



**PROJECT MANUAL
ISSUED FOR TENDER**

**Austin Heights Fire Hall
EIFS Façade Removal**

**428 Nelson Street,
Coquitlam, BC**

Owner: City of Coquitlam

Care of: Jarett Hayes, Senior Capital
Project Manager
City of Coquitlam | Parks,
Recreation, Culture &
Facilities| Capital Construction
3000 Guildford Way
Coquitlam, BC V3B 7N2

Consultant: Morrison Hershfield
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Project No. 2103000.00

Date: November 14, 2023

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1.0 DESCRIPTION

- .1 Work under this Contract as detailed in the contract documents includes but is not restricted to, the supply of all labour, materials, services and incidentals in order to perform the work.
- .2 Except where specified otherwise, all requirements of this section shall apply to the Work of all other sections of the specifications.

2.0 DOCUMENTS REQUIRED AT JOB SITE

- .1 Maintain at job site, one copy each of following:
 - .1 Drawings and Specification
 - .2 Addenda
 - .3 Change Orders
 - .4 Other modifications to Contract
 - .5 Field review reports
 - .6 Test reports
 - .7 Copy of approved, up to date, work schedule.
 - .8 Manufacturers' installation and application instructions
 - .9 Copy of the "Material Safety Data Sheet" (MSDS) for all materials and products on site as required by the "Workplace Hazardous Materials Information System" (WHMIS).
 - .10 A day-to-day record of all work performed,
 - .11 Shop Drawings

3.0 SITE PROECTION

- .1 Tree Protection
 - .1 Install tree protection in general conformance with the requirement of the Authority having Jurisdiction.
- .2 Bird Nesting Periods
 - .1 Contractor to note that the bird nesting window existing between March 1st and August 31st.
 - .2 Contractor to confirm that no ongoing nest activity is present before start of work.

4.0 SUBMITTALS

- .1 Administrative
 - .1 Submit to the Consultant submittals listed for review with reasonable promptness and in an orderly sequence as to not cause delay in the Work.

- .2 Work affected by submittal shall not proceed until review is complete.
- .3 Review submittals prior to submission to Consultant. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of the Work and Contract Documents.
- .4 Verify field measurements and affected adjacent Work are coordinated.
- .2 Shop Drawings and Product Data
 - .1 "Shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of the Work.
 - .2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connection, explanatory notes and other information necessary for completion of Work.
 - .3 Mark-ups done by Consultant are not intended to change Contract Price.
 - .4 Make changes in shop drawings as consultant may require.
 - .5 Submit 4 prints of shop drawings for each component requested in specification Sections and as Consultant may request.
 - .6 Submit 4 copies of product data sheets or brochures for requirements requested in specification Sections and as Consultant may request where shop drawings will not be prepared due to standardized manufacture of product.
- .3 Samples
 - .1 Submit for review, samples in triplicate as requested in respective specification Sections.
 - .2 Deliver samples prepaid to Consultant's business address.
- .4 Operating Maintenance Manuals
 - .1 Two weeks prior to Substantial Performance of the Work, submit to Consultant, 1 physical copy of the operating and maintenance manual/documentation along with a digital copy.
 - .2 Manuals to contain operational information on equipment, cleaning and lubrication schedules, filters, overhaul and adjustment schedules and similar maintenance information.
 - .3 Bind contents in a three-ring, hard covered, plastic jacketed binder. Organize contents into applicable categories of work, parallel to specifications Sections.
- .5 Record Drawings
 - .1 After award of Contract, Consultant will provide a set of drawings for purpose of maintaining record drawings. Accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by Consultant.
 - .2 Record locations of concealed components of mechanical and electrical services.
 - .3 Identify drawings as "Project Record Copy". Maintain in new condition and make available for review on site by Consultant.

- .4 On completion of Work and prior to final review, submit record documents to Consultant.
- .5 Record drawings not submitted on completion of Work will be cause for the Consultant to withhold a retainage amount.

5.0 MEASUREMENT FOR PAYMENT

- .1 Notify Consultant sufficiently in advance of operations to permit required measurements for payment.

6.0 CONTRACTOR'S USE OF SITE

- .1 Due to occupancy of the existing buildings and grounds, areas of work, storage, and disposal bin location on site will be designated by the Consultant before commencement of Work (see site plan for details). The boundaries established thereby shall be strictly observed. Do not unreasonably encumber site with materials or equipment which interfere with the Owner.
- .2 Obtain and pay for use of additional storage or work areas as needed for operations at no additional expense to the Owner.
- .3 When required for Contractor to conduct the Work, close off access to site by placing barricades or posting guards to prevent access to unauthorized personnel. Unauthorized personnel shall mean the public and anyone not directly concerned with the execution, supervision or inspection of the Work.
- .4 Existing or new finished areas must be protected with plywood or suitable sheet material if they are to be used for the transportation of materials or equipment or excessive traffic. Co-ordinate use with the Owner.
- .5 Parking space may be provided on site at a location designated by the Owner.
- .7 No advertisements or company signs, other than safety or warning signs, are permitted on the building or site.
- .8 The Contractor shall be responsible for care and cleaning of areas within the building that are affected by the Work.
- .9 There is no designated area on the property for a site office.
- .10 Emergency Contact
 - .1 Provide a 24-hour emergency contact telephone number in the event that an emergency arises as a result of the work being undertaken.
 - .2 Ensure that emergency service has a maximum response time of 3 hours and can accommodate all conditions that may arise from the work including water damage, hoarding, security, mechanical failure, electrical failure, gas service interruption, utility interruption, broken glass and any other related failure.
- .11 Access to Interior
 - .1 Co-ordinate interior access with the Owners' Representative with a written notice a minimum of 48 hours prior to commencing work for anywhere work affects the interior public space.

- .2 All effort must be made to complete all interior work as quickly and efficiently as possible with a minimum amount of disruption to the occupants.
- .12 Noisy and weekend work
 - .1 Noise generating work must be performed in general conformance with the City of Coquitlam Noise Regulation Bylaw(s).
 - .2 Work on Saturdays is generally acceptable but must following the noise bylaws for acceptable working hours.

7.0 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

- .1 Provide construction facilities and temporary controls to execute work efficiently. Remove from site all such work after use.
- .2 Erect hoarding to protect public, workers, public and private property from injury or damage.
- .3 Provide sufficient sanitary facilities for workers in accordance with local health authorities. Maintain in clean condition. Existing facilities, if designated for the Contractor's use, are to be maintained throughout the construction period.
- .4 The Owner will provide potable water for construction use.
- .5 The Owner will pay for power required during construction for the operating of power tools, to a maximum supply of 120 volts 20 amps. Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal. Temporary power in excess of that provided by the Owner is the responsibility of the Contractor.
- .6 Prevent overloading of any part of the building. Do not store or stockpile material or equipment on floors or roofs. Do not cut, drill or sleeve any load-bearing structural member.
- .7 Protect existing Work or Work of other trades from damage. Damaged Work shall be made good by appropriate trades at the expense of the Contractor.
- .8 Provide weathertight protection to unfinished areas or openings in the assembly. Take precautions to protect openings made in the building from entry of elements and of persons during the Work and to protect existing structure and finishes from damage as a result of the Work. Work damaged or defaced, due to a failure in providing such protection, is to be removed and replaced, or repaired, as directed by the Consultant at no additional cost to the Owner.
- .9 The Contractor shall provide tarpaulins and/or other coverings for the protection of interior finishes and exterior surfaces.
- .10 Drips or smears of bitumen, adhesives, caulking or sealing compounds on adjacent Work, interior finishes, carpet or furniture, shall be removed completely without damage to the building.
- .11 Suitable platforms, wheeling stages and/or plywood shall be provided to protect the existing systems from possible damage caused by material and equipment being moved, mounted or stored on site.
- .12 Where security has been reduced by Work of Contract, provide temporary means to maintain security.
- .13 Provide temporary dust screens, barriers and warning signs in locations where renovation and alteration work is adjacent to occupied areas.

- .14 Execution of Work within occupied premises shall cause a minimum interference with the use of the building. Maintain maximum safety to occupants during Work. Take reasonable measures for control of noise and dust. Dust protection measures will be judged by their effectiveness. Any clean-up required is to be completed by the Contractor at no cost to the Owner.
- .15 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- .16 Do not operate any equipment or machinery, or undertake any dust generating operations, near or adjacent to air intakes. Provide protection to air intakes as required to prevent the entry of dust or other contaminants into the building or building mechanical systems or those of the surrounding buildings.
- .17 Open fires and burning of rubbish are not permitted on the site.
- .18 Protect existing building, curbs, roads and lanes. If, during work, any portion of the building, curbs, roads or lanes are damaged, the damage shall be repaired at no extra expense to the Owner.
- .19 At commencement of work protect all fences, trees, shrubs, and landscape elements from incidental damage. Identify in advance any fencing and landscaping element that will prevent the timely undertaking of the work. The Owner will make arrangements for removal and reinstatement. The Contractor will not be held responsible for replacement of damaged sod in the area of work. This cost should be excluded from the bid price.
 - .1 Every attempt shall be made to preserve the existing mature trees. Identify the trees that will interfere with the timely undertaking of the work. The Owner will make arrangements to trim and/or strap these trees wherever possible.

8.0 CODES AND STANDARDS

- .1 The Specifications are not intended as a detailed description of installation methods, but do indicate particular requirements in the completed Work.
- .2 Conform to the BC Building Code, together with all its related supplements, hereinafter referred to as the "Code" or "code". Where Drawings and Specifications exceed the requirements of the code requirements, provide such additional requirements.
- .3 Where a material is designated on Drawings or in the Specifications for a certain application, unless otherwise specified, that material shall conform to standards designated in the applicable Code. Similarly, unless otherwise specified, installation methods and standards of workmanship shall also conform to standards invoked by the aforementioned code.
- .4 Where reference is made to a specification/code/standard, conform to the latest edition of the specification/code/standard, as amended, as of the date of the Contract.

9.0 QUALITY CONTROL

- .1 Work will be reviewed by the Consultant to evaluate general conformance with the contract documents. The Contractor is responsible to maintain quality control over all aspects of the Work.

- .2 Review and testing are specified as precautions against oversight or errors in the performance of the Contract. These precautions do not in any way relieve the Contractor of his responsibility to perform the Work in conformance with the Contract Documents.
- .3 The Owner and the Consultant shall have unlimited access to all Work at any time requested. If parts of the Work are in preparation at locations other than the Place of the Work, access shall be given to such Work whenever it is in progress.
- .4 Give forty-eight (48) hours notice requesting review if Work is designated for review or approvals by the Consultant.
- .5 If the Contractor covers or permits to be covered Work that has been designated for special tests, review, or approvals before such is made, the Contractor must, at its own expense, uncover the Work, have the Work reviewed or tests satisfactorily completed and make good all Work.
- .6 The Consultant may order any part of the Work to be reviewed if such Work is suspected to be not in accordance with the Contract Documents. The Contractor shall be responsible for the cost of examination, replacement or repair.
- .7 Remove defective Work, whether the result of poor workmanship, use of defective products or damage and whether incorporated in the Work or not, which has been rejected by the Consultant as failing to conform to the Contract Documents. Replace or re-execute in accordance with the Contract Documents.
- .8 Make good other Contractor's Work damaged by such removals or replacements promptly.

10.0 SETTING OUT OF WORK

- .1 Line and levels are generally as shown on drawings.
- .2 Verify lines, levels and dimensions and report errors or inconsistencies in the drawings to the Consultant before commencing.
- .3 Examine the Work of others upon which the new Work depends. Report to the Consultant in writing any defects in such Work.
- .4 Assume full responsibility for and execute complete layout of Work to locations, lines and elevations indicated.
- .5 Provide devices and equipment required to lay out and construct Work.
- .6 Drawings are, in part, diagrammatic and are provided to convey the design intent and scope of Work, as well as indicate the general and approximate location, arrangement and size of fixtures and equipment. Obtain more accurate information about locations, arrangements and sizes at the site and become familiar with conditions and spaces affecting these matters before proceeding with Work. Where job conditions require reasonable changes in indicated locations and arrangements, make changes at no additional cost to owner. Similarly, where existing conditions interfere with new installations and require relocation, include such relocation in the Work of this Contract.

11.0 MOCK-UPS

- .1 Prepare mock-ups as requested by the Consultant and where mock-ups are required by the specifications herein.

- .2 Construct in locations as directed by the Consultant.
- .3 Prepare mock-ups for Consultant review with reasonable promptness and in an orderly sequence, so as not to cause any delay in the Work.
- .4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .5 Remove mock-ups at conclusion of Work or when acceptable to Consultant.
- .6 The approved mock-up may form part of the completed contract Work at the discretion of the Consultant.

12.0 LOCATION OF EQUIPMENT AND FIXTURES

- .1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space and in accordance with manufacturer's recommendations for safety, access and maintenance.
- .3 Inform Consultant of impending installation and obtain his approval for actual location.
- .4 Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.
- .5 All electrical work to be completed by a licensed contractor certified to work the voltage ratings. Acquisition of the necessary permits is the responsibility of the electrical contractor.
- .6 All vents and vent terminations for natural gas or propane fire appliances removed during repairs must be replaced by a licensed gas fitter employed by a registered gas contractor. The installation of gas appliance is to be in accordance with Document MA00-188SA "Reinstallation of Gas Appliance Vents - Update" by the Ministry of Municipal Affairs and as amended by any later regulations.

13.0 ADDITIONAL DRAWINGS

- .1 Consultant may furnish additional drawings to assist proper execution of Work. These drawings will be issued for clarification only. Such drawings shall have same meaning and intent as if they were included in Contract documents.

14.0 CUTTING AND PATCHING

- .1 Submit written request in advance of cutting or alteration which affects the integrity of structural elements, weather-exposed or moisture resistant elements, visual qualities of sight-exposed elements, or Work of the Owner or separate Contractors.
- .2 Inspect existing conditions, including elements subject to damage or movement during cutting and patching. After uncovering, inspect conditions affecting performance of the Work. Beginning of cutting or patching means acceptance of existing conditions.
- .3 Perform cutting, fitting, and patching as necessary to complete the Work. Provide openings in non-structural elements for penetrations of mechanical and electrical Work. Prepare

proper surfaces to receive patching and finishing. Restore Work with new products in accordance with the Contract Documents or to match existing.

- .4 At penetration of fire-rated wall, ceiling, or floor construction, completely seal voids with fire rated material for full thickness of construction element.
- .5 Cut rigid materials using power saw or core drill. Pneumatic or impact tools not allowed.
- .6 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .7 Refinish surfaces to match adjacent finishes; for continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

15.0 MATERIAL AND EQUIPMENT

- .1 Products, materials, equipment and articles incorporated in Work shall be new, not damaged or defective, and of the best quality for the purpose intended. If requested, supply evidence as to type, source and quality of products provided. Should any dispute arise as to quality or fitness of items incorporated in the Work, decision rests strictly with the Consultant based upon requirements of the Contract Documents.
- .2 Defective products will be rejected, regardless of previous inspections and/or reviews. Inspections and reviews do not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.
- .3 Provide and maintain, in a clean and orderly condition, lockable weatherproof trailers for storage of tools, equipment and materials that must remain on site and cannot be exposed to weather.
- .4 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause the least interference with work activities.
- .5 Unless otherwise specified, comply with manufacturer's latest printed instructions for materials and installation methods.
- .6 Notify the Consultant in writing of any conflict between these specifications and the manufacturer's instructions. The Consultant will designate which document is to be followed.
- .7 Deliver, store and maintain packaged material and equipment with manufacturer's seals and labels intact. Store material and equipment in accordance with supplier's instructions.
- .8 Prevent damage, adulteration and soiling of material and equipment during delivery, handling and storage. Immediately remove rejected material and equipment from site.
- .9 Touch-up damaged factory finished surfaces to the Consultant's satisfaction. Use primer or enamel to match original. Do not paint over name plates.
- .10 Store products subject to damage from weather in dry, off-ground, weatherproof enclosures. Remove only in quantities required for same day use.

16.0 REMOVED MATERIALS

- .1 Except as expressly stated otherwise, material indicated for removal becomes the property of the Contractor and shall be taken from the site. Material removed from the site shall be disposed of in accordance with all Federal, Provincial and Municipal regulations.

17.0 WORKMANSHIP

- .1 Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Consultant if required Work is such as to make it impractical to produce required results.
- .2 Do not employ any unfit person or anyone unskilled in their required duties. The Owner and the Consultant, reserve the right to require the dismissal from the site any worker(s) deemed incompetent, careless or insubordinate.
- .3 Decisions as to the quality or fitness of workmanship in cases of dispute rest solely with the Consultant, whose decision is final.
- .4 Furnish all labour, materials and equipment to complete the Work as described. "Work as described" includes all incidental items that by implication, good trade practice, or customary usage, are required to complete the Work, even though they may not be specifically mentioned or shown.

18.0 PUBLIC UTILITIES

- .1 Notify Public Utilities and obtain locations of utilities prior to excavation.

19.0 CLEANING

- .1 When the Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining Work.
- .2 At least once per day, remove accumulations of waste material and debris. Provide a waste container and remove waste materials and debris from the site at regularly scheduled times or dispose of as directed by the Consultant. Cost for removal and disposal of waste material shall be included in the Contract Price.
- .3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .4 Remove dirt and dust, clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, mechanical, electrical fixtures and interior and exterior surfaces. Vacuum carpets. Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer. As directed by the Consultant, replace or repair broken, scratched, stained or disfigured building elements.
- .5 Clean affected roofs, gutters, downspouts, and drainage systems upon completion of the Work.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .8 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly repaired surfaces nor contaminate building systems.
- .9 Broom clean paved surfaces, rake clean other surfaces of grounds as directed by the Owner or the Consultant.

- .10 Make good any damage to the landscaping, sodding and flower beds outside the area of Work damaged by the Contractor's equipment, materials or his work force.
- .11 Clean interior areas prior to start of the interior finishing work, maintain areas free of dust and other contaminants during finishing operations.
- .12 Clean the inside of all windows affected by or adjacent to work at the completion of interior repairs.
- .13 Clean the outside of all windows immediately after the completion of the exterior work.

20.0 DOCUMENTS UPON SUBSTANTIAL COMPLETION

- .1 Prior to applying for Substantial Completion, carefully inspect the Work and ensure it is substantially complete.
- .2 Following the date of Substantial Completion, the Contractor is to provide warranties fully executed and notarized.
- .3 Submit a final statement of accounting, giving total adjusted Contract Price, previous payments, and monies remaining due.
- .4 Provide a statutory declaration that all sub trades and suppliers have been compensated for materials and labour.
- .5 Submit certificate of good standing from the Workers' Compensation Board.
- .6 Comply with the requirements of the Builders Lien Act, British Columbia. The 55 day lien period shall commence upon the date of Substantial Completion as certified by the Consultant.

21.0 TAKEOVER PROCEDURES

- .1 Notify the Consultant, in writing, of satisfactory completion of the Work and request for the final review.
- .2 During the final review by the Consultant and the Owner, a list of deficiencies and defects will be tabulated. Correct same.

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTIONS

- .1 The work in this section includes but is not limited to:
 - .1 Comply with the regulations of the Codes and all applicable safety guidelines.
 - .2 Comply with the WCB asbestos removal regulations.

1.2 REFERENCES

- .1 CSA S269.1 “Falsework for Construction Purposes”.
- .2 CAN/CSA-S269.2 “Access Scaffolding for Construction Purposes”.
- .3 CAN/CSA-Z271 “Safety Code for Suspended Elevating Platforms”.
- .4 Occupational Health and Safety Act of British Columbia.
- .5 National Building Code of Canada.
- .6 British Columbia Building Code.

1.3 CONSTRUCTION SAFETY MEASURES

- .1 Observe construction safety measures of the Codes, Occupational Health and Safety Act of British Columbia, provincial authorities and municipal authorities. In case of conflict or discrepancy, the more stringent requirements shall apply.
- .2 Comply with the requirements of the Occupational Health and Safety Act and Regulations for Construction Projects.
- .3 For the purpose of the Occupational Health and Safety Act, the Contractor will, with respect to the work, be designated the ‘constructor’ as therein defined, and the Contractor shall assume the responsibilities of the constructor as set out in the Act and its Regulations, including the implementation of such precautions and safeguards as will protect all workers and other persons from any adverse effects caused by designated substances and/or hazardous materials originating at, or brought onto the site.
- .4 If the Contractor encounters any of the designated substances defined in the Occupational Health and Safety Act, he shall stop all work and notify the Consultant prior to undertaking any further work. The Contractor will not be compensated for any work stoppage due to the presence of designated substances.
- .5 The Contractor shall supply and maintain a health and safety plan throughout the duration of the Contract. The Contractor is to train and indoctrinate all personnel who will be involved

with the Work. All work is to be performed in a workmanlike manner with due regard for the safety of workers and public.

- .6 The Contractor shall provide full hoarding and enclosures as made necessary by the Work to protect the public, workers, and public and private property from injury or damage. Provide fenced enclosures to all work areas.
- .7 Comply with the latest requirements of Reinstallation of Gas Appliance Vents issued by the Ministry of Municipal Affairs and FCC No. 301-Standard for Construction Operations issued by Fire Commissioner of Canada.
- .8 The Contractor shall provide a copy of the Notice of Project filed with WorkSafeBC.

1.4 OVERLOADING

- .1 Ensure no part of Work is subjected to loading that will endanger its safety or will cause permanent deformation.

1.5 FALSEWORK

- .1 Design and construct falsework in accordance with CSA-S269.1 "Falsework for Construction Purposes".

1.6 SCAFFOLDING

- .1 Design and construct scaffolding in accordance with CAN/CSA-S269.2 "Access Scaffolding for Construction Purposes".

1.7 SUSPENDED SCAFFOLDING

- .1 Suspended scaffolding and their operation shall conform to CAN/CSA-Z271 "Safety Code for Suspended Elevating Platforms".

1.8 WHMIS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets (MSDS) acceptable to Labour Canada and Health and Welfare Canada.
- .2 Deliver copies of WHMIS data sheets to Consultant on delivery of materials.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION

PART 1 - GENERAL

1.1 DESCRIPTION

- .1 The work in this section includes but is not limited to:
 - .1 Remove and recycle or dispose of the EIFS façade assembly, masonry, and cantilevered structural supporting elements as detailed in the drawings.
 - .2 Removal and storage of fire hall plaque at top of EIFS façade for future placement.
 - .3 Removal and storage of flag pole for future placement.
 - .4 Abatement and disposal of hazardous materials outlined in the Pre-Project Hazardous Building Materials Survey by Astech Consultants Ltd. dated March 31, 2023 included in Appendix A.

1.2 REFERENCES

- .1 CSA-S350 “Code of Practice for Safety in Demolition of Structures”.

1.3 EXISTING CONDITIONS

- .1 Take over structures to be demolished based on their condition on the date that tender is accepted.
- .2 Items to be salvaged and stored are to be carefully protected.
- .3 If hazardous material is encountered in the course of demolition work, stop work and notify the Consultant immediately. Do not proceed until written instructions have been received from the Consultant.

1.4 PROTECTION

- .1 Provide bracing and shoring as required to prevent movement, settlement or damage to the adjacent building finishes and/or parts of the existing building which are to remain.
- .2 Take all precautions to support affected structures. In the event that the safety of any structure appears to be endangered, cease operations and immediately notify the Consultant.
- .3 Prevent debris from blocking surface drainage, mechanical, and electrical systems which must remain in operation.
- .4 Post adequate warnings and barricades around the holes caused by demolition or removal of materials.
- .5 Make good all damages caused by demolition.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 WORK

- .1 Dispose or recycle demolished materials, except where noted otherwise, in accordance with authorities having jurisdiction and as noted in the drawings.
- .2 Remove the following materials and equipment as required to perform the work. Store and protect after completion of related work.
 - .1 Fire Hall plaque.
 - .2 Flag Pole.

3.2 SAFETY CODE

- .1 Unless otherwise specified, carry out demolition work in accordance with Section 01001 - General Requirements and CSA-S350 "Code of Practice for Safety in Demolition of Structures".

3.3 PREPARATION

- .1 Disconnect and re-route electrical and telephone service lines in accordance with authorities having jurisdiction. Post warning signs on electrical lines and equipment which must remain energized to serve other properties during period of demolition.
- .2 Disconnect and cap designated mechanical services in accordance with authorities having jurisdiction. If disconnection of wire and/or gas line is required, the disconnection is to be made by qualified tradesman.
- .3 Do not disrupt active or energized utilities intended to remain undisturbed.
- .4 Notify Consultant when deteriorated framing members are encountered in existing construction.

3.4 DEMOLITION

- .1 Demolish parts of building to permit remedial work as indicated.
- .2 Remove existing equipment, services, and obstacles where required for refinishing or making good of existing surfaces, and replace as work progresses.
- .3 Where directed by the Consultant, remove the existing damaged framing members.
- .4 At end of each day's work, leave work site in a safe condition so that no part is in danger of toppling or falling. Protect the interior areas not to be demolished from exterior elements at all times.
- .5 Keep materials wetted to minimize dusting as directed by the Consultant.

END OF SECTION

1.0 GENERAL

1.1 SUMMARY

- .1 The work in this section includes but is not limited to:
 - .1 Mortar repair and re-pointing of existing brick masonry.
 - .2 Localized removal and potential replacement of broken masonry units to accommodate tie-in to adjacent walls.
 - .3 Replacement of broken bricks as needed due to damage during demolition, or exposed conditions.

1.2 REFERENCES

- .1 CSA-A82.1 "Burned Clay Brick".
- .2 CSA-A82.8 "Hollow Clay Brick".
- .3 CSA-A165 "CSA Standards on Concrete Masonry Units".
- .4 CSA-A179 "Mortar and Grout for Unit Masonry".
- .5 CSA-A370 "Connectors for Masonry".
- .6 CSA-A371 "Masonry Construction for Buildings".

1.3 SYSTEM DESCRIPTION

- .1 Design requirements: Design, supply and install brick masonry to meet the current requirements of all applicable codes and local masonry standards.
- .2 All vertical joints between masonry panels shall be caulked (rodded) and sealed in accordance with the requirements of Section 07 92 00 – Joint Sealants.

1.4 QUALITY ASSURANCE

- .1 Installer Qualifications: Only competent, qualified tradesmen experienced with installation of brick masonry shall execute the work of this section.
- .2 Where requirements in this specification section exceed the minimum requirements of the reference standards, the more stringent requirements shall govern.
- .3 The installer shall be a member in good standing of the Masonry Institute of BC, and be qualified under the Technical Masonry Certification (TMC) program.
- .4 Arrange pre-installation conference with Consultant and installers prior to commencing with installation.

1.5 MOCK-UP

- .1 Prepare mock-ups in accordance with Section 00 10 01 - General Requirements as part of the actual wall. The mock-up shall form part of the work once approved by the Consultant.
- .2 Approved sample mock-up(s) shall become the standard for all similar construction and finish, and may become part of the work if built on site as part of the assembly. Mock-up panel not approved shall be removed. Do not commence work on site until mock-up has been approved by Consultant.

1.6 SUBMITTALS

- .1 Samples: Submit samples of each type of masonry unit and mortar for approval by the Owner. Masonry units and mortar to match existing brick and mortar colours.
- .2 Upon request, submit laboratory test reports, from an independent testing laboratory, certifying compliance of masonry units and mortar ingredients with specification requirements.
- .3 Submit maintenance data for incorporation into the project's maintenance manual.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

- .1 Do not deliver to site until such time that installation is imminent and sufficient protected staging area is available for on site storage. Staging area to be approved by Owner.
- .2 Stack masonry units on pallets to avoid chipping, shrink wrap and deliver to site in dry condition. Store off the ground under waterproof cover and protect from the elements and construction activity.
- .3 Deliver, store and handle materials in accordance with Manufacturer's instructions.
- .3 Protect materials from water and freezing temperature.
- .5 Store materials in original packages with labels intact.
- .6 Replace masonry units that are stained, chipped or otherwise damaged from inadequate protection.

1.8 PROJECT / SITE CONDITIONS

- .1 Protect work from rain and snow.
- .2 Masonry installation at ambient temperature below 4°C: Heat sand and mixing water to a minimum temperature of 20°C. Provide enclosures and heat to maintain a temperature of above 4°C at the time of application and minimum 48 hours after application.
- .3 Grouting application at ambient temperature below 4°C: Heat grout to a minimum temperature of 20°C. Provide enclosures and heat to maintain a temperature of above 4°C at the time of application and minimum 24 hours after application.
- .4 Mortar and grout temperatures shall not exceed 50°C. Protect freshly laid masonry from drying too rapidly by means of waterproofed, non-staining covering.
- .5 Maintain dry bed for masonry and use dry masonry units only. Do not wet masonry units in cold weather.

- .6 Protect adjacent finished surfaces by covering with plastic sheets, non-staining Kraft paper, removable masking tape, or other means appropriate and approved by the Consultant. Maintain temporary protection until masonry work is completed.

1.9 PROTECTION

- .1 Protect masonry and work of other sections from marking, mortar droppings and damage resulting from work of this section by use of non-staining coverings and / or other means as required.
- .2 Until completed, keep recently constructed masonry dry using waterproof, non-staining coverings that extend over walls and down sides enough to protect from wind driven rains. Cover top of all work with polyethylene tarpaulin when work is suspended.

2.0 PRODUCTS

2.1 BRICK MASONRY UNITS

- .1 Hollow Clay Brick: Shall conform to CSA-A82.8 "Hollow Clay Brick".
 - .1 Type: To match existing
 - .2 Size: To match existing
 - .3 Colour, finish and texture: To match existing.

2.2 MORTAR AND GROUT

- .1 Use product brand and materials from same source for the entire project.
- .2 Mortar and Grout Materials: Shall conform to CSA-A179 "Mortar and Grout for Unit Masonry".
 - .1 Portland cement: Type 10
 - .2 Hydrated lime: Type S
 - .3 Aggregate: Clean, sharp and free of organic sand
 - .4 Water: Potable, free of deleterious materials
 - .5 Colour pigments: Pure, chemically inert, unfading, alkali-fast, inorganic, finely ground, purpose-made colour pigments for masonry mortars.
- .2 Mortar Mixes: Shall conform to CSA-A179 "Mortar and Grout for Unit Masonry".
 - .1 Type: S
- .3 Use all site mixed mortar within 2 ½ hours of mixing at temperatures under 25° C and within 1 /12 hours for temperatures above 25° C. Mortar may be re-tempered within 2 hours using minimum amounts of water to replace water lost due to evaporation.
- .4 Grout Mixes: Shall conform to Table 3 of CSA-A179 "Mortar and Grout for Unit Masonry".
 - .1 Minimum compressive strength of 20 MPa at 28 days by cylinder test.

- .2 Maximum aggregate size: 10 mm diameter.
- .3 Slump: Minimum 200 mm and maximum 250 mm

2.3 ACCESSORIES

- .1 Metal Flashings in accordance with requirements Section 07 62 00.
- .2 Sealants in accordance with requirements of Section 07 92 00.

2.4 CLEANING COMPOUNDS

- .1 Masonry Cleaners: in accordance with masonry manufacturer's recommendations for type of units provided. Note that muriatic acid is not permitted.
- .2 Acceptable Manufacturer: Fabrikem
 - .1 Product: Fabrikem Masonry Cleaner. Type as recommended by manufacturer.
 - .2 Or approved alternate.

3.0 EXECUTION

3.1 EXAMINATION

- .1 Notify Consultant of unsatisfactory substrate conditions before proceeding.
- .2 Inspect existing conditions upon which work of this Section is dependent. Report to the Consultant, in writing, any defects or discrepancies. Commencement of work implies acceptance of existing conditions and assuming full responsibility for the finished condition of the work.

3.2 PREPARATION

- .1 Protect all adjacent surfaces, systems, fixtures and components that may become damaged during work of this section.

3.3 INSTALLATION – MASONRY LAYOUT

- .1 Construct masonry work in accordance with CSA-A371 "Masonry Construction for Buildings" requirements and tolerances.
- .2 Nominal thickness joint for brick to match existing.
- .3 Provide horizontal and vertical joints of uniform thickness except where adjustments are necessary to maintain the bond pattern or to adjust coursing.
- .4 Install special units as may be required to form corners, returns, offsets, reveals and indents without cut ends being exposed and without losing bond pattern or module.
- .5 Cull out all masonry units not complying with applicable CSA standards for chips, cracks, broken corners.

- .6 Construct masonry walls using running bond unless otherwise noted.
- .7 Use special shaped units, job cut or purpose made where specified or required.
- .8 Maintain bond pattern below and above openings.

3.4 INSTALLATION – BRICK MASONRY

- .1 Do not wet concrete masonry wall units during erection of walls.
- .2 Hollow Units: Use face shell bedding with full head and bed joints. Minimize mortar protruding or dropping into core spaces
- .3 Tamp units firmly into place.
- .4 Closure units must receive "double buttering" to ensure full head joints.
- .6 Do not reset masonry units after laying. Where resetting of masonry is required, remove and clean units and reset in new mortar.
- .7 Exposed joints shall be concave, strike concealed joints flush.
- .8 At the intersection of brick veneer abutting dissimilar materials (concrete, stucco/steel stud walls, etc.) rake vertical joint 10 mm (3/8") and tool square. Sealant shall be by others in accordance with Section 07920.
- .9 After mortar has initially "set up", tool all joints where required, wipe wall surface with suitable brush or burlap to remove mortar protrusions and re-tool the joints.
- .10 On completion of masonry, fill all holes and cracks, remove loose mortar and repair defective work.

3.5 INSTALLATION - MOVEMENT JOINTS

- .1 Install vertical and horizontal movement joints at existing locations. For vertical joints, sealant colour to match masonry colour. For horizontal joints, sealant colour to match mortar colour.
- .2 Brick expansion joints are to be kept free of mortar, ready to receive a back-up rod and sealant.
- .3 Block control joints shall be raked back, ready to receive a back-up rod and sealant.

3.6 PROTECTION

- .1 Protect completed masonry in accordance with CSA-A370 "Connectors for Masonry".
- .2 Keep masonry dry using waterproof, non-staining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until completed and protected by flashing or other permanent construction.

3.7 MASONRY CLEANING

- .1 Protect adjacent building finishes potentially vulnerable to stains or corrosion from the cleaning agent.

- .2 Prior to full scale cleaning; confirm suitability of materials and methods by cleaning inconspicuous test area.
- .3 Soak wall with clean water and flush off all loose dirt and mortar.
- .4 Apply the specified cleaning agent in accordance with the manufacturer's direction.
- .5 Rinse all areas thoroughly with clean water to remove all cleaning solutions, dirt and mortar residue.

3.8 CLEANUP

- .1 Remove all debris resulting from the work of this section into refuse bins provided.

END OF SECTION

1.0 GENERAL

1.1 SUMMARY

- .1 The work in this section includes but is not limited to:
 - .1 Installation of semi-rigid insulation at locations identified on drawings.

1.2 REFERENCES

- .1 ASTM C303-21 "Standard Test Method for Dimensions and Density of Preformed Block and Board-Type Thermal Insulation"
- .2 ASTM C518-21 "Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus."
- .3 ASTM C612-14(2019) "Standard Specification for Mineral Fiber Block and Board Thermal Insulation"

1.3 QUALITY ASSURANCE

- .1 Installer Qualifications: Minimum of 2 years experience with installation of similar products. Only competent, qualified tradesmen experienced with insulation installation shall execute the work of this section.
- .2 Arrange pre-installation conference with Consultant and installers prior to commencing with installation.
- .3 Unless otherwise specified, comply with manufacturer's latest printed instructions for material usage, storage and installation method.
- .4 Notify Consultant in writing of any conflict between these specifications and manufacturer's instructions. Consultant will designate which document is to be followed.
- .5 Condition of existing vapour barrier to be confirmed. Consultant to provide formal direction regarding vapour barrier work.

1.4 SUBMITTALS

- .1 Submit under provisions of Section 01 00 00 – General Requirements.
- .2 Product Data: Manufacturer's data sheets on each product to be used, including;
 - .1 Preparation instructions and recommendations.
 - .2 Storage and handling requirements and recommendations.
 - .3 Installation methods. Keep 1 copy on site at all times for reference by Consultant if requested.
- .3 Maintenance Data: Provide manufacturer's product maintenance data and guidelines.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- .1 Do not deliver to site until such time that installation is imminent and sufficient protected storing area is available for onsite storage.
- .2 Store products in manufacturer's unopened packaging until ready for installation.
- .3 Store under cover and keep dry prior to, during and after installing.

1.6 PROJECT / SITE CONDITIONS

- .1 Environmental Requirements: Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Workers' Compensation Board of British Columbia.
- .2 Maintain environmental conditions (protection from elements, temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.7 WARRANTY

- .1 Product Warranty: Provide manufacturer's limited product warranty against manufacturing defects:
- .2 Workmanship Warranty: Application limited warranty for 2 years from date of substantial completion.

2.0 PRODUCTS

2.1 SEMI-RIGID INSULATION

- .1 Floor insulation: Inorganic fibrous glass insulation R-value and thickness to match existing Acceptable material and product manufacturers:
 - .1 Caivtyrock by ROCKWOOL
 - .2 Alternative as approved by Consultant

3.0 EXECUTION

3.1 EXAMINATION

- .1 Prior to commencing installation, verify governing dimensions of building and condition of substrate.
- .2 Notify Consultant of unsatisfactory preparation before proceeding.
- .3 Proceeding with installation acknowledges acceptance of substrate.

3.2 PREPARATION

- .1 Examine, clean and repair as necessary any substrate conditions that would be detrimental to proper installation.
- .2 Surfaces to receive insulation shall be smooth, level, dry, clean, free from dust, dirt and other debris. Notify Consultant in writing of any defects.
- .3 Prepare surfaces using the methods recommended by the manufacturer for achieving the best results for the substrate under the project conditions.
- .4 Do not begin installation until unacceptable conditions have been corrected.

3.3 INSTALLATION

- .1 Install insulation in strict accordance with Manufacturer's written instructions.
- .2 Install insulation in cavities as they are built.
- .3 Cut and fit insulation to provide continuous thermal barrier. Fit insulation neatly around all penetrations.
- .4 Replace any damaged insulation.

3.5 FIELD QUALITY CONTROL

- .1 Manufacturer's technical representative to visit site during installation and provide written field reports to Contractor for submission to Consultant if requested.
- .2 Protect all completed work.
- .3 Touch-up, repair or replace damaged materials prior to Substantial Completion.
- .4 Remove excess materials and or debris from site in accordance with authority having jurisdiction.

END OF SECTION

1.0 GENERAL

1.1 SUMMARY

- .1 The work in this section includes but is not limited to:
 - .1 Supply and installation of new vapour permeable sheet applied sheathing membrane over the exterior gypsum sheathing.
 - .2 The sheathing membrane will be installed as the moisture barrier as well as to improve the air tightness of the wall system.

1.2 REFERENCES

- .1 ASTM-E96 "Standard Test Methods for Water Vapour Transmission of Materials".
- .2 ASTM-E1677 "Standard Specifications for an Air Retarder (AR) Material or System for Low-Rise Framed Building Walls".
- .3 AATCC-127 "Hydrostatic Head Test".

1.3 QUALITY ASSURANCE

- .1 Applicator of the primary air barrier membranes specified in this section is to be recognized by the manufacturer as suitable for the execution of the Work.
- .2 Perform Work in accordance with the manufacturer's written instructions of the air barrier membrane and this specification.
- .3 Maintain one copy of manufacturer's written instructions on site.
- .4 Arrange pre-installation conference with Consultant and installers prior to commencing with installation. If requested by Consultant, manufacturer's representative to be present.
- .5 At the beginning of the Work and at all times during the execution of the Work, allow access to Work site by the air barrier membrane manufacturers' representative.
- .6 Components used in this section shall be sourced from one manufacturer, including sheet membrane, air barrier sealants, primers, mastics and adhesives.

1.4 MOCK-UPS

- .1 Mock-up: Provide a mock-up for the evaluation of service preparation techniques, application workmanship and general sequencing requirements.
 1. Prepare mock-up as part of the final wall assembly to the required dimensions as outlined on the drawings.
 2. Mock-up shall contain all necessary tie-ins around the wall openings incorporating the typical substrates and claddings; showing air barrier membrane application details.
 3. Do not proceed with remaining work until workmanship are approved by Consultant and Owner.
 4. Re-finish mock-up area as required to produce acceptable work.

5. Approved mock-up to be the accepted standard for all future work.

1.5 SUBMITTALS

- .1 Prior to commencing the Work submit manufacturers' technical data sheets for Consultant review.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver materials to the job site in undamaged and original packaging indicating the name of the manufacturer and product.
- .2 Store role materials on end in original packaging.
- .3 Store adhesives and primers at temperatures of 5°C and above to facilitate handling.
- .4 Keep solvent away from open flame or excessive heat.
- .5 Protect rolls from direct sunlight until ready for use.

2.0 PRODUCTS

2.1 SHEATHING MEMBRANE

- .1 Air barrier membrane: self-adhering membrane consisting of a microporous film laminate, backed with a specially applied adhesive, which allows water vapour to permeate through. Transition membrane shall be compatible with the primary membrane and consist of the following physical properties:
 - .1 Thickness: 0.43 mm (17 mils),
 - .2 Air leakage: 0.010 L/s.m² @ 75 Pa to ASTM E283-91.
 - .3 Water vapour permeance: 2115 ng/Pa.m².s (37 perms) to ASTM E96,
 - .4 Low temperature flexibility at -40°C: Pass to ASTM D311,
 - .5 Hydrostatic Water Resistance: 122 kPa (18 psi) to ASTM D751 Procedure A.
 - .6 Acceptable products:
 - .1 Blueskin VP 160 by Henry,
 - .2 Sopraseal VP by Soprema,
 - .3 Consultant approved alternative.

2.2 PRIMER AND TRANSITION SEALANT

- .1 Primary membrane primer: low VOC synthetic rubber based adhesive type, quick setting, having the following physical properties:
 - .1 Acceptable product: As recommend by manufacturer for use as primer with self adhesive membrane application;

- .2 Termination sealant: polymer modified sealing compound having the following characteristics:
 - .1 Acceptable product: as approved by the manufacturer for use with air / moisture barrier membrane.

3.0 EXECUTION

3.1 EXAMINATION

- .1 Verify that surfaces and conditions are ready to accept the Work of this section. Notify Consultant in writing of any discrepancies. Commencement of the work or any parts thereof shall mean acceptance of the prepared substrate.
- .3 At exposed locations, do not proceed with application of air barrier membrane when rain is expected within 16 hours if areas will remain exposed after application.

3.2 PREPARATION

- .1 All surfaces must be sound, dry, clean and free of oil, grease, dirt, excess mortar or other contaminants. Fill spalled areas in substrate to provide an even plane.
- .2 Gaps up to 6 mm wide shall be infilled with a product acceptable to the manufacture and, if required, allowed to cure overnight prior to the application of the membrane to the surface.

3.3 PRIMER INSTALLATION

- .1 Apply primer for self-adhering membranes at rate recommended by manufacturer.

3.4 MEMBRANE INSTALLATION

- .1 Align and position self-adhering membrane, remove protective film and press firmly into place. Ensure minimum 50 mm overlap at all end and side laps.
- .2 Tie-in to existing membranes as indicated in drawings.
- .3 Promptly roll all laps and membrane with a countertop roller to effectively seal to the substrate.
- .4 Ensure all preparatory work is complete prior to applying moisture barrier membrane.
- .5 Apply sealant as detail on the drawings and as required such that the continuity of the air tightness layer is maintained.

3.6 FIELD QUALITY CONTROL

- .1 Protect all completed work.
- .2 Touch-up, repair or replace damaged materials prior to concealing with [exterior insulation] and cladding as required.

3.7 CLEANING AND CLEAN-UP

- .1 At completion of work remove off site all excess materials and debris.
- .2 Leave site in clean condition.
- .3 Make good all defects to this installation or defects to other work caused by this site installation.

END OF SECTION

1.0 GENERAL

1.1 SUMMARY

- .1 The work in this section includes but is not limited to the fabrication and installation of:
 - .1 Infill gaps and missing sections of parapet flashing and tie-in to existing,
 - .2 Antennae cover flashing.

1.2 REFERENCES

- .1 CSSBI-S8 "Quality and Performance Specification for Pre-Finished Sheet Steel Used for Building Products".
- .2 ASTM-A924/A924M "Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process".
- .3 ASTM-B32 "Standard Specification for Solder Metal".
- .4 ASTM-B69 "Standard Specification for Rolled Zinc".
- .5 ASTM-B370 "Standard Specification for Copper Sheet and Strip Building Construction".
- .6 ASTM-D822 "Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and related Coatings".
- .7 CSA-B111 "Wire Nails, Spikes and Staples".
- .8 CAN/CGSB-93.1M "Sheet Aluminum Alloy, Pre-Finished, Residential".
- .9 CAN/CGSB-1.171 "inorganic Zinc Coating".
- .10 ASTM-A653/A653M "Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process."
- .11 Aluminum Association Designation System for Aluminum Finishes.
- .12 Aluminum Association Aluminum Sheet Metal Work in Building Construction.
- .13 CSSBI-20M "Standard for Sheet Steel Cladding for Architectural Industrial and Commercial Building Application".
- .14 Roofing Practices Manual, Roofing Contractors Association of British Columbia (RCABC).

1.3 QUALITY ASSURANCE

- .1 Installer Qualifications: Minimum of 5 years experience with installation of similar products.
- .2 Arrange pre-installation conference with Consultant and installers prior to commencing with installation.

1.4 SUBMITTALS

- .1 Product Data: Manufacturer's data sheets on each product to be used, including;
 - 1. Product finish and gauge.

2. Storage and handling requirements and recommendations.
3. Installation methods.
- .2 Maintenance Data: Provide manufacturer's product maintenance data and guidelines.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- .1 Do not deliver to site until such time that installation is imminent and sufficient protected staging area is available for on site storage. Staging area to be approved by Owner.
- .2 Store products in unopened packaging until ready for installation.
- .3 Store under cover and keep dry prior to installing.
- .4 Store and dispose of solvent-based materials and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.6 PROJECT / SITE CONDITIONS

- .1 Environmental Requirements: Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Worksafe BC.
- .2 Maintain environmental conditions (protection from elements, temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.7 WARRANTY

- .1 Workmanship Warranty: Application limited warranty for 2 years from date of substantial completion.

2.0 PRODUCTS

2.1 SHEET METAL COMPONENTS

- .1 Zinc coated sheet steel: Quality to ASTM-A924/A924M "Standard Specification for General requirements for Steel Sheet, Metallic Coated by Hot-Dip Process", 24 gauge thickness unless noted otherwise with Z275 designation zinc coating.
- .2 Aluminum Sheet: Quality to CAN/CGSB-93.1M "Sheet Aluminum Alloy, Pre-Finished, Residential".24 gauge thickness unless noted otherwise.
- .3 Copper Sheet: Quality to ASTM-B370 "Standard Specification for Copper Sheet and Strip for Building Construction", H00 temper designation with minimum mass of 5.4 kg/m².
- .4 Zinc Sheet: Quality to ASTM-B69 "Standard Specification for Rolled Zinc", 0.8mm thickness unless noted otherwise.

2.2 PRE-FINISHED SHEET STEEL COMPONENTS

- .1 Pre-finished steel sheet with factory applied silicone modified polyester.
 - .1 Class F1S.
 - .2 Color to be selected by Consultant from Manufacturer's standard range.
 - .3 Specular Gloss: 30 units +/- 5 in accordance with ASTM-D523 "Standard Test Method for Specular Gloss".
 - .4 Coating Thickness: not less than 25 micrometers.
 - .5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5 units or less and erosion rate less than 20% to ASTM-D822 "Standard Practice for Conducting Tests on paint and Related Coatings and Materials Using Filtered Open Flame carbon-Arc Exposure Apparatus" as follows:
 - .1 Outdoor exposure period of 1000 hours.
 - .2 Humidity resistance exposure period of 1000 hours.

2.3 PRE-FINISHED ALUMINUM COMPONENTS

- .1 Finish: Factory applied coating to CAN/CGSB-93.1M "Sheet Aluminum Alloy, Pre-Finished, Residential", amended as follows:
 - .1 Type 1
 - .2 Class F2S.
 - .2 Colour to be selected by Consultant from Manufacturer's standard range.
 - .3 Specular Gloss: 30 units.
 - .4 Coating Thickness: not less than 25 micrometers.

2.4 ACCESSORIES & FASTENERS

- .1 Pop Rivets: Of same material as sheet metal, of length and thickness suitable.
- .2 Fasteners: Of same material as sheet metal, to CSA-B111 "Wire Nails, Spikes and Staples", ring thread flat head roofing nails of length and thickness suitable for metal flashing application.
- .3 Washers: Of same material as sheet metal, 1mm thick with rubber packings.
- .4 Solder: To ASTM-B32 "Standard Specification for Solder Metal".
- .5 Flux: Rosin, cut hydrochloric acid, or commercial preparation suitable for materials to be soldered.
- .6 Touch-up Paint: As recommended by pre-finished material Manufacturer.

2.5 GENERAL FABRICATION

- .1 Fabricate metal flashings and other sheet metal work in accordance with applicable RCABC details and indicated on drawings.
- .2 Form pieces in 2400 mm (8 foot) maximum lengths. Make allowance for expansion at joints.

- .3 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.
- .4 Hem exposed edges on underside 12mm (3/8").
- .5 Return finished side at underside to conceal unfinished underside at all exposed visible locations.
- .6 Miter and solder all continuous corner pieces.

2.6 METAL FLASHING

- .1 Form all exposed flashing, copings and fascias from 24 gauge to profiles as indicated on drawings.
- .2 Return finished side at underside to conceal unfinished underside at all exposed visible locations.

3.0 EXECUTION

3.1 EXAMINATION

- .1 Prior to commencing installation, verify governing dimensions of building and condition of substrate.
- .2 If substrate preparation is the responsibility of another installer, notify Consultant of unsatisfactory preparation before proceeding.
- .3 Proceeding with installation acknowledges acceptance of substrate.

3.2 PREPARATION

- .1 Examine, clean and repair as necessary any substrate conditions that would be detrimental to proper installation.
- .2 Do not begin installation until unacceptable conditions have been corrected.
- .3 Prepare surfaces using the methods recommended by the manufacturer for achieving the best results for the substrate under the project conditions.

3.3 GENERAL INSTALLATION

- .1 Install sheet metal work in accordance with RCABC details, and Aluminum Sheet Metal Work in Building Construction as detailed.
- .2 Use concealed fastenings except where approved before installation.
- .3 Provide underlay under sheet metal. Secure in place and lap joints 100mm (4") minimum.

3.4 FLASHING

- .1 Connect flashing joints with S-locks or standing seams forming tight fits over hook strips.
- .2 Install sealant at all joints not installed over a self-adhesive membrane counter flashing.

- .3 Lock end joints and caulk with sealant.
- .4 Provide flashing with soldered or continuously folded end-dams with safety edges. Folded end-dams must be done in a fashion to eliminate pin hole penetrations after fold.

3.5 FIELD QUALITY CONTROL

- .1 Manufacturer's technical representative to visit site during installation and provide written field reports to Contractor for submission to Consultant as requested.
- .2 Protect all completed work.

END OF SECTION

1.0 GENERAL

1.1 DESCRIPTION

- .1 The work in this section includes but is not limited to:
 - .1 Supply and installation of interior and exterior sealant on all aspects of the project, unless specifically identified in the construction documentation.

1.2 REFERENCES

- .1 CAN/CGSB-19.24 "Multi-component, Chemical Curing Sealing Compound".
- .2 CAN/CGSB-19.18, "Sealing Compound, One-Component, Silicone Base, Solvent Cure".
- .3 Manufacturer's installation instructions.

1.3 SAMPLES

- .1 Submit samples of each type of material and colour in accordance with the General Requirements.

1.4 MOCK-UP

- .1 Construct mock-up in accordance with the General Requirements to show location, size, shape and depth of joints complete with back-up material, primer and sealant.
- .2 Undertake adhesion tests to confirm adequate sealant bonds to their substrates in advance of general installation. The samples are to cure for minimum one month prior to the tests.

1.5 ENVIRONMENTAL AND SAFETY REQUIREMENTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of material safety data sheets acceptable to Worksafe BC.
- .2 Conform to all Manufacturer's recommendations regarding installation, temperature, relative humidity, substrate moisture content for application and curing, and other special conditions governing use.

1.6 COMPATIBILITY

- .1 Compatibility between components is essential. When required, provide written declaration from Manufacturer to the Consultant stating that materials and components, as assembled in system, meet this requirement.

- .2 Contractor to confirm compatibility of sealant with adjacent materials prior to application.

2.0 PRODUCTS

2.1 SEALANT MATERIAL QUALIFICATION

- .1 Sealant acceptable for use on this project must be listed on CGSB Qualified Products List issued by CGSB Qualification Board for Joint Sealants. Where sealants are qualified with the installation of primers, the proper primers are to be used.

2.2 SEALANT MATERIALS

- .1 Sealant Type 1: Black, solvent-based mastic composed of SBS modified bitumen, fibres and mineral fillers
 - .1 AquabARRIER Mastic by IKO
 - .2 Sopramastic by Sorpema,
 - .3 Approved alternative
- .2 Sealant Type 2: Silicone, one part, non-sag. Acceptable materials:
 - .1 Dow Corning Contractors Weatherproofing Sealant
 - .2 Dow Corning 795 Silicone Building Sealant
 - .3 GE Silpruf
 - .4 Tremco Tremsil 600
- .3 Primers: As recommended by each sealant Manufacturer
- .4 Backing Material: Pre-formed compressible and non-compressible, polyethylene, urethane, neoprene or vinyl foam.
 - .1 Extruded closed cell foam backer rod.
 - .2 Size: oversize 30 to 50% larger than the joint width.
- .5 Bond Breaker Tape: Polyethylene bond breaker tape which will not bond to sealant or bond breaker as recommended by the sealant manufacturer (in writing, if requested by the Consultant).

2.3 SEALANT SELECTION

- .1 Self-adhesive weather barrier perimeter detailing: Sealant Type.
- .2 Exterior exposed sealant joints: Sealant Type 2.

2.4 JOINT CLEANER

- .1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant Manufacturer.

3.0 EXECUTION

3.1 PREPARATION OF JOINT SURFACES

- .1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.
- .2 Clean bonding joint surfaces of harmful substances including dust, rust, oil, grease, and other matters which may impair the work.
- .3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.
- .4 Ensure joint surfaces are dry and frost free.
- .5 Prepare surfaces in accordance with Manufacturer's recommendations.

3.2 PRIMING

- .1 Mask adjacent surfaces prior to priming and caulking.
- .2 Prime sides of joints in accordance with sealant Manufacturer's instructions immediately prior to caulking.

3.3 BACKUP MATERIAL

- .1 Install bond breaker where required in accordance with Manufacturer's instructions.
- .2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.4 MIXING

- .1 Mix materials in strict accordance with sealant Manufacturer's instructions.

3.5 APPLICATION

- .1 Sealant Application.
 - .1 Apply sealant in accordance with Manufacturer's written instructions respecting maximum and minimum joint dimensions.
 - .2 Mask edges of joint to provide neat joint.
 - .3 Apply sealant using gun with proper nozzle size.
 - .4 Apply by pushing the sealant ahead of the application nozzle using adequate pressure to fill the entire joint.
 - .5 Apply sealant in continuous beads.
 - .6 Use sufficient pressure to fill voids and joints completely.
 - .7 Form surface of sealant joint with a smooth and full bead of sealant. It is to be free from ridges, wrinkles, sags, air pockets and embedded impurities.
 - .8 Tool exposed surfaces before skinning begins to give proper concave shape.

- .9 Remove excess compound promptly as work progresses and upon completion.
- .2 Curing.
 - .1 Allow sealant to cure in accordance with sealant Manufacturer's instructions.
 - .2 Do not cover up sealant until proper curing has taken place.
- .3 Cleanup.
 - .1 Clean adjacent surfaces immediately and leave work neat and clean.
 - .2 Remove excess and droppings, using recommended cleaners as work progresses.
 - .3 Remove masking tape after initial set of sealant.

END OF SECTION

1.0 GENERAL

1.1 SUMMARY

- .1 The work of this section includes but is not limited to:
 - .1 Installation of gypsum sheathing at the soffit as indicated on the design drawings.

1.2 REFERENCES

- .1 ASTM-C1177 "Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing".
- .2 ASTM-C1278 "Standard Specification for Fiber-Reinforced Gypsum Panel".
- .3 ASTM-E84 "Standard Test Method for Surface Burning Characteristics of Building Materials".
- .4 ASTM-E119 "Standard Test Method for Fire Tests of Building Construction and Materials".
- .5 ASTM-E136 "Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C".

1.3 SUBMITTALS

- .1 Submit technical data sheets for exterior sheathing products to the Consultant prior to installation.

1.4 QUALITY ASSURANCE

- .1 The Contractor shall have successfully installed exterior sheathing on several projects of a similar type, size and geographical location as this project within the past five years. These projects shall have resulted in construction with a successful record of in-service performance.
- .2 Confirm that the framing is in a condition suitable for sheathing installation. The commencement of sheathing installation will imply unconditional acceptance of the existing framing to receive the work of this section.
- .3 Unless otherwise specified, comply with Manufacturer's latest printed instructions for materials and installation methods.
- .4 Notify the Consultant in writing of any conflict between these specifications and Manufacturer's instructions. The Consultant will designate which document is to be followed.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 All materials shall be delivered in their original unopened packages with labels legible and intact.

- .2 All materials shall be stored in a dry enclosed shelter providing protection from damage and exposure to the elements such as rain, freezing, high temperature and direct sunlight.
- .3 Damaged or deteriorated materials shall be removed from the premises.
- .4 Material Safety Data Sheets shall be available for all materials.

2.0 PRODUCTS

2.1 SHEATHING PRODUCT

- .1 Glass mat faced gypsum sheathing with noncombustible silicone-treated water-resistant core. Minimum sheathing thickness ½". Acceptable material:
 - 1. DensGlass Sheathing by Georgia Pacific Building Products.
 - 2. Alternative approved by Consultant

2.2 FASTENERS

- .1 Self-tapping, rust-resistant fasteners in accordance with sheathing Manufacturer's recommendations. Fasteners to meet or exceed 2000 hours salt spray hours as per ASTM B117.
- .2 All fasteners are to be compatible with the sheathing and substrate materials.

3.0 EXECUTION

3.1 SUBSTRATE EXAMINATION

- .1 Examine and immediately inform Consultant in writing of defects.
- .2 Ensure all critical areas around immediate vicinity of installation are suitably protected.

3.2 SHEATHING INSTALLATION

- .1 Cut sheathing panels to size. Install largest panel possible.
- .2 Install sheathing panels over existing wood joists. The sheathing panels are to be installed with staggered vertical joints.
- .3 Precut sheathing panels into L-shaped pieces to fit around openings. Panel joints shall not align with penetrations.
- .4 Fasten sheathing panels along framing members in accordance with Manufacturer's recommendations.

3.3 PROTECTION

- .1 Protect sheathing from the elements until exterior cladding is installed.

END OF SECTION



March 31, 2023

CITY OF COQUITLAM

Parks, Recreation, Culture & Facilities

640 Poirier Street

Coquitlam, BC V3J 6B1

Attention: Mr. Noel Tracey

Building Technician | Capital Projects and Facilities

Ref: PRE-PROJECT HAZARDOUS BUILDING MATERIALS SURVEY FOR THE PLANNED EXTERIOR RENOVATION OF THE AUSTIN HEIGHTS FIRE HALL LOCATED AT 428 NELSON STREET, COQUITLAM, BC

1.0 INTRODUCTION

Astech Consultants Ltd. (Astech) was retained by City of Coquitlam to conduct a Pre-Project Hazardous Building Materials Survey and compile a detailed report on the presence and location of asbestos containing building materials, lead, polychlorinated biphenyls (PCBs), mercury, stored chemicals, and silica to be impacted by the planned exterior renovation of the Austin Heights Fire Hall located at 428 Nelson Street, Coquitlam, BC. The subject areas of this report includes areas listed in Section 4.1 below.

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

This survey was conducted on March 21, 2023 by Scott Price assisted by Richard Skrukwa of Astech. It must be emphasized that this survey was concerned exclusively with the subject areas of the building. The site survey was only partially destructive due to building occupancy. Also, inaccessible areas which would require the actual dismantling of substantial portions of the building in order to gain access were not investigated. No attempt was made to investigate . Therefore, if during work activities, other hazardous materials, asbestos containing materials, or potential asbestos containing materials not included in this report are discovered, work should immediately cease in the affected area. At that time, Astech should be contacted so that they can initiate immediate appropriate action so that there are no undue delays.

2.0 BUILDING DESCRIPTION

The subject building on site is described as a two-storey fire hall faced with brick and an attached external insulation and finishing system. The building has had a few renovations over the years. The building is heated by a forced air natural gas furnace and ductwork.

3.0 METHODOLOGY

3.1 ASBESTOS CONTAINING MATERIALS

A visual inspection was undertaken in order to determine the type, location, and homogeneous nature of asbestos and potential asbestos containing building materials located at the subject renovation areas. During this inspection, sixteen (16) bulk samples of potential asbestos containing materials were collected from specific locations of the building. The number of samples collected during this survey are in accordance with the guidelines established by the WCB in their 2020 publication Safe Work Practices for Handling Asbestos, and as indicated by actual site conditions. The samples collected were submitted for analysis at our in-house laboratory in accordance with the WCB Occupational Health and Safety Regulation, utilizing polarized light microscopy, and dispersion staining techniques. Results of laboratory analysis of the samples collected during this survey are attached.

3.2 LEAD FINISHES

A visual inspection was undertaken in order to determine the type and location of paints, primers, coatings, and/or glazing finishes suspected of containing lead at the subject renovation areas. During this inspection, three (3) potential lead finishes were analyzed from specific locations of the building. The finishes were analyzed in accordance with US EPA methods and the requirements of the WCB Occupational Health and Safety Regulation. Results of the finishes analyzed during this survey are attached.

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

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

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

4.0 INSPECTION RESULTS

4.1 ASBESTOS CONTAINING MATERIALS

GENERAL NOTE

#1 Potential Asbestos Containing Building Materials: The potential asbestos containing building materials listed below are not planned to be impacted by project and must be considered asbestos containing until laboratory results determine otherwise. In order to test the materials destructive testing may be required.

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

AUSTIN HEIGHTS FIRE HALL - EXTERIOR (SUBJECT AREAS)

Semi-Attached External Insulation and Finishing System (EIFS)

- **Asbestos** containing caulking where EIFS and building connect at metal flashings (some concealed and some on adjoining building materials).
- Potential **asbestos** containing caulking at joints of rooftop metal perimeter flashing (see General Note #1 above).

Non-Asbestos Containing Materials

- Non-asbestos finishing of EIFS.
- Non-asbestos patching on EIFS.
- Non-asbestos caulking between EIFS and rooftop metal perimeter flashing.
- Non-asbestos rubberized membrane behind metal flashings between EIFS and building.

4.2 LEAD

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

Austin Heights Fire Hall - Exterior

- brown paint containing 10,300 parts per million (PPM) of **lead** was used on metal flashings between EIFS and building,
- red paint containing 2,983 PPM of **lead** was used on metal flashing of EIFS, and
- red paint containing 12 PPM of **lead** was used on finishing of EIFS.

4.3 PCBs

The visual inspection determined that there are no fluorescent or HID light fixtures at the subject areas suspected of having PCB containing ballasts or capacitors.

4.4 MERCURY

The visual inspection determined that there are no wall mounted thermostats at the subject areas that contain mercury. However, there are a few fluorescent light bulbs at the subject areas that contain mercury.

4.5 STORED CHEMICALS AND OTHER HAZARDOUS MATERIALS

The following list of materials were present in and around the subject areas at time of inspection:

- several areas with bird droppings.

4.6 SILICA

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

4.7 GYPSUM BOARD

Documentation provided by client states that there is unfinished gypsum board located within the EIFS.

5.0 RECOMMENDATIONS

5.1 ASBESTOS CONTAINING MATERIALS

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

5.2 LEAD

Paints/Primers

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

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

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

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

5.3 MERCURY

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

5.4 OTHER HAZARDOUS MATERIALS

Rodent Droppings

Rodent droppings which can cause infectious disease and/or respiratory disease in humans should be removed as biohazardous waste by a qualified abatement contractor in accordance with the WCB Occupational Health and Safety Regulation, prior to unprotected trades performing work in or conducting selective demolition of a building. In lieu of removing droppings, workers shall wear respirators and protective clothing while in contaminated areas of a building, and while conducting selective demolition of a building.

5.5 SILICA

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

5.6 RECYCLABLE GYPSUM BOARD

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

6.0 OWNER'S AND ABATEMENT CONTRACTOR'S RESPONSIBILITIES

Owner's Responsibilities

For the remediation of hazardous building materials, contract specifications, quality control, and final acceptance of the work remain the responsibility of the Owner. In order to ensure that the Owner has acted in a responsible manner, and to ensure regulatory board compliance, it is recommended that the work and project air monitoring be performed by a qualified and properly insured (with proof of necessary asbestos inclusion rider) Hazardous Materials Abatement Contractor.

Abatement Contractor's Responsibilities

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

As well, prior to transport of hazardous waste, the Abatement Contractor shall assist the Owner by completing and submitting the BC Ministry of Environment and Climate Change Strategy Waste Generator Number Registration Form (Schedule 5 Form 1), once signed by the Owner, if no BC Generator number

exists. If a BC Generator number exists and requires updating for this specific project, the Abatement Contractor shall assist with completing and submitting the update.

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

7.0 APPROXIMATE QUANTITIES FOR HAZARDOUS MATERIALS

The following approximate quantities for hazardous materials are provided as a means to satisfy the requirements of the WCB, and are provided for reference only. Contractors shall be responsible for verifying exact quantities for the purpose of bidding the work.

ASBESTOS CONTAINING MATERIALS	APPROXIMATE QUANTITIES
Confirmed Asbestos Containing Materials	
Asbestos Caulkings where EIFS and Building Connect at Metal Flashings, and Contaminated Building Materials	14 flashings
Potential Asbestos Containing Materials	
Potential Asbestos Containing Caulking at Joints of Rooftop Metal Perimeter Flashing	Not Determined
OTHER HAZARDOUS MATERIALS	
Lead Paint Remaining Attached to Building Materials for Recycle/Disposal	Not Determined
Mercury Containing Light Bulbs	8 bulbs

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

Sincerely,



Scott Price, Principal
 Astech Consultants Ltd.
 Ref: 26364HE01.SP



ASBESTOS BULK SAMPLE REPORT

Date: March 31, 2023

Client: CITY OF COQUITLAM

Location: **Austin Heights Fire Hall - Semi-Attached External Insulation and Finishing System (EIFS)
428 Nelson Street
Coquitlam, BC**

Comments:

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

Sample(s) Collected on March 21, 2023

Sample	Location	Description	Layer: Colour	Non-Asbestos		Asbestos	
				%	Type	%	Type
26364 BS01	Exterior EIFS (North Section)	Caulking (where Metal Flashing abuts Stucco)	1: Grey	98%	Non-Fibrous	2%	Chrysotile
26364 BS02	Exterior EIFS (North Section)	Caulking (where Stucco abuts Metal Perimeter Roof Flashing)	1: Grey	100%	Non-Fibrous	None Detected	
26364 BS03a	Exterior EIFS (North Section)	Stucco (Outer Layer)	1: Red	100%	Non-Fibrous	None Detected	
26364 BS03b	Exterior EIFS (North Section)	Stucco (Inner Layer)	2: Grey	5%	Glass 95% Non-Fibrous	None Detected	
26364 BS04	Exterior EIFS (North Section)	Patch Compound (on Stucco)	1: Beige	100%	Non-Fibrous	None Detected	
26364 BS05	Exterior EIFS (North Section)	Caulking (where Metal Flashing abuts Brick Wall)	1: Brown	98%	Non-Fibrous	2%	Chrysotile
26364 BS06a	Exterior EIFS (North Section)	Stucco (Outer Layer)	1: Red	100%	Non-Fibrous	None Detected	
26364 BS06b	Exterior EIFS (North Section)	Stucco (Inner Layer)	2: Grey	5%	Glass 95% Non-Fibrous	None Detected	
26364 BS07a	Exterior EIFS (Centre Section)	Stucco (Outer Layer)	1: Red	100%	Non-Fibrous	None Detected	
26364 BS07b	Exterior EIFS (Centre Section)	Stucco (Inner Layer)	2: Grey	5%	Glass 95% Non-Fibrous	None Detected	

Sample	Location	Description	Layer: Colour	Non-Asbestos	Asbestos
				% Type	% Type
26364 BS08a	Exterior EIFS (South Section)	Stucco (Outer Layer)	1: Red	100% Non-Fibrous	None Detected
26364 BS08b	Exterior EIFS (South Section)	Stucco (Inner Layer)	2: Grey	5% Glass 95% Non-Fibrous	None Detected
26364 BS09a	Exterior EIFS (South Section)	Stucco (Outer Layer)	1: Red	100% Non-Fibrous	None Detected
26364 BS09b	Exterior EIFS (South Section)	Stucco (Inner Layer)	2: Grey	5% Glass 95% Non-Fibrous	None Detected
26364 BS10	Exterior EIFS (Centre Section)	Caulking (where Metal Flashing abuts Stucco)	1: Brown	97% Non-Fibrous	3% Chrysotile
26364 BS11	Exterior EIFS (South Section)	Rubberized Membrane	1: Black	100% Non-Fibrous	None Detected

Analyst(s): Oliver Collett



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



LEAD BULK SAMPLE REPORT

Date: March 31, 2023
Client: CITY OF COQUITLAM
Location: **Austin Heights Fire Hall - Semi-Attached External Insulation and Finishing System (EIFS)
428 Nelson Street
Coquitlam, BC**

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

Sample(s) Analyzed on March 21, 2023

Sample	Location	Description	Colour	Lead PPM
26364 LS01	Exterior EIFS (North Section)	Paint (on EIFS)	Red	12 PPM
26364 LS02	Exterior EIFS (North Section)	Paint (on Metal Perimeter Flashing)	Red	2,983 PPM
26364 LS03	Exterior EIFS (North Section)	Paint (on Metal Flashing)	Brown	10,300 PPM

Analyst(s): Scott Price



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