Comments/Special Instructions: Analyze all Layers. Do not analyze mastic on vinyl floor tile samples (Sample #26341-ASB-14A-21C).

EMSL CANADA, INC.

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only):*

EMSL CANADA, INC.
2756 SLOUGH STREET
MISSISSAUGA, ON L4T 1G3
PHONE: (289) 997-4602
FAX: (289) 997-4609

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
26341-ASB- 17A	VFT12 - 12"x12" Light and Dark Green with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 17B	VFT12 - 12"x12" Light and Dark Green with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 17C	VFT12 - 12"x12" Light and Dark Green with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 18A	VFT13 - 12"x12" Dark Blue with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 18B	VFT13 - 12"x12" Dark Blue with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 18C	VFT13 - 12"x12" Dark Blue with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 19A	VFT14 - 12"x12" Light Yellow with Mustard Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 19B	VFT14 - 12"x12" Light Yellow with Mustard Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 19C	VFT14 - 12"x12" Light Yellow with Mustard Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 20A	VFT15 - 12"x12" Navy Blue with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 20B	VFT15 - 12"x12" Navy Blue with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 20C	VFT15 - 12"x12" Navy Blue with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 21A	VFT16 - 12"x12" Orange with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 21B	VFT16 - 12"x12" Orange with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 21C	VFT16 - 12"x12" Orange with White Specks - Loc. #3-02 (Lunchroom)		
26341-ASB- 22A	Paper Backing on VSF02 - Loc. #2-20 (Storage and Bell Telephone Room)		
26341-ASB- 22B	Paper Backing on VSF02 - Loc. #2-20 (Storage and Bell Telephone Room)		
26341-ASB- 22C	Paper Backing on VSF02 - Loc. #2-20 (Storage and Bell Telephone Room)		
26341-ASB- 23A	Sticky Black Window Caulking - Loc. #1-12 (Kitchen)		
26341-ASB- 23B	Sticky Black Window Caulking - Loc. #1-12 (Kitchen)		
26341-ASB- 23C	Sticky Black Window Caulking - Loc. #1-12 (Kitchen)		
26341-ASB- 24A	Brown Window Caulking - Loc. #2-08 (Board Room #204)		
26341-ASB- 24B	Brown Window Caulking - Loc. #2-08 (Board Room #204)		
26341-ASB- 24C	Brown Window Caulking - Loc. #2-08 (Board Room #204)		

Comments/Special Instructions: Analyze all Layers. Do not analyze mastic on vinyl floor tile samples (Sample #26341-ASB-14A-21C).

Page 4 of 4 pages

EMSL Canada Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com torontolab@emsl.com

EMSL Canada Or	552101723
CustomerID:	55ECOH45
CustomerPO:	25715-SSH01
ProjectID:	

Attn: **Vanessa Taylor**
ECOH Management, Inc.
75 Courtneypark Drive West
Unit 1
Mississauga, ON L5W 0E3

Phone:	(905) 795-2800
Fax:	(905) 795-2870
Received:	2/5/2021 09:09 AM
Collected:	2/3/2021

Project: **25715-SSH01 - 67 Adelaide Street East**

Test Report: Lead in Soils by Flame AAS (SW 846 3050B/7000B)*

Client SampleDescription	*Collected*	*Analyzed*	*Weight*	*RDL*	*Lead Concentration*
26341-Pb 01	2/3/2021	2/9/2021	0.5012 g	40 mg/Kg	<40 mg/Kg
552101723-0001	Site: Clay Speed Tile Mortar - Loc. #1-03 (Pit)				
26341-Pb 02	2/3/2021	2/9/2021	0.5072 g	40 mg/Kg	<40 mg/Kg
552101723-0002	Site: Clay Speed Tile Mortar - Loc. #3-03 (Office)				
26341-Pb 03	2/3/2021	2/9/2021	0.5054 g	40 mg/Kg	<40 mg/Kg
552101723-0003	Site: Brick Mortar - Loc. #1-22 (Compressor Room)				
26341-Pb 04	2/3/2021	2/9/2021	0.5034 g	40 mg/Kg	<40 mg/Kg
552101723-0004	Site: Brick Mortar - Loc. #1-22 (Compressor Room)				

Rowena Fanto, Lead Supervisor
or other approved signatory

Initial report from 02/10/2021 07:49:40

EMSL Canada Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com torontolab@emsl.com

EMSL Canada Or	552101723
CustomerID:	55ECOH45
CustomerPO:	25715-SSH01
ProjectID:	

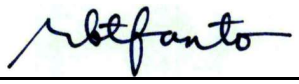
Attn: **Vanessa Taylor**
ECOH Management, Inc.
75 Courtneypark Drive West
Unit 1
Mississauga, ON L5W 0E3

Phone:	(905) 795-2800
Fax:	(905) 795-2870
Received:	2/5/2021 09:09 AM
Collected:	2/3/2021

Project: **25715-SSH01 - 67 Adelaide Street East**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client SampleDescription	Collected	Analyzed	Weight	RDL	Lead Concentration
26341-Pb 05	2/3/2021	2/9/2021	0.2498 g	80 ppm	<80 ppm
552101723-0005	Site: Blue Paint on Wall - Loc. #3-13 (Janitor's Closet)				
26341-Pb 06	2/3/2021	2/9/2021	0.2487 g	80 ppm	<80 ppm
552101723-0006	Site: Sky Blue Paint on Wall - Loc #3-12 (Women's Washroom)				
26341-Pb 07	2/3/2021	2/9/2021	0.2365 g	85 ppm	<85 ppm
552101723-0007	Site: Sky Blue Paint on Wall - Loc #3-14 (Office)				
26341-Pb 08	2/3/2021	2/9/2021	0.2518 g	80 ppm	<80 ppm
552101723-0008	Site: Green-Yellow Paint on Wall - Loc. #2-11 (Office)				
26341-Pb 09	2/3/2021	2/9/2021	0.2440 g	82 ppm	<82 ppm
552101723-0009	Site: Green-Yellow Paint on Wall - Loc. #2-11 (Office)				
26341-Pb 10	2/3/2021	2/9/2021	0.2508 g	80 ppm	<80 ppm
552101723-0010	Site: Pink Paint on Wall - Loc. #3-08 (Office)				
26341-Pb 11	2/3/2021	2/9/2021	0.2477 g	81 ppm	<81 ppm
552101723-0011	Site: Pink Paint on Wall - Loc. #3-08 (Office)				
26341-Pb 12	2/3/2021	2/9/2021	0.0975 g	210 ppm	<210 ppm
552101723-0012	Site: White Paint on Wall and Ceiling - Loc. #2-02 (Xerox Room)				
26341-Pb 13	2/3/2021	2/9/2021	0.0951 g	210 ppm	<210 ppm
552101723-0013	Site: White Paint on Wall and Ceiling - Loc. #2-02 (Xerox Room)				
26341-Pb 14	2/3/2021	2/9/2021	0.2433 g	82 ppm	<82 ppm
552101723-0014	Site: Orange Paint on Wall - Loc. #1-07 (Fred Victor Center)				
26341-Pb 15	2/3/2021	2/9/2021	0.2469 g	81 ppm	<81 ppm
552101723-0015	Site: Orange Paint on Wall - Loc. #1-07 (Fred Victor Center)				



Rowena Fanto, Lead Supervisor
or other approved signatory

Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.
Samples analyzed by EMSL Canada Inc. Mississauga, ON AIHA-LAP, LLC - ELLAP #196142

Initial report from 02/10/2021 07:50:14

EMSL Canada Inc.
2756 Slough Street, Mississauga, ON L4T 1G3
Phone/Fax: (289) 997-4602 / (289) 997-4607
http://www.EMSL.com torontolab@emsl.com

EMSL Canada Or	552101723
CustomerID:	55ECOH45
CustomerPO:	25715-SSH01
ProjectID:	

Attn: **Vanessa Taylor**
ECOH Management, Inc.
75 Courtneypark Drive West
Unit 1
Mississauga, ON L5W 0E3

Phone:	(905) 795-2800
Fax:	(905) 795-2870
Received:	2/5/2021 09:09 AM
Collected:	2/3/2021

Project: **25715-SSH01 - 67 Adelaide Street East**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client SampleDescription	*Collected*	*Analyzed*	*Weight*	*RDL*	*Lead Concentration*
26341-Pb 16	2/3/2021	2/9/2021	0.2426 g	82 ppm	<82 ppm
552101723-0016	Site: Parrot Green Paint on Wall - Loc. #S02 (East Stairwell)				
26341-Pb 17	2/3/2021	2/9/2021	0.2456 g	81 ppm	<81 ppm
552101723-0017	Site: Parrot Green Paint on Wall - Loc. #S02 (East Stairwell)				
26341-Pb 18	2/3/2021	2/9/2021	0.2443 g	82 ppm	1200 ppm
552101723-0018	Site: Yellow Paint on Wall - Loc. #2-08 (Board Room #204)				
26341-Pb 19	2/3/2021	2/9/2021	0.2476 g	81 ppm	1300 ppm
552101723-0019	Site: Yellow Paint on Wall - Loc. #2-08 (Board Room #204)				
26341-Pb 20	2/3/2021	2/9/2021	0.2502 g	80 ppm	<80 ppm
552101723-0020	Site: Periwinkle Paint on Wall - Loc. #1-18 (Office)				
26341-Pb 21	2/3/2021	2/9/2021	0.2430 g	82 ppm	<82 ppm
552101723-0021	Site: Periwinkle Paint on Wall - Loc. #1-18 (Office)				

The reporting limit is based upon the sample weight received.

Rowena Fanto, Lead Supervisor
or other approved signatory

Initial report from 02/10/2021 07:50:14

OrderID: 552101723

EMSL CANADA, INC.

Lead (Pb) Chain of Custody

EMSL Order Number *(Lab Use Only):* 552101723

EMSL CANADA, INC.
2756 SLOUGH STREET
MISSISSAUGA, ON L4T 1G3
PHONE: (289) 997-4602
FAX: (289) 997-4609

Company: ECOH		**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*	
Street: 75 Courtneypark Dr. W., Unit 1			
City: Mississauga	**State/Province:** Ontario	**Zip/Postal Code:** L5W 0E3	**Country:** Canada
Report To (Name): Vanessa Taylor, Asra Ismail, Steve Bizi		**Telephone #:** 647-270-5480	
Email Address: vtaylor@ecoh.ca, aismail@ecoh.ca, sbizi@ecoh.ca		**Fax #:** 905-795-2870	**Purchase Order:**
Project Name/Number: 25715-SSH01 - 67 Adelaide Street East		**Please Provide Results:** ☐ Fax ☑ Email	
U.S. State Samples Taken:		**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☑ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

**Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide*

Matrix	Method	Instrument	Reporting Limit	Check
Chips ☐ % by wt. ☐ mg/cm² ☑ ppm	SW846-7000B	Flame Atomic Absorption	0.01%	☑
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300 modified	ICP-AES/ICP-MS	0.5 µg/filter	☐
Wipe* ASTM ☐ non-ASTM ☐ *If no box is checked, non-ASTM Wipe is assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-AES	1.0 µg/wipe	☐
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1131/SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	☑
	SW846-6010B or C	ICP-AES	2 mg/kg (ppm)	☐
Wastewater Unpreserved ☐ Preserved with HNO_3 pH <2 ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA200.7	ICP-AES	0.020 mg/L (ppm)	☐
Drinking Water Unpreserved ☐ Preserved with HNO_3 pH <2 ☐	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.8	ICP-MS	0.0031mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50 (2013)	ICP-MS	1.2 µg/filter	☐
Other:				☐

Name of Sampler: Vanessa Taylor & Asra Ismail **Signature of Sampler:** [signature]

Sample #	Location	Volume/Area	Date/Time Sampled
26341-Pb- 01	Clay Speed Tile Mortar - Loc. #1-03 (Pit)	N/A	February 3, 2021
26341-Pb- 02	Clay Speed Tile Mortar - Loc. #3-03 (Office)	N/A	February 3, 2021

Client Sample # (s):	26341-Pb-01 - 21			**Total # of Samples:**	21
Relinquished (Client):	Vanessa Taylor	**Date:**	February 4, 2021	**Time:**	
Received (Lab):		**Date:**		**Time:**	

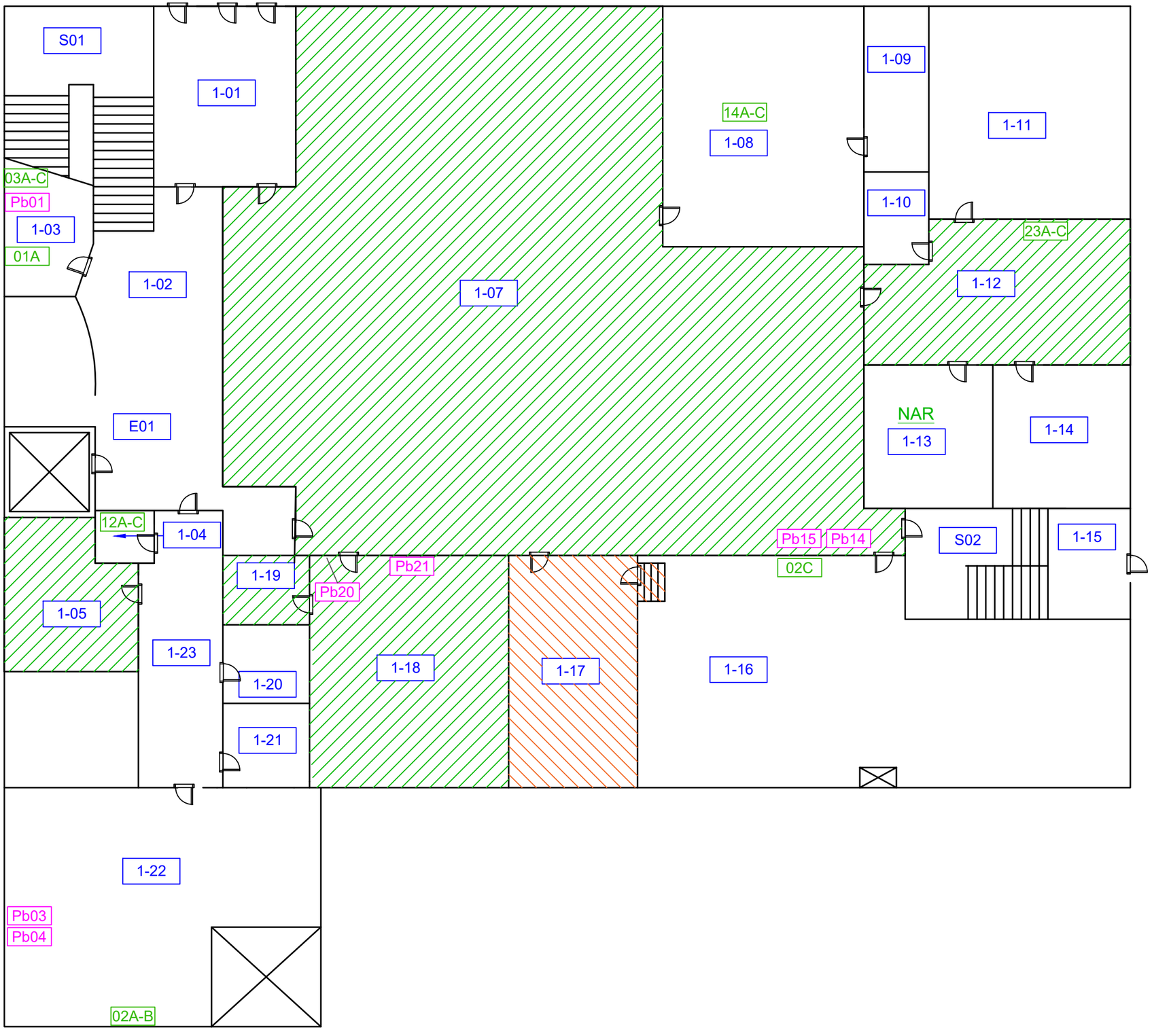
Comments/Special Instructions:

RECEIVED
EMSL CANADA, INC.
TORONTO
FEB -5 A 9:09

Name of Sampler:		Signature of Sampler:	
Sample #	**Location**	**Volume/Area**	**Date/Time Sampled**
26341-Pb- 03	Brick Mortar - Loc. #1-22 (Compressor Room)		February 3, 2021
26341-Pb- 04	Brick Mortar - Loc. #1-22 (Compressor Room)		February 3, 2021
26341-Pb- 05	Blue Paint on Wall - Loc. #3-13 (Janitor's Closet)		February 3, 2021
26341-Pb- 06	Sky Blue Paint on Wall - Loc. #3-12 (Women's Washroom)		February 3, 2021
26341-Pb- 07	Sky Blue Paint on Wall - Loc. #3-14 (Office)		February 3, 2021
26341-Pb- 08	Green-Yellow Paint on Wall - Loc. #2-11 (Office)		February 3, 2021
26341-Pb- 09	Green-Yellow Paint on Wall - Loc. #2-11 (Office)		February 3, 2021
26341-Pb- 10	Pink Paint on Wall - Loc. #3-08 (Office)		February 3, 2021
26341-Pb- 11	Pink Paint on Wall - Loc. #3-08 (Office)		February 3, 2021
26341-Pb- 12	White Paint on Wall and Ceiling - Loc. #2-02 (Xerox Room)		February 3, 2021
26341-Pb- 13	White Paint on Wall and Ceiling - Loc. #2-02 (Xerox Room)		February 3, 2021
26341-Pb- 14	Orange Paint on Wall - Loc. #1-07 (Fred Victor Center)		February 3, 2021
26341-Pb- 15	Orange Paint on Wall - Loc. #1-07 (Fred Victor Center)		February 3, 2021
26341-Pb- 16	Parrot Green Paint on Wall - Loc. #S02 (East Stairwell)		February 3, 2021
26341-Pb- 17	Parrot Green Paint on Wall - Loc. #S02 (East Stairwell)		February 3, 2021
26341-Pb- 18	Yellow Paint on Wall - Loc. #2-08 (Board Room #204)		February 3, 2021
26341-Pb- 19	Yellow Paint on Wall - Loc. #2-08 (Board Room #204)		February 3, 2021
26341-Pb- 20	Periwinkle Paint on Wall - Loc. #1-18 (Office)		February 3, 2021
26341-Pb- 21	Periwinkle Paint on Wall - Loc. #1-18 (Office)		February 3, 2021

APPENDIX II

Survey Drawings



Legend

- 1-01 — Location Number
- Asbestos-containing Piping Insulation
- Asbestos-containing Firedoor
- 01a — Negative Asbestos Sample Location Number
- Pb01 — Negative Lead Sample Location Number

Figure 1

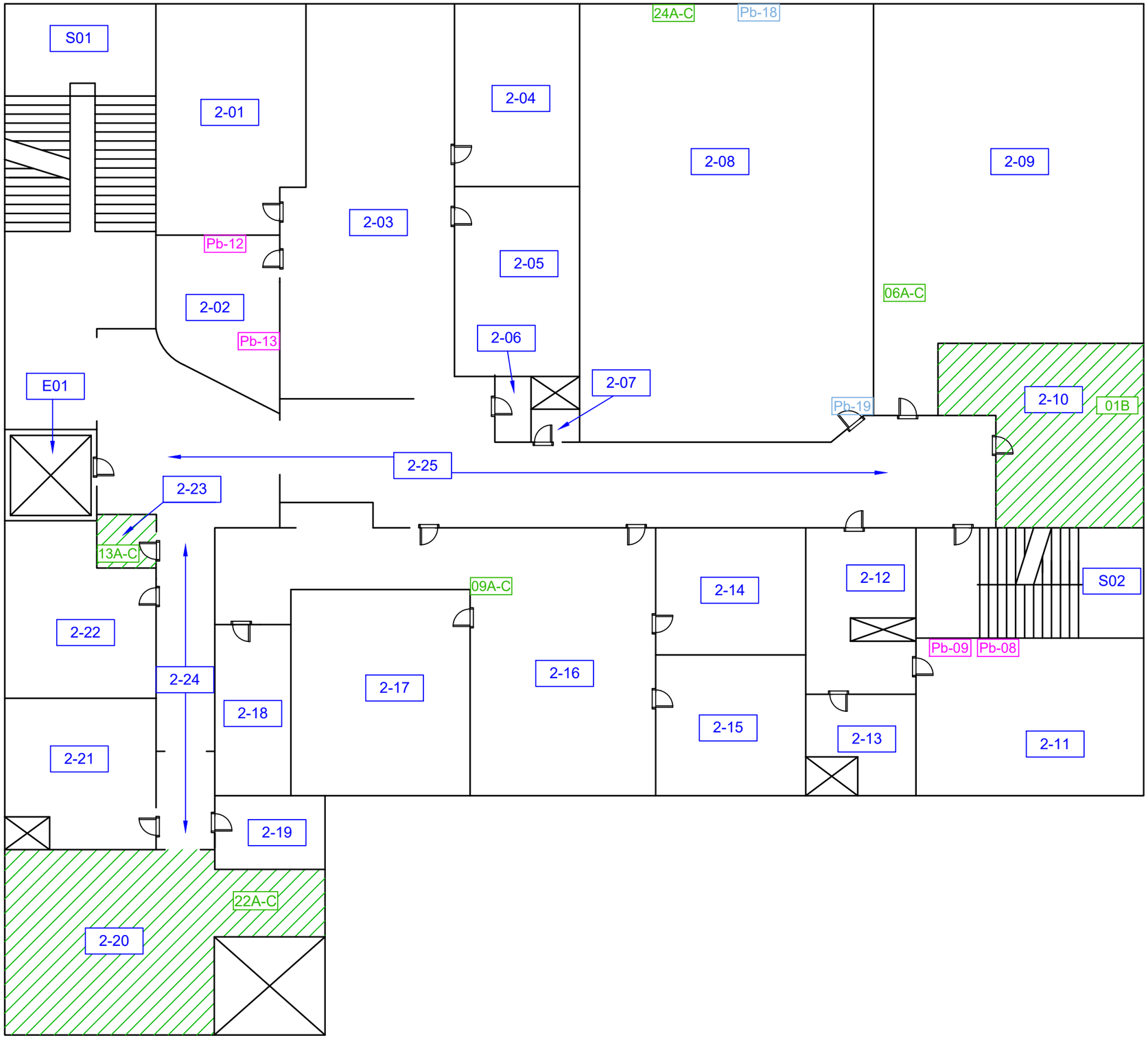
LOCATION:
67 Adelaide Street East,
Toronto,Ontario

BUILDING NAME:
Adelaide Resource Centre

Ground Floor Plan
Locations of Designated Substances and Hazardous Materials

CLIENT: City of Toronto			
PROJECT NUMBER: 26341	DATE: February 2021	DRW BY: AN	
CAD FILE: Fig1-3 P26341 ACM 67 Adelaide St. E	SCALE: Not to Scale	CHK BY: VT	

TORONTO



Legend

1-01	Location Number
	Asbestos-containing Piping Insulation
01a	Negative Asbestos Sample Location Number
Pb01	Positive Lead Sample Location Number
Pb01	Negative Lead Sample Location Number

Figure 2

LOCATION:

67 Adelaide Street East,
Toronto,Ontario

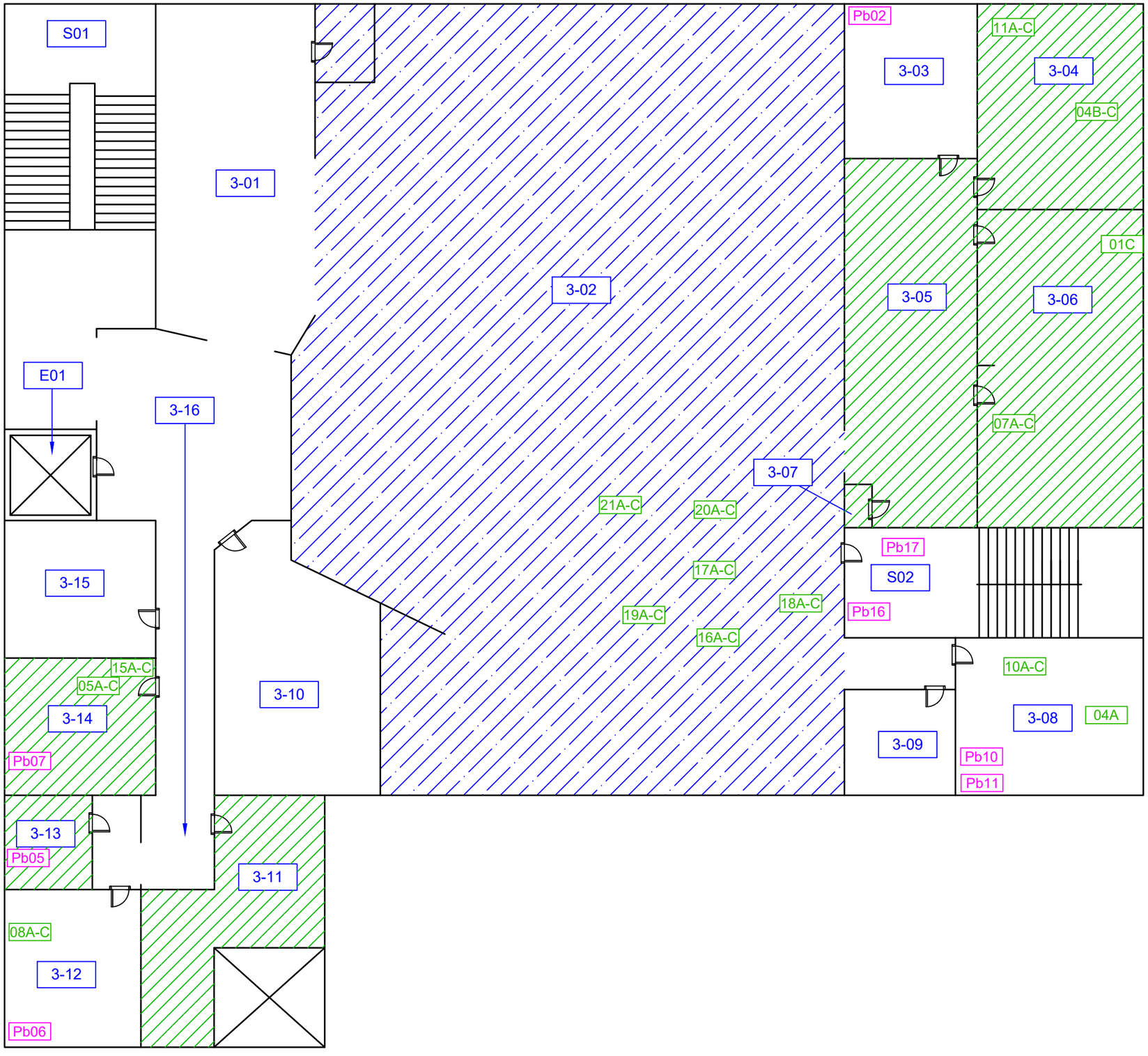
BUILDING NAME:

Adelaide Resource Centre

Second Floor Plan
Locations of Designated Substances and Hazardous Materials

CLIENT: City of Toronto			
PROJECT NUMBER: 26341	DATE: February 2021	DRW BY: AN	
CAD FILE: Fig1-3 P26341 ACM 67 Adelaide St. E	SCALE: Not to Scale	CHK BY: VT	

TORONTO



N

Legend

1-01	Location Number
	Asbestos-containing Piping Insulation
	Assumed Asbestos-containing Ceiling Tiles
01a	Negative Asbestos Sample Location Number
Pb01	Negative Lead Sample Location Number

Figure 3

LOCATION:
67 Adelaide Street East,
Toronto,Ontario

BUILDING NAME:
Adelaide Resource Centre

Third Floor Plan
Locations of Designated Substances and Hazardous Materials

CLIENT: City of Toronto			
PROJECT NUMBER: 26341	DATE: February 2021	DRW BY: PP	
CAD FILE: Fig1-3 P26341 ACM 67 Adelaide St. E	SCALE: Not to Scale	CHK BY: TL	

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APPENDIX III

Hazardous Materials Inventory Sheet

Building Address	67 Adelaide Street East	Date(s) of Current Survey:	February 3, 2021
Building Name	Adelaide Resource Centre	Organization Completing Survey	ECOH Inc.

Summary of Findings

Additional Asbestos-Containing Materials (ACMs) may be present within concealed locations (i.e. within wall cavities, above inaccessible ceilings, etc.)

Location Number	*Location Name*	*Building System*	*Material Observed*	*Potential Hazardous Material*	*Sample ID*	*Asbestos Type/Content*	*Quantity*	*Condition*	*Notes/Required Action*
0-00	Building Exterior	Roof	Roofing Material	Asbestos	Not Sampled	**ACM Assumed**	N/A	N/A	
0-00	Building Exterior	Window	Window Caulking	Asbestos	Not Sampled	**ACM Assumed**	N/A	Good	
0-00	Building Exterior	Wall	Masonry	N/A	N/A	N/A	N/A	N/A	
1-01	Foyer	Floor	Vinyl Floor Tile 8	Asbestos	25715-SSH01-ASB-01A-C	None Detected	N/A	N/A	VFT08 - 12" x 12", light blue/grey with dark blue/grey and white streaks, and mastic Sampled during ECOH 2020 Survey
1-01	Foyer	Wall	Stone	N/A	N/A	N/A	N/A	N/A	
1-01	Foyer	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-02	Reception/Corridor	Floor	Terrazzo	N/A	N/A	N/A	N/A	N/A	
1-02	Reception/Corridor	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-02	Reception/Corridor	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-02	Reception/Corridor	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-03	Pit	Floor	Concrete	N/A	N/A	N/A	N/A	N/A	
1-03	Pit	Wall	Brick	N/A	N/A	N/A	N/A	N/A	
1-03	Pit	Wall	Brick Mortar	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-02 (None Detected)	N/A	N/A	
1-03	Pit	Wall	Brick Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-3,4 (None Detected)	N/A	N/A	
1-03	Pit	Wall	Firestop	Asbestos	2012-73935-0001A-C	None Detected	N/A	N/A	2012 Pinchin Hazardous Materials Survey
1-03	Pit	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	
1-03	Pit	Wall	Clay Speed Tile Mortar	Lead	26341-Pb-01	<40 ppm (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
1-03	Pit	Wall	Clay Speed Tile Mortar	Asbestos	26341-ASB-01A	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-03	Pit	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-03	Pit	Pipe	Horsehair	Asbestos	26341-ASB-03A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
1-03	Pit	Pipe	Sweatwrap	Asbestos	2012-73935-0002A-C	None Detected	N/A	N/A	2012 Pinchin Hazardous Materials Survey
1-04	Janitor's Closet	Floor	Concrete	N/A	N/A	N/A	N/A	N/A	
1-04	Janitor's Closet	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-04	Janitor's Closet	Ceiling	Plaster	Asbestos	26341-ASB-12A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
1-04	Janitor's Closet	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-04	Janitor's Closet	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-05	Showering Room	Floor	Ceramic Tile	N/A	NA	N/A	N/A	N/A	Room renovated and combined with 1-06 since 2016 Survey. All new flooring, walls and paint
1-05	Showering Room	Wall	Ceramic Tile	Lead	N/A	N/A	N/A	N/A	
1-05	Showering Room	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	
1-05	Showering Room	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	
1-05	Showering Room	Wall/Ceiling	Paint - White	Lead	Not Sampled	Visually Consistent with 26341-Pb-12,13 (NEGATIVE)	N/A	N/A	
1-05	Showering Room	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-05	Showering Room	Pipe	Parging Cement	Asbestos	2014 A0004 A-C	**10% Chrysotile**	1 ftg	Unknown	2014 Pinchin DSS Reassessment **NOT OBSERVED DURING 2017 SURVEY**
1-07	Fred Victor Center	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
1-07	Fred Victor Center	Floor	Vinyl Floor Tile 1	Asbestos	2014-A0003 A-C	None Detected	N/A	N/A	VFT01 - 12" x 12" Grey/White Mottled; 2014 Pinchin DSS Reassessment
1-07	Fred Victor Center	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
1-07	Fred Victor Center	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-07	Fred Victor Center	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-07	Fred Victor Center	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**200 SF**	**Good**	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-07	Fred Victor Center	Wall	Paint - Orange	Lead	26341-Pb-14,15	<81-82 ppm (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pe-Reno DSS Assessment
1-07	Fred Victor Center	Ceiling	Ceiling Tile 1	Asbestos	Visually consistent with 2012-73935-0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pre-Reno DSS Survey
1-07	Fred Victor Center	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
1-07	Fred Victor Center	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	100 LF	Good	*Above ceiling
1-07	Fred Victor Center	Pipe	Parging Cement	Asbestos	2014-A0004 A-C	**10% Chrysotile**	40 ftg	Good	*Above ceiling 2014 Pinchin DSS Reassessment
1-08	Meeting Room 1	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
1-08	Meeting Room 1	Floor	Vinyl Floor Tile 1	Asbestos	2014-A0003 A-C	None Detected	N/A	N/A	VFT01 - 12" x 12" Grey/White Mottled; 2014 Pinchin DSS Reassessment
1-08	Meeting Room 1	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
1-08	Meeting Room 1	Floor	Vinyl Floor Tile 9	Asbestos	26341-ASB-14A-C	None Detected	N/A	N/A	12"x12" Light Grey and White Marble Pattern, Sampled during ECOH 2021 Pre-Reno DSS Assessment
1-08	Meeting Room 1	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-08	Meeting Room 1	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-08	Meeting Room 1	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	150 SF	Good	
1-08	Meeting Room 1	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**100 SF**	**Good**	
1-08	Meeting Room 1	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole *Above ceiling included in Location 1-07 2015 Pinchin DSS Reassessment
1-08	Meeting Room 1	Ceiling	Ceiling Tile 11	Asbestos	Not Sampled	N/A	N/A	N/A	ACT11 - 24" x 48" Random small straight fissure and pinholes Date Stamped: 10/20/2005 Observed during ECOH 2021 Pre-Reno DSS Assessment
1-08	Meeting Room 1	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-08	Meeting Room 1	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
1-08	Meeting Room 1	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-09	Donation Closet	Floor	Vinyl Floor Tile 1	Asbestos	2014-A0003 A-C	None Detected	N/A	N/A	VFT01 - 12" x 12" Grey/White Mottled; 2014 Pinchin DSS Reassessment NOT OBSERVED DURING 2017 SURVEY
1-09	Donation Closet	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
1-09	Donation Closet	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-09	Donation Closet	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-09	Donation Closet	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	120 SF	Good	
1-09	Donation Closet	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole * Above ceiling included in Location 1-07 2015 Pinchin DSS Reassessment
1-09	Donation Closet	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-09	Donation Closet	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-10	Closet	Floor	Vinyl Floor Tile 2	Asbestos	2014-A0005 A-C	None Detected	N/A	N/A	VFT02 - 12" x 12" Light Grey and White; 2014 Pinchin DSS Reassessment
1-10	Closet	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
1-10	Closet	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-10	Closet	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-10	Closet	Wall	Paint - Sky Blue	Lead	Not Sampled	Visually consistent with 26341-Pb-06,07 (NEGATIVE)	N/A	N/A	
1-10	Closet	Ceiling	Ceiling Tile 11	Asbestos	Not Sampled	N/A	N/A	N/A	ACT11 - 24" x 48" Random small straight fissure and pinholes Date Stamped: 10/20/2005 Observed during ECOH 2021 Pre-Reno DSS Assessment
1-10	Closet	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole *Above ceiling included in Location 1-07
1-11	Meeting Room 2	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
1-11	Meeting Room 2	Floor	Vinyl Floor Tile 2	Asbestos	2014-A0005 A-C	None Detected	N/A	N/A	VFT02 - 12" x 12" Light Grey and White; 2014 Pinchin DSS Reassessment
1-11	Meeting Room 2	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
1-11	Meeting Room 2	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-11	Meeting Room 2	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-11	Meeting Room 2	Wall	Paint - Sky Blue	Lead	Not Sampled	Visually consistent with 26341-Pb-06,07 (NEGATIVE)	N/A	N/A	
1-11	Meeting Room 2	Ceiling	Ceiling Tile 11	Asbestos	Not Sampled	N/A	N/A	N/A	ACT11 - 24" x 48" Random small straight fissure and pinholes Date Stamped: 10/20/2005 Observed during ECOH 2021 Pre-Reno DSS Assessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-11	Meeting Room 2	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole *Above ceiling included in Location 1-07
1-12	Kitchen	Window	Sticky Black Window Caulking	Asbestos	26341-ASB-24A-C	None Detected	N/A	N/A	Interior Yellow Window Sampled during ECOH 2021 Pre-Reno DSS Assessment
1-12	Kitchen	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
1-12	Kitchen	Floor	Vinyl Floor Tile 2	Asbestos	2014-A0005 A-C	None Detected	N/A	N/A	VFT02 - 12" x 12" Light Grey and White; 2014 Pinchin DSS Reassessment
1-12	Kitchen	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
1-12	Kitchen	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-12	Kitchen	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	65 SF	Good	
1-12	Kitchen	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**75 SF**	**Good**	
1-12	Kitchen	Wall	Paint - Parrot Green	Lead	Not Sampled	Visually consistent with 26341-Pb-16,17 (None Detected)	N/A	N/A	
1-12	Kitchen	Ceiling	Ceiling Tile 11	Asbestos	Not Sampled	N/A	N/A	N/A	ACT11 - 24" x 48" Random small straight fissure and pinholes Date Stamped: 10/20/2005 Observed during ECOH 2021 Pre-Reno DSS Assessment
1-12	Kitchen	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole *Above ceiling included in Location 1-07
1-12	Kitchen	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-12	Kitchen	Pipe	Aircell	Asbestos	2007-140706164-0013	40% Chrysotile	30 LF	Good	2007 Fisher DSS Survey
1-12	Kitchen	Pipe	Parging Cement	Asbestos	2014 A0004 A-C	**10% Chrysotile**	16 ftgs	Good	2014 Pinchin DSS Reassessment
1-12	Kitchen	Pipe	Parging Cement	Asbestos	2014 A0004 A-C	**10% Chrysotile**	1 ftg	Good	2014 Pinchin DSS Reassessment
1-12	Kitchen	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-12	Kitchen	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
1-12	Kitchen	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-13	Office	Floor	Vinyl Floor Tile 2	Asbestos	2014-A0005 A-C	None Detected	N/A	N/A	VFT02 - 12" x 12" Light Grey and White; 2014 Pinchin DSS Reassessment No Access to Room during 2021 ECOH Pre-Reno DSS Assessment
1-13	Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment No Access to Room during 2021 ECOH Pre-Reno DSS Assessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-13	Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment No Access to Room during 2021 ECOH Pre-Reno DSS Assessment
1-13	Office	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole 2015 Pinchin DSS Reassessment *Above ceiling included in Location 1-07 No Access to Room during 2021 ECOH Pre-Reno DSS Assessment
1-14	Freezer/Food Storage	Floor	Vinyl Floor Tile 2	Asbestos	2014-A0005 A-C	None Detected	N/A	N/A	VFT02 - 12" x 12" Light Grey and White; 2014 Pinchin DSS Reassessment
1-14	Freezer/Food Storage	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
1-14	Freezer/Food Storage	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-14	Freezer/Food Storage	Wall	Paint - White	Lead	Not Sampled	Visually Consistent with 26341-Pb-12,13 (NEGATIVE)	N/A	N/A	
1-14	Freezer/Food Storage	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-14	Freezer/Food Storage	Wall	Paint - Sky Blue	Lead	Not Sampled	Visually consistent with 26341-Pb-06,07 (NEGATIVE)	N/A	N/A	
1-14	Freezer/Food Storage	Ceiling	Ceiling Tile 1	Asbestos	2012-73935-0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pre-Reno DSS Survey *NOT OBSERVED in ECOH 2018 Survey
1-14	Freezer/Food Storage	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-14	Freezer/Food Storage	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
1-14	Freezer/Food Storage	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-15	Exit Hallway	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
1-15	Exit Hallway	Floor	Terrazzo	N/A	N/A	N/A	N/A	N/A	
1-15	Exit Hallway	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-15	Exit Hallway	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-15	Exit Hallway	Wall	Paint - Blue	Lead	Not Sampled	Visually consistent with 26341-Pb-05, 2015-L0001 (NEGATIVE)	N/A	N/A	
1-15	Exit Hallway	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-16	Boiler Room	Floor	Concrete	N/A	N/A	N/A	N/A	N/A	
1-16	Boiler Room	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-16	Boiler Room	Wall	Brick	N/A	N/A	N/A	N/A	N/A	
1-16	Boiler Room	Wall	Brick Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-3,4 (None Detected)	N/A	N/A	
1-16	Boiler Room	Wall	Brick Mortar	Asbestos	26341-ASB-02C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
1-16	Boiler Room	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	
1-16	Boiler Room	Wall	Clay Speed Tile Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-01,2 (NEGATIVE)	N/A	N/A	
1-16	Boiler Room	Wall	Clay Speed Tile Mortar	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-01 (None Detected)	N/A	N/A	
1-16	Boiler Room	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-16	Boiler Room	Pipe	Paper	Asbestos	2014-A0006 A-C	None Detected	N/A	N/A	Paper Insulation over Horse Hair on Drain Pipe
1-16	Boiler Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-16	Boiler Room	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-16	Boiler Room	Mechanical	Uninsulated	N/A	N/A	N/A	N/A	N/A	Boiler
1-16	Boiler Room	Mechanical	Uninsulated	N/A	N/A	N/A	N/A	N/A	Water Heater
1-17	Electrical Room	Floor	Concrete	N/A	N/A	N/A	N/A	N/A	
1-17	Electrical Room	Wall	Brick	N/A	N/A	N/A	N/A	N/A	
1-17	Electrical Room	Wall	Brick Mortar	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-02 (None Detected)	N/A	N/A	
1-17	Electrical Room	Wall	Brick Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-3,4 (None Detected)	N/A	N/A	
1-17	Electrical Room	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-17	Electrical Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-17	Electrical Room	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-17	Electrical Room	Mechanical	Uninsulated	N/A	N/A	N/A	N/A	N/A	Water Tank
1-17	Electrical Room	Other	Fire Door - Insulation	Asbestos	20563-SSH01-01A-C	**60% Chrysotile**	1 each	Good	Fire door leading to Boiler Room (Loc. 1-16) Sampled by ECOH September 5, 2019
1-18	Office	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-18	Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-18	Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-18	Office	Wall	Paint - Periwinkle	Lead	26341-Pb-19,20	<80 - 82 (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Asessment
1-18	Office	Wall	Paint - Sky Blue	Lead	Not Sampled	Visually consistent with 26341-Pb-06,07 (NEGATIVE)	N/A	N/A	
1-18	Office	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
1-18	Office	Ceiling	Ceiling Tile 3	Asbestos	Visually Consistent with 2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment 2021 ECOH Pre-Reno DSS Assessment
1-18	Office	Pipe	Aircell	Asbestos	2007-140706164-0013	40% Chrysotile	20 LF	Good	2007 Fisher DSS Survey
1-18	Office	Pipe	Parging Cement	Asbestos	2014 A0004 A-C	**10% Chrysotile**	6 ftgs	Good	2014 Pinchin DSS Reassessment
1-18	Office	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-19	Bell Room	Floor	Vinyl Floor Tile 1	Asbestos	2014-A0003 A-C	None Detected	N/A	N/A	VFT01 - 12" x 12" Grey/White Mottled; 2014 Pinchin DSS Reassessment NOT OBSERVED DURING 2017 SURVEY
1-19	Bell Room	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-05 (None Detected)	N/A	N/A	
1-19	Bell Room	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
1-19	Bell Room	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-19	Bell Room	Pipe	Parging Cement	Asbestos	2014 A0004 A-C	**10% Chrysotile**	2 ftg	Good	*Above ceiling
1-19	Bell Room	Ceiling	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	5 LF	Good	*Above ceiling
1-19	Bell Room	Ceiling	Ceiling Tile 1	Asbestos	2012-73935-0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *Above ceiling included in Location 1-07
1-19	Bell Room	Ceiling	Ceiling Tile 1	Asbestos	2012-73935-0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *Above ceiling included in Location 1-07
1-20	Restroom	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	Room renovated since 2016 Survey. All new flooring, walls and paint
1-20	Restroom	Wall	Drywall Joint Compound (DJC)	Asbestos	Not Sampled - Installed in 2017	None Detected	N/A	N/A	
1-20	Restroom	Wall	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
1-20	Showering Room	Ceiling	Drywall Joint Compound (DJC)	Asbestos	Not Sampled - Installed in 2017	None Detected	N/A	N/A	
1-21	Restroom	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	Room renovated since 2016 Survey. All new flooring, walls and paint
1-21	Restroom	Wall	Drywall Joint Compound (DJC)	Asbestos	Not Sampled - Installed in 2017	None Detected	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-21	Restroom	Wall	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
1-21	Restroom	Ceiling	Drywall Joint Compound (DJC)	Asbestos	Not Sampled - Installed in 2017	None Detected	N/A	N/A	
1-22	Compressor room	Floor	Concrete	N/A	N/A	N/A	N/A	N/A	
1-22	Compressor room	Wall	Brick	N/A	N/A	N/A	N/A	N/A	
1-22	Compressor room	Wall	Brick Mortar	Lead	26341-Pb-3,4	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
1-22	Compressor room	Wall	Brick Mortar	Asbestos	26341-ASB-02A-B	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
1-22	Compressor room	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	
1-22	Compressor room	Wall	Clay Speed Tile Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-01,2 (NEGATIVE)	N/A	N/A	
1-22	Compressor room	Wall	Clay Speed Tile Mortar	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-01 (None Detected)	N/A	N/A	
1-22	Compressor room	Ceiling	Not Found	N/A	N/A	N/A	N/A	N/A	
1-22	Compressor room	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-22	Compressor room	Pipe	Styrofoam	N/A	N/A	N/A	N/A	N/A	
1-22	Compressor room	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
1-22	Compressor room	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
1-22	Compressor room	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
1-22	Compressor room	Mechanical	Uninsulated	N/A	N/A	N/A	N/A	N/A	Hydraulic Lift
1-22	Compressor room	Mechanical	Uninsulated	N/A	N/A	N/A	N/A	N/A	Compressor Tank
1-22	Compressor room	Mechanical	Fibreglass	N/A	N/A	N/A	N/A	N/A	Air Handling Unit
1-23	Hallway	Floor	Terrazzo	N/A	N/A	N/A	N/A	N/A	Room renovated since 2016 Survey
1-23	Hallway	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
1-23	Hallway	Ceiling	Ceiling Tile 4	Asbestos	2017-A0001A-C	None Detected	N/A	N/A	ACT04 - 24" x 48", lay-in, white with pinhole and round fleck pattern 2017 Pinchin Reassessment Survey
1-23	Hallway	Ceiling	Ceiling Tile 5	Asbestos	Not Sampled	Visually consistent with 2017-A0002A-C (None Detected)	N/A	N/A	ACT05 - 24" x 48", lay-in, white with pinhole, fleck and lengthwise fissure pattern 2017 Pinchin Reassessment Survey
1-23	Hallway	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes
1-23	Hallway	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
1-23	Hallway	Duct	Cloth	N/A	N/A	N/A	N/A	N/A	
2-01	Referral Office	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
2-01	Referral Office	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-01	Referral Office	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-01	Referral Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-01	Referral Office	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-01	Referral Office	Wall	Paint - Sky Blue	Asbestos	Not Sampled	Visually consistent with 26341-Pb-06,07 (NEGATIVE)	N/A	N/A	
2-01	Referral Office	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-01	Referral Office	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes
2-02	Referral Office	Ceiling	Drywall Joint Compound (DJC)	Asbestos	Not Sampled	None Detected	N/A	N/A	Installed in 2010
2-01	Referral Office	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-01	Referral Office	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-01	Referral Office	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-01	Referral Office	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-02	Xerox Room	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-02	Xerox Room	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-02	Xerox Room	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-02	Xerox Room	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-02	Xerox Room	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-02	Xerox Room	Wall	Paint - White	Lead	26341-Pb-12,13	<210 (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
2-02	Xerox Room	Wall	Paint - Pink	Lead	Not Sampled	Visually consistent with 26341-Pb-10,11 (NEGATIVE)	N/A	N/A	
2-02	Xerox Room	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-02	Xerox Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-02	Xerox Room	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-02	Xerox Room	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-02	Xerox Room	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-03	Waiting Room	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
2-03	Waiting Room	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-03	Waiting Room	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-03	Waiting Room	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-03	Waiting Room	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-03	Waiting Room	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-03	Waiting Room	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	400 SF	Good	
2-03	Waiting Room	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-03	Waiting Room	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS
2-03	Waiting Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-03	Waiting Room	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-03	Waiting Room	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-03	Waiting Room	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-04	Hostel Outreach Office	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
2-04	Hostel Outreach Office	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-04	Hostel Outreach Office	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-04	Hostel Outreach Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-04	Hostel Outreach Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-04	Hostel Outreach Office	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-04	Hostel Outreach Office	Wall/Ceiling	Paint - White	Lead	Not Sampled	Visually Consistent with 26341-Pb-12,13 (NEGATIVE)	N/A	N/A	
2-04	Hostel Outreach Office	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-04	Hostel Outreach Office	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-04	Hostel Outreach Office	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-04	Hostel Outreach Office	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-04	Hostel Outreach Office	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-05	Program Offices	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-05	Program Offices	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-05	Program Offices	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-05	Program Offices	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-05	Program Offices	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-05	Program Offices	Wall	Paint - Parrot Green	Lead	Not Sampled	Visually consistent with 26341-Pb-16,17 (None Detected)	N/A	N/A	
2-05	Program Offices	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-05	Program Offices	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS
2-05	Program Offices	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-05	Program Offices	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-05	Program Offices	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-05	Program Offices	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-06	Closet	Floor	Vinyl Floor Tile 3	Asbestos	2014-A0009 A-C	None Detected	N/A	N/A	VFT03 - 12" x 12" Blue and White; 2014 Pinchin DSS Reassessment
2-06	Closet	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment 2014 Pinchin DSS Reassessment
2-06	Closet	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-05 (None Detected)	N/A	N/A	
2-06	Closet	Wall/Ceiling	Paint - White	Lead	Not Sampled	Visually Consistent with 26341-Pb-12,13 (NEGATIVE)	N/A	N/A	
2-06	Closet	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-06	Closet	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment *No Access above Ceiling
2-07	Closet	Floor	Vinyl Floor Tile 3	Asbestos	2014-A0009 A-C	None Detected	N/A	N/A	VFT03 - 12" x 12" Blue and White; 2014 Pinchin DSS Reassessment
2-07	Closet	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-05 (None Detected)	N/A	N/A	
2-07	Closet	Wall/Ceiling	Paint - White	Lead	Not Sampled	Visually Consistent with 26341-Pb-12,13 (NEGATIVE)	N/A	N/A	
2-07	Closet	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-07	Closet	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment *No Access above Ceiling
2-08	Board Room (#204)	Window	Brown Window Caulking	Asbestos	26341-ASB-24A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
2-08	Board Room (#204)	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-08	Board Room (#204)	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-08	Board Room (#204)	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-08	Board Room (#204)	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-08	Board Room (#204)	Wall	Paint - Yellow	Lead	26341-Pb-18,19	**1200 ppm - 1300 ppm (POSITIVE)**	600 SF	Good	Sampled during ECOH 2021 Pre-Reno DSS Assessment
2-08	Board Room (#204)	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-08	Board Room (#204)	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS
2-08	Board Room (#204)	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
2-08	Board Room (#204)	Ceiling	Drywall Joint Compound (DJC)	Asbestos	Not Sampled	None Detected	N/A	N/A	Installed in 2010
2-08	Board Room (#204)	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-08	Board Room (#204)	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-08	Board Room (#204)	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
2-08	Board Room (#204)	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-09	Crafts Room (# 205)	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
2-09	Crafts Room (# 205)	Floor	Vinyl Floor Tile 4	Asbestos	2014-A0010 A-C	None Detected	N/A	N/A	VFT04 - 12" x 12" White with Grey Flecks; 2014 Pinchin DSS Reassessment
2-09	Crafts Room (# 205)	Floor	Brown Vinyl Floor Tile Mastic	Asbestos	26341-ASB-06A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-09	Crafts Room (# 205)	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-09	Crafts Room (# 205)	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-09	Crafts Room (# 205)	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	300 SF	Good	
2-09	Crafts Room (# 205)	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS
2-09	Crafts Room (# 205)	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
2-09	Crafts Room (# 205)	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-09	Crafts Room (# 205)	Ceiling	Ceiling Tile 10	Asbestos	Not Sampled	N/A	N/A	N/A	ACT10 - 2" x 4" Lay-in grouped small hole and pinhole; Date Stamped: 04/15/1997 Observed during ECOH 2021 Pre-Reno DSS Reassessment
2-09	Crafts Room (# 205)	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-09	Crafts Room (# 205)	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-09	Crafts Room (# 205)	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-09	Crafts Room (# 205)	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
2-09	Crafts Room (# 205)	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-10	Office (Room 206)	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
2-10	Office (Room 206)	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-10	Office (Room 206)	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-10	Office (Room 206)	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-10	Office (Room 206)	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-10	Office (Room 206)	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-10	Office (Room 206)	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-10	Office (Room 206)	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	200 SF	Good	
2-10	Office (Room 206)	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	
2-10	Office (Room 206)	Wall	Clay Speed Tile Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-01,2 (NEGATIVE)	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-10	Office (Room 206)	Wall	Clay Speed Tile Mortar	Asbestos	26341-ASB-01B	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
2-10	Office (Room 206)	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-10	Office (Room 206)	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
2-10	Office (Room 206)	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-10	Office (Room 206)	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	15 LF	Fair	*Above ceiling
2-10	Office (Room 206)	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	5 LF	Poor	*Above ceiling 5 LF (Debris) - Open end in poor condition Observed during ECOH 2021 Pre-Reno DSS Assessment
2-10	Office (Room 206)	Pipe	Parging Cement	Asbestos	2014-A0004 A-C	**10% Chrysotile**	1 ftg	Fair	*Above ceiling
2-11	Office	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
2-11	Office	Floor	Vinyl Floor Tile 5	Asbestos	2014-A0011 A-C	None Detected	N/A	N/A	VFT05 - 12" x 12" Grey/Green with White Streak; 2014 Pinchin DSS Reassessment
2-11	Office	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-05 (None Detected)	N/A	N/A	
2-11	Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-11	Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-11	Office	Wall	Paint - Green/Yellow	Lead	26341-Pb-08,09	<80ppm, 82ppm (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
2-11	Office	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-11	Office	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS
2-11	Office	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes
2-11	Office	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-11	Office	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-12	Kitchen	Floor	Vinyl Floor Tile 2	Asbestos	2014-A0005 A-C	None Detected	N/A	N/A	VFT02 - 12" x 12" Light Grey and White; 2014 Pinchin DSS Reassessment
2-12	Kitchen	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-12	Kitchen	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-12	Kitchen	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-12	Kitchen	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	
2-12	Kitchen	Wall	Clay Speed Tile Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-01,2 (NEGATIVE)	N/A	N/A	
2-12	Kitchen	Wall	Clay Speed Tile Mortar	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-01 (None Detected)	N/A	N/A	
2-12	Kitchen	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	300 SF	Good	
2-12	Kitchen	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-12	Kitchen	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-12	Kitchen	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-13	Women's Washroom	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
2-13	Women's Washroom	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-13	Women's Washroom	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-13	Women's Washroom	Wall	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
2-13	Women's Washroom	Wall/Ceiling	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	120 SF	Good	
2-13	Women's Washroom	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
2-14	Nurse's Office	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-14	Nurse's Office	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-14	Nurse's Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-14	Nurse's Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-14	Nurse's Office	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-14	Nurse's Office	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	200 SF	Good	
2-14	Nurse's Office	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes
2-14	Nurse's Office	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-14	Nurse's Office	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-14	Nurse's Office	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-14	Nurse's Office	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-15	Exam Room	Floor	Vinyl Floor Tile 6	Asbestos	25715-SSH01-ASB-02A-C	None Detected	N/A	N/A	VFT06 - 12" x 12" Turquoise and Beige Checkered; 2014 Pinchin DSS Reassessment Sampled during ECOH 2020 Survey
2-15	Exam Room	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-05 (None Detected)	N/A	N/A	
2-15	Exam Room	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment
2-15	Exam Room	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-15	Exam Room	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-15	Exam Room	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-15	Exam Room	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	400 SF	Good	
2-15	Exam Room	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-15	Exam Room	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
2-15	Exam Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-15	Exam Room	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-15	Exam Room	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-16	Medical Lab	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-16	Medical Lab	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-16	Medical Lab	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-16	Medical Lab	Wall	Light Beige Baseboard Mastic	Asbestos	26341-ASB-09A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
2-16	Medical Lab	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-16	Medical Lab	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	700 SF	Good	
2-16	Medical Lab	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-16	Medical Lab	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-16	Medical Lab	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-16	Medical Lab	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-16	Medical Lab	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-17	Exam Room	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-17	Exam Room	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-17	Exam Room	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-17	Exam Room	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-17	Exam Room	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-17	Exam Room	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	400 SF	Good	
2-17	Exam Room	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS
2-17	Exam Room	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
2-17	Exam Room	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-17	Exam Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-17	Exam Room	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-18	Medical Closet	Floor	Vinyl Floor Tile 3	Asbestos	2014-A0009 A-C	None Detected	N/A	N/A	VFT03 - 12" x 12" Blue and White; 2014 Pinchin DSS Reassessment
2-18	Medical Closet	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-05 (None Detected)	N/A	N/A	
2-18	Medical Closet	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-18	Medical Closet	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-18	Medical Closet	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-18	Medical Closet	Wall	Paint - Yellow	Lead	Not Sampled	Visually Consistent with 26341-Pb-18,19 (POSITIVE)	250 SF	Good	
2-18	Medical Closet	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 28" lay-in pinprick 2014 Pinchin DSS Reassessment
2-18	Medical Closet	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-18	Medical Closet	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-19	Washroom	Floor	Vinyl Floor Tile 3	Asbestos	2014-A0009 A-C	None Detected	N/A	N/A	VFT03 - 12" x 12" Blue and White; 2014 Pinchin DSS Reassessment 2021 ECOH Pre-Reno DSS Assessment
2-19	Washroom	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-05 (None Detected)	N/A	N/A	
2-19	Washroom	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-19	Washroom	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-19	Washroom	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS
2-19	Washroom	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-19	Washroom	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-20	Storage and Bell Telephone Room	Floor	Vinyl Sheet Flooring 2	Asbestos	2012-A0012 A-C	None Detected	N/A	N/A	VSF02 - Grey, White and Black; 2014 Pinchin DSS Reassessment
2-20	Storage and Bell Telephone Room	Floor	Paper Backing - VSF 2	Asbestos	26341-ASB-22A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
2-20	Storage and Bell Telephone Room	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-20	Storage and Bell Telephone Room	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-20	Storage and Bell Telephone Room	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**400 SF**	**Good**	
2-20	Storage and Bell Telephone Room	Wall	Paint - Beige	Lead	25715-SSH01-Pb-1,2	**6100 ppm - 5900 ppm (POSITIVE)**	**16 SF**	**POOR**	Approximately 16SF of flaking Beige paint observed on wall. Sampled during ECOH 2020 Survey
2-20	Storage and Bell Telephone Room	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 28" lay-in pinprick 2014 Pinchin DSS Reassessment NOT OBSERVED DURING 2017 SURVEY
2-20	Storage and Bell Telephone Room	Ceiling	Ceiling Tile 5	Asbestos	2017-A0002A-C	None Detected	N/A	N/A	ACT05 - 24" x 48", lay-in, white with pinhole, fleck and lengthwise fissure pattern 2017 Pinchin Reassessment Survey
2-20	Storage and Bell Telephone Room	Pipe	Aircell	Asbestos	2007-140706164-0013	40% Chrysotile	65 LF	Good	2007 Fisher DSS Survey
2-20	Storage and Bell Telephone Room	Pipe	Parging Cement	Asbestos	2007-140706164-0009,10	**70% Chrysotile**	5 ftgs	Good	2007 Fisher DSS Survey
2-20	Storage and Bell Telephone Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-20	Storage and Bell Telephone Room	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-20	Storage and Bell Telephone Room	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
2-20	Storage and Bell Telephone Room	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-21	Women's Washroom	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	No Access to Room during 2021 ECOH Pre-Reno DSS Assessment
2-21	Women's Washroom	Wall	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	No Access to Room during 2021 ECOH Pre-Reno DSS Assessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-21	Women's Washroom	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment No Access to Room during 2021 ECOH Pre-Reno DSS Assessment
2-21	Women's Washroom	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling No Access to Room during 2021 ECOH Pre-Reno DSS Assessment
2-22	Men's Washroom	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
2-22	Men's Washroom	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-22	Men's Washroom	Wall	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
2-22	Men's Washroom	Wall/Column	Paint - White	Lead	Not Sampled	Visually Consistent with 26341-Pb-12,13 (NEGATIVE)	N/A	N/A	
2-22	Men's Washroom	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
2-23	Janitor's Closet	Floor	Concrete	N/A	N/A	N/A	N/A	N/A	
2-23	Janitor's Closet	Wall	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-23	Janitor's Closet	Wall	Paint - Parrot Green	Lead	Not Sampled	Visually consistent with 26341-Pb-16,17 (None Detected)	N/A	N/A	
2-23	Janitor's Closet	Ceiling	Plaster	Asbestos	26341-ASB-13A-C	None Detected	N/A	N/A	2021 ECOH Pre-Reno DSS Assessment
2-23	Janitor's Closet	Pipe	Aircell	Asbestos	2007-140706164-0013	40% Chrysotile	10 LF	Good	2007 Fisher DSS Survey Two pipes insulated with Aircell Observed during ECOH 2021 Pre-Reno DSS Assessment
2-23	Janitor's Closet	Pipe	Aircell	Asbestos	2007-140706164-0013	40% Chrysotile	15 LF	Unknown	2007 Fisher DSS Survey *No access above ceiling Two pipes insulated with Aircell
2-23	Janitor's Closet	Pipe	Parging Cement	Asbestos	2007-140706164-0009,10	**70% Chrysotile**	5 ftgs	Good	2007 Fisher DSS Survey
2-23	Janitor's Closet	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-23	Janitor's Closet	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-24	Hallway	Floor	Terrazzo	N/A	N/A	N/A	N/A	N/A	
2-24	Hallway	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-24	Hallway	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
2-24	Hallway	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**200 SF**	**Good**	
2-24	Hallway	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
2-24	Hallway	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-24	Hallway	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
2-24	Hallway	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
2-25	Corridor & Elevator Lobby	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
2-25	Corridor & Elevator Lobby	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
2-25	Corridor & Elevator Lobby	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
2-25	Corridor & Elevator Lobby	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
2-25	Corridor & Elevator Lobby	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**400 SF**	**Good**	
2-25	Corridor & Elevator Lobby	Wall	Light Beige Baseboard Mastic	Asbestos	Not Sampled	Visually consistent with 26341-ASB-09 (None Detected)	N/A	N/A	
2-25	Corridor & Elevator Lobby	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
2-25	Corridor & Elevator Lobby	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	N/A	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
2-25	Corridor & Elevator Lobby	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling Not Observed during 2021 ECOH Pre-Reno DSS Assessment
3-01	Entranceway to Lunchroom	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
3-01	Entranceway to Lunchroom	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment
3-01	Entranceway to Lunchroom	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-01	Entranceway to Lunchroom	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-01	Entranceway to Lunchroom	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**300 SF**	**Good**	
3-01	Entranceway to Lunchroom	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-01	Entranceway to Lunchroom	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-01	Entranceway to Lunchroom	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
3-01	Entranceway to Lunchroom	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
3-01	Entranceway to Lunchroom	Mechanical	Uninsulated	N/A	N/A	N/A	N/A	N/A	Pottery Oven
3-02	Lunchroom	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
3-02	Lunchroom	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment
3-02	Lunchroom	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-02	Lunchroom	Floor	Vinyl Floor Tile 11	Asbestos	26341-ASB-16A-C	None Detected	N/A	N/A	VFT11 - 12"x12" Brown with Light Brown and White Specks Sampled during 2021 ECOH Pre-Reno DSS Assessment
3-02	Lunchroom	Floor	Vinyl Floor Tile 12	Asbestos	26341-ASB-17A-C	None Detected	N/A	N/A	12"x12" Light and Dark Green with White Specks Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-02	Lunchroom	Floor	Vinyl Floor Tile 13	Asbestos	26341-ASB-18A-C	None Detected	N/A	N/A	VFT13 - 12"x12" Dark Blue with White Specks - Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-02	Lunchroom	Floor	Vinyl Floor Tile 14	Asbestos	26341-ASB-19A-C	None Detected	N/A	N/A	VFT14 - 12"x12" Light Yellow with Mustard Specks Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-02	Lunchroom	Floor	Vinyl Floor Tile 15	Asbestos	26341-ASB-20A-C	None Detected	N/A	N/A	VFT15 - 12"x12" Navy Blue with White Specks Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-02	Lunchroom	Floor	Vinyl Floor Tile 16	Asbestos	26341-ASB-21A-C	None Detected	N/A	N/A	VFT16 - 12"x12" Orange with White Specks Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-02	Lunchroom	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-02	Lunchroom	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-02	Lunchroom	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**1000 SF**	**Good**	
3-02	Lunchroom	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
3-02	Lunchroom	Ceiling	Ceiling Tile 6	Asbestos	Not Sampled	**ACM Assumed**	40 SF	Good	ACT06 - 12" x 12", glue on, white with pinhole and fleck Ceiling too high to sample
3-02	Lunchroom	Ceiling	Ceiling Tile 7	Asbestos	Not Sampled	**ACM Assumed**	360 SF	Good	ACT07 - 12" x 12", glue on, white with pinhole and lengthwise fissure Ceiling too high to sample
3-02	Lunchroom	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-02	Lunchroom	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
3-02	Lunchroom	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
3-03	Office	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
3-03	Office	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment
3-03	Office	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-03	Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-03	Office	Wall	Paint - Pink	Lead	Not Sampled	Visually consistent with 26341-Pb-10,11 (NEGATIVE)	N/A	N/A	
3-03	Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-03	Office	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	
3-03	Office	Wall	Clay Speed Tile Mortar	Lead	26341-Pb-02	<40 ppm (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-03	Office	Wall	Clay Speed Tile Mortar	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-01 (None Detected)	N/A	N/A	
3-03	Office	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
3-03	Office	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-03	Office	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
3-03	Office	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
3-03	Office	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-04	Office	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
3-04	Office	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-04	Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-04	Office	Wall	Paint - Pink	Lead	Not Sampled	Visually consistent with 26341-Pb-10,11 (NEGATIVE)	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-04	Office	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
3-04	Office	Ceiling	Ceiling Tile 9	Asbestos	26341-ASB-11A-C	None Detected	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes Sampled during 2021 ECOH Pre-Reno DSS Assessment
3-04	Waiting Room	Pipe	Parging Cement	Asbestos	2014-A0004 A-C	**10% Chrysotile**	2 ftg	Fair	*Above ceiling
3-04	Waiting Room	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	15 LF	Poor	*Above ceiling 5 LF (Debris) - Open end in poor condition Observed during ECOH 2021 Pre-Reno DSS Assessment
3-04	Waiting Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-04	Waiting Room	Duct	Brown Duct Mastic	Asbestos	26341-ASB-04B-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-04	Waiting Room	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-04	Waiting Room	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
3-05	Waiting Area	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment
3-05	Waiting Area	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-05	Waiting Area	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-05	Waiting Area	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-05	Waiting Area	Wall	Paint - Pink	Lead	Not Sampled	Visually consistent with 26341-Pb-10,11 (NEGATIVE)	N/A	N/A	
3-05	Waiting Area	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
3-05	Waiting Area	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes
3-05	Waiting Area	Pipe	Parging Cement	Asbestos	2014-A0004 A-C	**10% Chrysotile**	1 ftg	Fair	*Above ceiling
3-05	Waiting Area	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	15 LF	Poor	*Above ceiling
3-05	Waiting Area	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-05	Waiting Area	Pipe	Horsehair	N/A	N/A	N/A	N/A	N/A	
3-05	Waiting Area	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-06	Computer Lab	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
3-06	Computer Lab	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-06	Computer Lab	Floor	Black Vinyl Floor Tile Mastic	Asbestos	26341-ASB-07A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-06	Computer Lab	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-06	Computer Lab	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-06	Computer Lab	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	N/A
3-06	Computer Lab	Wall	Clay Speed Tile Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-01,2 (NEGATIVE)	N/A	N/A	
3-06	Computer Lab	Wall	Clay Speed Tile Mortar	Asbestos	26341-ASB-01C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-06	Computer Lab	Wall	Paint - Pink	Lead	Not Sampled	Visually consistent with 26341-Pb-10,11 (NEGATIVE)	N/A	N/A	
3-06	Computer Lab	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS
3-06	Computer Lab	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes
3-06	Computer Lab	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	30 LF	Poor	*Above ceiling
3-06	Computer Lab	Pipe	Parging Cement	Asbestos	2014-A0004 A-C	**10% Chrysotile**	4 ftg	Fair	*Above ceiling
3-06	Computer Lab	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-06	Computer Lab	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
3-06	Computer Lab	Pipe	Horsehair	N/A	N/A	N/A	N/A	N/A	
3-06	Computer Lab	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-07	Closet	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment ***No Access during ECOH 2020 Survey**
3-07	Closet	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-07	Closet	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-07	Closet	Wall	Paint - Pink	Lead	Not Sampled	Visually consistent with 26341-Pb-10,11 (NEGATIVE)	N/A	N/A	
3-07	Closet	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-07	Closet	Ceiling	Not Found	N/A	N/A	N/A	N/A	N/A	
3-07	Closet	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	2 LF	Poor	*Above ceiling

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-07	Closet	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-07	Closet	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
3-08	Office	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
3-08	Office	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment
3-08	Office	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-08	Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-08	Office	Wall	Paint - Pink	Lead	26341-Pb-10,11	<80ppm, <81ppm (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Samled during ECOH 2021 Pre-Reno DSS Assessment
3-08	Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-08	Office	Ceiling	Ceiling Tile 8	Asbestos	26341-ASB-10A-C	None Detected	N/A	N/A	ACT08 - 2'x4' Lay-In, Very Small Fissures and Pinholes Sampled during 2021 ECOH Pre-Reno DSS Assessment
3-08	Office	Duct	Brown Duct Mastic	Asbestos	26341-ASB-04A	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-08	Office	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
3-09	Washroom	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
3-09	Washroom	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-09	Washroom	Wall	Paint - White	Lead	Not Sampled	Visually Consistent with 26341-Pb-12,13 (NEGATIVE)	N/A	N/A	
3-09	Washroom	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-09	Washroom	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
3-10	Art Supply Room/Meeting Room	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment
3-10	Art Supply Room/Meeting Room	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-10	Art Supply Room/Meeting Room	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-10	Art Supply Room/Meeting Room	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-10	Art Supply Room/Meeting Room	Wall	Paint - Pink	Lead	Not Sampled	Visually consistent with 26341-Pb-10,11 (NEGATIVE)	N/A	N/A	
3-10	Art Supply Room/Meeting Room	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling Not Observed during 2021 ECOH
3-10	Art Supply Room/Meeting Room	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes
3-10	Art Supply Room/Meeting Room	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	N/A	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
3-10	Art Supply Room/Meeting Room	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-10	Art Supply Room/Meeting Room	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
3-10	Art Supply Room/Meeting Room	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-10	Art Supply Room/Meeting Room	Duct	Fibreglass	N/A	N/A	N/A	N/A	N/A	
3-11	Men's Washroom / Storage	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
3-11	Men's Washroom / Storage	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-11	Men's Washroom / Storage	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-11	Men's Washroom / Storage	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	N/A
3-11	Men's Washroom / Storage	Wall	Clay Speed Tile Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-01,2 (NEGATIVE)	N/A	N/A	
3-11	Men's Washroom / Storage	Wall	Clay Speed Tile Mortar	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-01 (None Detected)	N/A	N/A	
3-11	Men's Washroom / Storage	Wall	Paint - Sky Blue	Lead	Not Sampled	Visually consistent with 26341-Pb-06,07 (NEGATIVE)	N/A	N/A	
3-11	Men's Washroom / Storage	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
3-11	Men's Washroom / Storage	Ceiling	Ceiling Tile 2	Asbestos	2015-A0002A-C	None Detected	8 SF	N/A	ACT02 - 24" x 48" Lay-in fleck and pinhole; 2015 Pinchin DSS Reassessment
3-11	Men's Washroom / Storage	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-11	Men's Washroom / Storage	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	15 LF	Poor	*Above ceiling
3-11	Men's Washroom / Storage	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-11	Men's Washroom / Storage	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
3-11	Men's Washroom / Storage	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-12	Women's Washroom	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
3-12	Women's Washroom	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-12	Women's Washroom	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-12	Women's Washroom	Wall	Clay Speed Tile	N/A	N/A	N/A	N/A	N/A	
3-12	Women's Washroom	Wall	Clay Speed Tile Mortar	Lead	Not Sampled	Visually Consistent with 26341-Pb-01,2 (NEGATIVE)	N/A	N/A	
3-12	Women's Washroom	Wall	Clay Speed Tile Mortar	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-01 (None Detected)	N/A	N/A	
3-12	Women's Washroom	Wall	Paint - Sky Blue	Lead	26341-Pb-06	<80 - 85 (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-12	Women's Washroom	Wall	Brown Baseboard Mastic	Asbestos	26341-ASB-08A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-12	Women's Washroom	Ceiling	Ceiling Tile 4	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT04 - 24" x 48" pin-prick and fissure
3-12	Women's Washroom	Pipe	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-12	Women's Washroom	Pipe	Fibreglass	N/A	N/A	N/A	N/A	N/A	
3-12	Women's Washroom	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
3-12	Women's Washroom	Duct	Uninsulated	N/A	N/A	N/A	N/A	N/A	
3-13	Janitor's Closet	Floor	Concrete	N/A	N/A	N/A	N/A	N/A	
3-13	Janitor's Closet	Floor	Ceramic Tile	N/A	N/A	N/A	N/A	N/A	
3-13	Janitor's Closet	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-13	Janitor's Closet	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-13	Janitor's Closet	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	5 LF	Poor	Observed Approximately 5 LF of Aircell within the wall cavity during 2021 ECOH Pre-Reno DSS Assessment
3-13	Janitor's Closet	Wall	Paint - Blue	Lead	26341-Pb-05	<80 ppm (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-13	Janitor's Closet	Wall	Paint - Blue	Lead	2015-L0001	<0.005% Trace concentrations only	N/A	N/A	Blue paint; 2015 Pinchin DSS Reassessment
3-13	Janitor's Closet	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-14	Office	Floor	Vinyl Floor Tile 1	Asbestos	2014-A0003 A-C	None Detected	N/A	N/A	VFT01 - 12" x 12" Grey/White Mottled; 2014 Pinchin DSS Reassessment NOT OBSERVED DURING 2017 SURVEY
3-14	Office	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	26341-ASB-05A-C	None Detected	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-14	Office	Floor	Vinyl Floor Tile 10	Asbestos	26341-ASB-15A-C	None Detected	N/A	N/A	VFT10 - 12"x12" Blue-Grey Marble Pattern Sampled during ECOH 2021
3-14	Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-14	Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-14	Office	Wall	Paint - Sky Blue	Lead	26341-Pb-07	<80 - 85 (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
3-14	Office	Duct	Brown Duct Mastic	Asbestos	Not Sampled	Visually consistent with 26314-ASB-04 (None Detected)	N/A	N/A	
3-14	Office	Pipe	Parging Cement	Asbestos	2014-A0004 A-C	**10% Chrysotile**	6 ftg	Good	*Above ceiling
3-14	Office	Pipe	Aircell	Asbestos	Not Sampled	Visually consistent with 2007-140706164-0013 40% Chrysotile	30 LF	Good	*Above ceiling
3-14	Office	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
3-15	Office	Floor	Vinyl Sheet Flooring 2	Asbestos	2012-A0012 A-C	None Detected	N/A	N/A	VSF02 - Grey, White and Black; 2014 Pinchin DSS Reassessment
3-15	Office	Floor	Paper Backing - VSF 2	Asbestos	Not Sampled	Visually consistent with 26341-ASB-22 (None Detected)	N/A	N/A	
3-15	Office	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
3-15	Office	Wall	Paint - Blue	Lead	Not Sampled	Visually consistent with 26341-Pb-05, 2015-L0001 (NEGATIVE)	N/A	N/A	
3-15	Office	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
3-15	Office	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
3-16	Elevator Lobby	Floor	Vinyl Floor Tile 7	Asbestos	2014-A0013 A-C	None Detected	N/A	N/A	VFT07 - 12" x 12" Cream Mottled with Random Colours; 2014 Pinchin DSS Reassessment
3-16	Elevator Lobby	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
3-16	Elevator Lobby	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
3-16	Elevator Lobby	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	600 SF	GOOD	
3-16	Elevator Lobby	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
3-16	Elevator Lobby	Ceiling	Ceiling Tile 3	Asbestos	2014-A0007 A-C	None Detected	8 SF	N/A	ACT03 - 24" x 48" Lay-in Pinprick; 2014 Pinchin DSS Reassessment
3-16	Elevator Lobby	Ceiling	Ceiling Tile 9	Asbestos	Not Sampled	Visually consistent with 26341-ASB-11 (None Detected)	N/A	N/A	ACT09 - 2'x4' Lay-In, Long Width-Wise Fissures and Pinholes
3-16	Elevator Lobby	Ceiling	Ceiling Tile 1	Asbestos	2012-A0008A-C	None Detected	N/A	N/A	ACT01 - 24" x 48" Lay-in Widthwise Fissure; 2012 Pinchin Pre-Reno DSS *No Access above Ceiling
E01	Elevator	Floor	Vinyl Sheet Flooring 1	Asbestos	2014-A0008 A-C	None Detected	N/A	N/A	VSF01 - Orange and Brown; 2014 Pinchin DSS Reassessment
E01	Elevator	Floor	Black Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-07 (None Detected)	N/A	N/A	
E01	Elevator	Wall	Metal	N/A	N/A	N/A	N/A	N/A	
E01	Elevator	Ceiling	Metal	N/A	N/A	N/A	N/A	N/A	*No Access above Ceiling
S01	Northwest Stairwell	Floor	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
S01	Northwest Stairwell	Floor	Terrazzo	N/A	N/A	N/A	N/A	N/A	
S01	Northwest Stairwell	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
S01	Northwest Stairwell	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment
S01	Northwest Stairwell	Wall	Paint - Beige	Lead	Not Sampled	Visually Consistent with 25715-SSH01-Pb-1,2 (POSITIVE)	**600 SF**	**Good**	
S01	Northwest Stairwell	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	None Detected	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
S02	East Stairwell	Window	Brown Window Caulking	Asbestos	Not Sampled	Visually consistent with 26341-ASB-24 (None Detected)	N/A	N/A	
S02	East Stairwell	Floor	Rubber Tread	N/A	N/A	N/A	N/A	N/A	Located on stairs
S02	East Stairwell	Floor	Terrazzo	N/A	N/A	N/A	N/A	N/A	
S02	East Stairwell	Floor	Vinyl Floor Tile 1	Asbestos	2014-A0003 A-C	None Detected	N/A	N/A	VFT01 - 12" x 12" Grey/White Mottled; 2014 Pinchin DSS Reassessment NOT OBSERVED DURING 2017 SURVEY
S02	East Stairwell	Floor	Beige Vinyl Floor Tile Mastic	Asbestos	Not Sampled	Visually Consistent with 26341-ASB-05 (None Detected)	N/A	N/A	

Location Number	Location Name	Building System	Material Observed	Potential Hazardous Material	Sample ID	Asbestos Type/Content	Quantity	Condition	Notes/Required Action
S02	East Stairwell	Exterior Wall/Columns	Plaster	Asbestos	2012-A0007 A-C; 2014-A0001 A-G	None Detected	N/A	N/A	2012 Pinchin Pre-Reno Assessment; 2014 Pinchin DSS Reassessment
S02	East Stairwell	Wall	Paint - White	Lead	Not Sampled	Visually Consistent with 26341-Pb-12,13 (NEGATIVE)	N/A	N/A	
S02	East Stairwell	Wall	Paint - Parrot Green	Lead	26341-Pb-16,17	<81 - 82 (NEGATIVE - Trace Concentrations Only)	N/A	N/A	Sampled during ECOH 2021 Pre-Reno DSS Assessment
S02	East Stairwell	Wall	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	(NEGATIVE - Trace	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
S02	East Stairwell	Ceiling	Drywall Joint Compound (DJC)	Asbestos	2014-A0002 A-C; 2007-140706164-0002; 2012-A0006A-C; 2012-14075-A18-01A-C; A11104-1-3	Concentrations Only)	N/A	N/A	2014 Pinchin DSS Reassessment; 2007 Fisher DSS Survey; 2012 Pinchin Pre-Reno DSS Survey; 2012 ECOH Reassessment Survey; Furcon Environmental Assessment *No Access above Ceiling
Surveyor's Field Notes									

APPENDIX IV

Site Photographs

Client Name:	**Site Location:**	**Project No.**
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

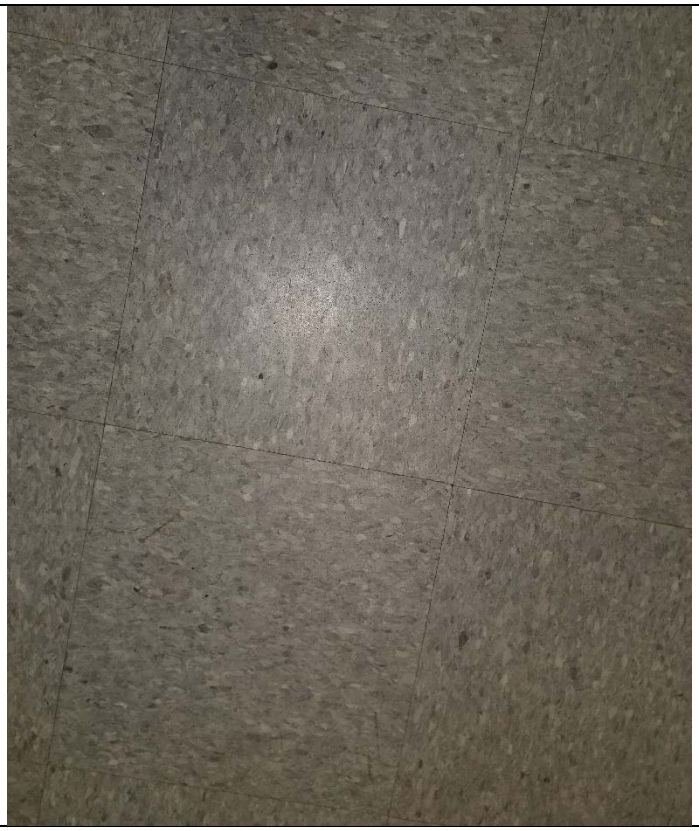
Photo No. 1. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT01 – 12”x12” Grey/White Mottled Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Photo No. 2. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT02 – 12”x12” Light Grey and White Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Client Name:	**Site Location:**	**Project No.**
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 3. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT03 – 12”x12” Blue and White Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Photo No. 4. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT04 – 12”x12” White with Grey Flecks Loc. #2-09 (Crafts Room (#205) *These materials were previously sampled and determined to be non-asbestos.*	

Client Name:	**Site Location:**	**Project No.**
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

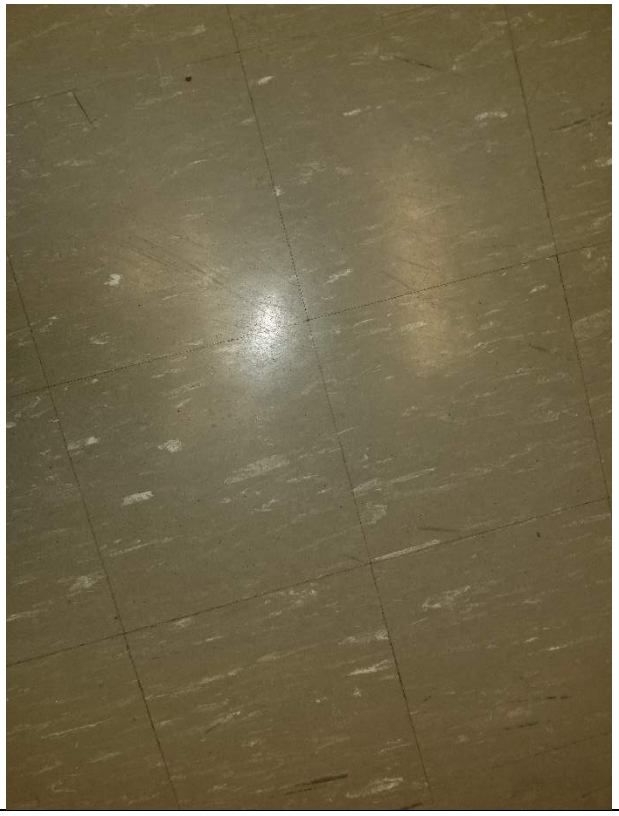
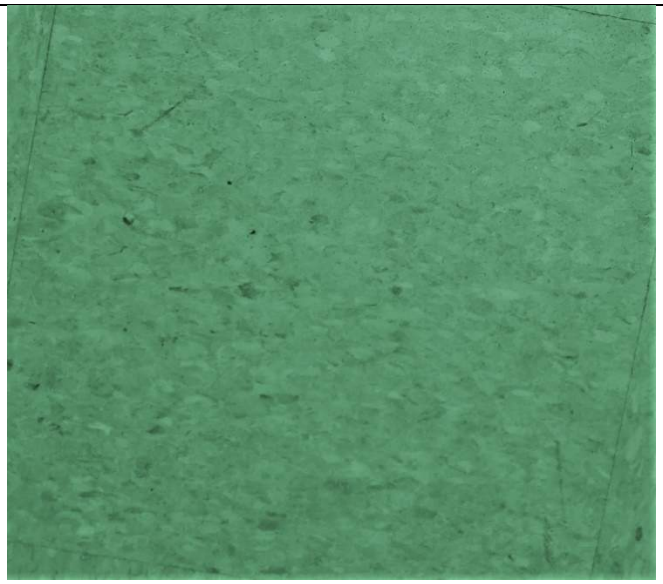
Photo No. 5. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT05 – 12”x12” Grey/Green with White Streak Loc. #2-11 (Offic3) *These materials were previously sampled and determined to be non-asbestos.*	

Photo No. 6. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT06 – 12”x12” Turquoise and Beige Checkered Loc. #2-15 (Exam Room) *These materials were previously sampled and determined to be non-asbestos.*	

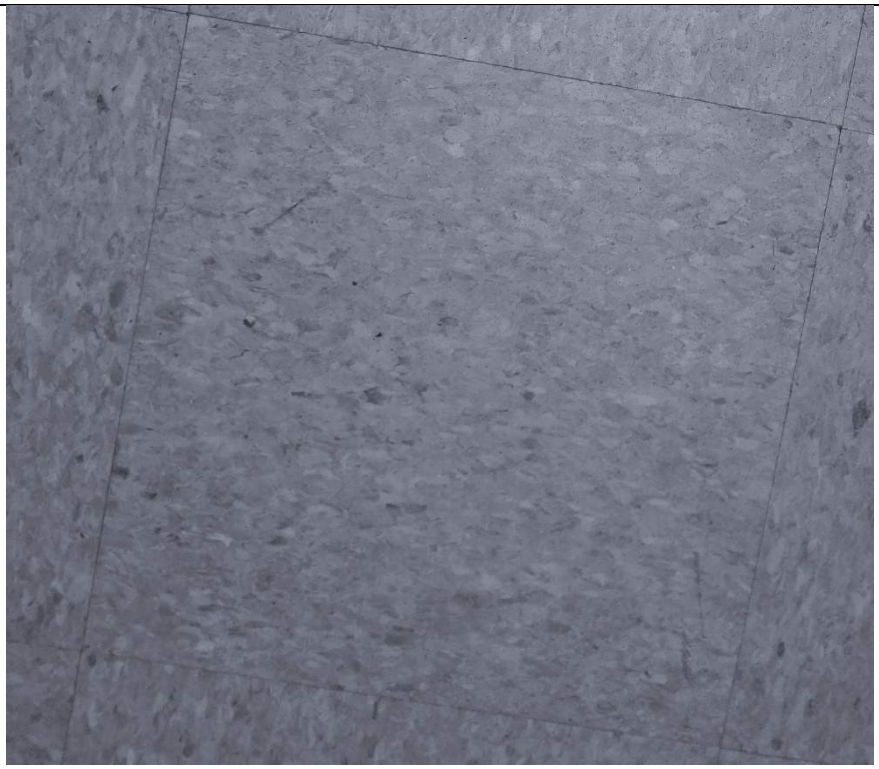
Client Name:	Site Location:	Project No.
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 7. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT07 – 12”x12” Cream Mottled with Random Colours Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Photo No. 8. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT08 – 12”x12” Light Blue/Grey with Dark Blue/Grey and White Streaks Loc. #1-01 (Foyer) *These materials were previously sampled and determined to be non-asbestos.*	

Client Name:	Site Location:	Project No.
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 9. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT09 – 12”x12” Light Grey and White Marble Pattern Loc. #1-08 (Meeting Room 1) *These materials were sampled and determined to be non-asbestos.*	

Photo No. 10. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT10 – 12”x12” Blue-Grey Marble Pattern Loc. #3-14 (Office) *These materials were sampled and determined to be non-asbestos.*	

Client Name:	**Site Location:**	**Project No.**
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Photo No. 11. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT11 – 12”x12” Brown with Light Brown and White Specks Loc. #3-02 (Lunchroom) *These materials were sampled and determined to be non-asbestos.*	

Photo No. 12. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT12 – 12”x12” Light and Dark Green with White Specks Loc. #3-02 (Lunchroom) *These materials were sampled and determined to be non-asbestos.*	

Client Name:	Site Location:	Project No.
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Photo No. 13. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT13 – 12”x12” Dark Blue with White Specks Loc. #3-02 (Lunchroom) *These materials were sampled and determined to be non-asbestos.*	

Photo No. 14. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT14 – 12”x12” Light Yellow with Mustard Specks Loc. #3-02 (Lunchroom) *These materials were sampled and determined to be non-asbestos.*	

Client Name:	Site Location:	Project No.
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 15. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT15 – 12”x12” Navy Blue with White Specks Loc. #3-02 (Lunchroom) *These materials were sampled and determined to be non-asbestos.*	

Photo No. 16. **Date: February 3, 2021** **Description:** **Vinyl Floor Tile** VFT16 – 12”x12” Orange with White Specks Loc. #3-02 (Lunchroom) *These materials were sampled and determined to be non-asbestos.*	

Client Name:	**Site Location:**	**Project No.**
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

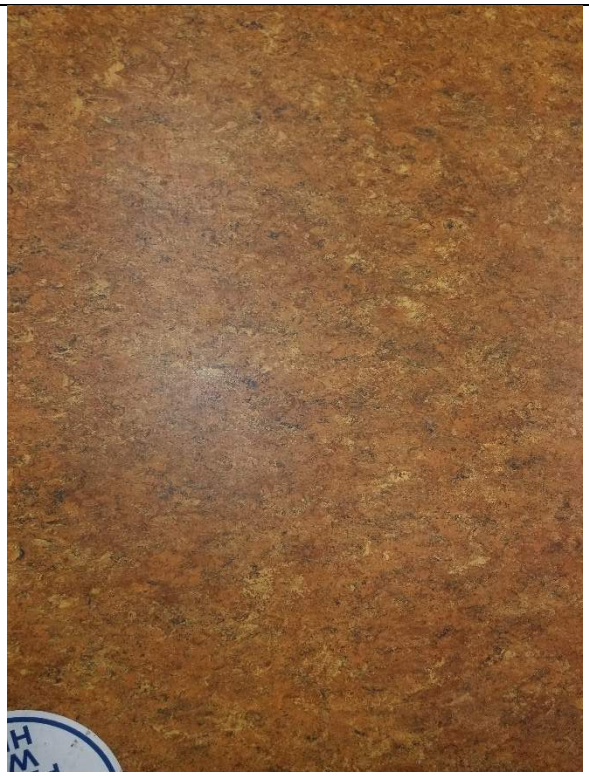
Photo No. 17. **Date: February 3, 2021** **Description:** **Vinyl Sheet Flooring** VSF01 – Orange and Brown Various Locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Photo No. 18. **Date: February 3, 2021** **Description:** **Vinyl Sheet Flooring** VSF02 – Grey, White and Black Various Locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

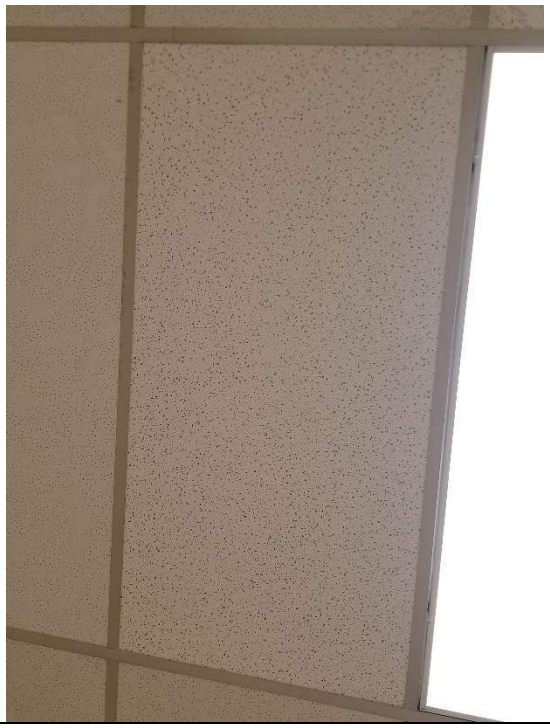
Client Name:	Site Location:	Project No.
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 19. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT01 – 24”x48” Lay-In Widthwise Fissures Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Photo No. 20. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT02 – 24”x48” Lay-In Fleck and Pinhole Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Client Name:	Site Location:	Project No.
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 21. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT03 – 24”x48” Lay-In Pinprick Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Photo No. 22. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT04 – 24”x48” Lay-In Pinprick and Fissure Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Client Name:	Site Location:	Project No.
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 23. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT05 – 24”x48” Lay-In White with Pinhole, Fleck and Lengthwise Fissure Pattern Various locations within Project Area *These materials were previously sampled and determined to be non-asbestos.*	

Photo No. 24. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT06 – 12”x12” Glue-On, White with Pinhole and Fleck Loc. #3-02 (Lunchroom) *These materials were inaccessible (i.e. too high) at time of assessment. These materials are* ***presumed to be asbestos-containing.***	

Client Name:	Site Location:	Project No.
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

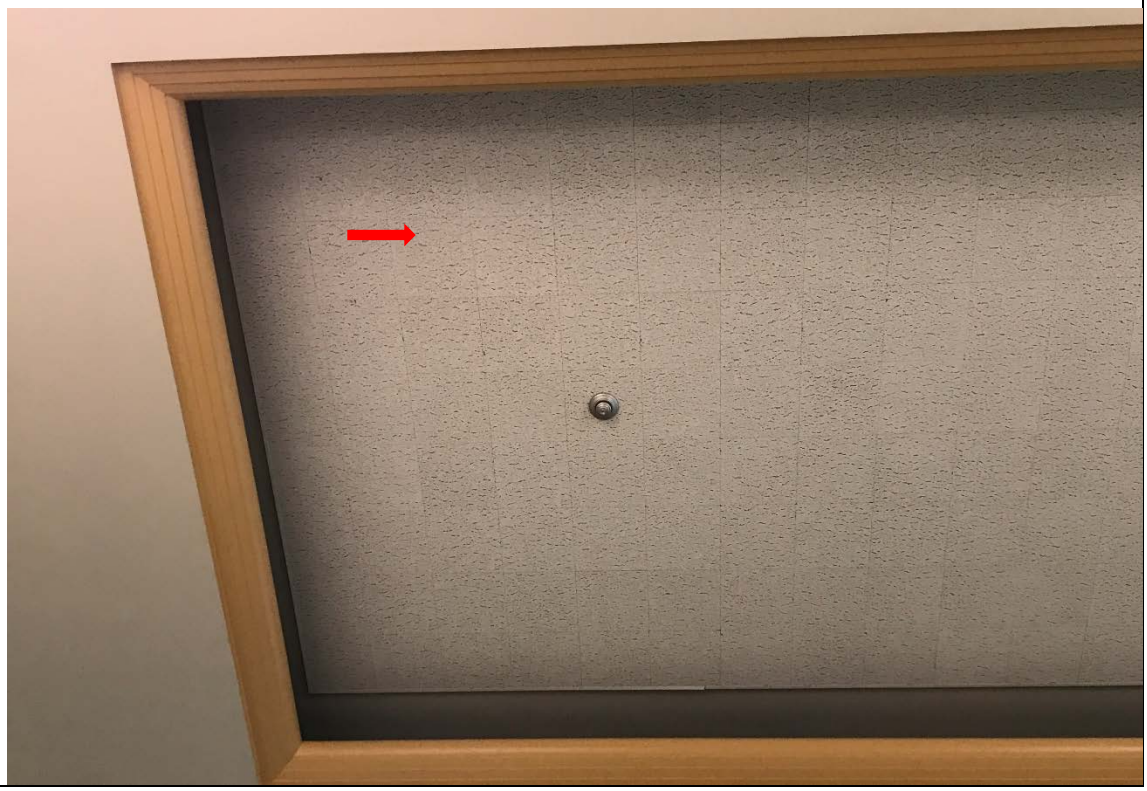
Photo No. 25. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT06 – 12”x12” Glue-On, White with Pinhole and Fleck Loc. #3-02 (Lunchroom) *These materials were inaccessible (i.e. too high) at time of assessment. These materials are* ***presumed to be asbestos-containing.***	

Photo No. 26. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT08 – 2’x4’ Lay-In, Very Small Fissures and Pinholes Loc. #3-08 (Office) *These materials were sampled and determined to be non-asbestos.*	

Client Name:	Site Location:	Project No.
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 27. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT09 – 24”x48” Lay-In, Long Width-Wise Fissures and Pinholes Various Locations within Project Area *These materials were sampled and determined to be non-asbestos.*	

Photo No. 28. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT10 – 2’x4’ Lay-In Grouped Small Hole and Pinhole Loc. #2-09 (Crafts Room (#205) *These materials were determined to be non-asbestos due to presence of date stamp on back of tile (Date Stamp: 04/15/1997).*	

Client Name:	Site Location:	Project No.
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Photo No. 29. **Date: February 3, 2021** **Description:** **Acoustic Ceiling Tile** ACT11 – 24”x48” Random Small Straight Fissure and Pinholes Various locations within Project Area *These materials were determined to be non-asbestos due to presence of date stamp on back of tile (Date Stamp: 10/20/2005).*	

Photo No. 30. **Date: February 3, 2021** **Description:** **Piping Insulation** Asbestos-containing Aircell on Straight Run Pipe Various locations within Project Area *These materials were previously sampled and determined to* ***asbestos-containing (40% Chrysotile).***	

Client Name:	**Site Location:**	**Project No.**
City of Toronto	Adelaide Resource Centre 67 Adelaide Street East, Toronto, ON	26341

Photo No. 31. **Date: February 3, 2021** **Description:** **Piping Insulation** Asbestos-containing Parging Cement on Fittings Various locations within Project Area *These materials were previously sampled and determined to* ***asbestos-containing (10-70% Chrysotile).***	

Photo No. 32. **Date: February 3, 2021** **Description:** **Fire Door** Asbestos-containing Fire door insulation Loc. #1-17 (Electrical Room) *These materials were previously sampled and determined to* ***asbestos-containing (60% Chrysotile).***