



Public Works and Government Services Canada

Requisition No. EZ899-172680/B

DRAWINGS & SPECIFICATIONS
for

**Kent Institution Segregation Control Post
Glazing Replacement**

Project No.: R.082441.001

APPROVED BY:



Regional Manager, AES

Jan 05, 2017

Date



Construction Safety Coordinator

2016-11-20

Date

TENDER:



Project Manager

2017-01-09

Date

CONSULTANTS – SEAL & SIGNATURE

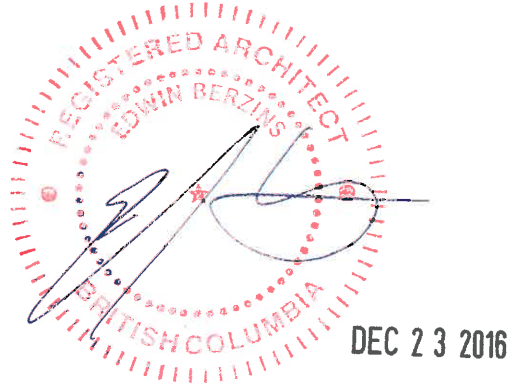
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END OF SECTION

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END OF SECTION

PART 1 GENERAL

1.1 SUMMARY OF WORK

- .1 Work covered by Contract Documents:
 - .1 This Contract covers the following work at the Kent Institution, Agassiz, B.C.
 - .1 Glazing replacement at the Segregation Control Post in Building J-K. Includes removal and disposal of existing glazing and stops, and installation of new glazing and stops. New glazing stops to be primed only.
 - .2 Prepare Mock-up of one window pane as indicated on Drawing A02 (mock-up to include gun port). Mock-up must be approved prior to continuation of work.
 - .3 Phasing of work shall be as indicated on Proposed Phasing Plan drawing A01. Removal and replacement of glazing must be done simultaneously for each pane of glazing; no openings shall be left open at end of each day.
- .2 Work to be performed under this Contract includes, but not limited to, the following items covered further in the Contract documents:
 - .1 Provide a detailed work plan including a project schedule and phasing. This detailed work plan shall be submitted to the Departmental Representative for review to verify that there will be no interruption of service.
 - .2 Do not start work until all essential equipment is delivered to the site and the work can proceed without delays.
 - .3 Provide as-built drawings and closeout submittals.
- .3 Contractor's Use of Premises:
 - .1 Contractor has limited use of site for work of this contract until Substantial Completion:
 - .1 Contractor use of premises for storage and access, as approved by the Departmental representative.
 - .2 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
 - .2 Vehicular access through the Sally Port will be restricted during the inmate "count" at breakfast, lunch and dinner hours. Confirm times with Departmental Representative. Delays may occur when entering and exiting the Institution with vehicles due to security situations and heavy traffic.
- .4 Operation Requirements:
 - .1 Segregation Control Post to remain operation (24 hours per day & 7 days per week) during construction.
 - .2 Removal and replacement of glazing must be done simultaneously per each pane of glazing; security requirement of the control post shall not be compromised by leaving any openings at the end of each day.

1.2 WORK RESTRICTIONS

- .1 Notify Departmental Representative of intended interruption of power, communication and water services and provide schedule of interruption times.
- .2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours of notice for necessary interruption of services throughout course of work. Keep duration of interruptions to a minimum. Coordinate interruptions with local authority having jurisdiction and local residences and businesses affected by the disruption.
- .3 Provide for access by pedestrian and vehicular traffic on and around site where work is in progress.
- .4 Construct barriers in accordance with Section Temporary Barriers and Enclosures.
- .5 Security Requirements: refer to Section 01 14 10 - Security Requirements.
- .6 Hours of work:
 - .1 Perform work during normal working hours of the Institution 0730 to 1600, Monday through Friday except holidays.
 - .2 When it is necessary, arrange in advance with Departmental Representative to work outside of normal working hours.

1.3 CONSTRUCTION WORK SCHEDULE

- .1 Commence work immediately upon official notification of acceptance of offer and complete the work within 22 weeks from the date of such notification.
- .2 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Substantial Certificate and Final Certificate as defined times of completion are of essence of this contract.
- .3 Submittal:
 - .1 Submit to Departmental Representative within 10 working days of Award of Contract, a Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of construction progress.
 - .2 Identify each trade or operation.
 - .3 Show dates for delivery of items requiring long lead time.
 - .4 Departmental Representative will review schedule and return one copy.
 - .5 Re-submit two (2) copies of finalized schedule to Departmental Representative within five (5) working days after return of reviewed preliminary copy.
- .4 Project Scheduling Reporting:
 - .1 Update Project Schedule on bi-weekly basis reflecting activity changes and completions, as well as activities in progress.
 - .2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.
- .5 Project Meetings:

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- .1 Discuss Project Schedule at bi-weekly site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.
 - .2 Weather related delays with their remedial measures will be discussed and negotiated.
 - .3 Before submitting first progress claim submit breakdown of Contract price in detail as directed by Departmental Representative and aggregating contract price. After approval by Departmental Representative cost breakdown will be used as basis for progress payments. Only PWGSC paper work is acceptable.

1.4 SUBMITTAL PROCEDURES

- .1 Administrative:
 - .1 Submit to Departmental Representative submittal listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit 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.
 - .2 Work affected by submittal shall not proceed until review is complete.
 - .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
 - .4 Where items or information is not produced in SI Metric units converted values are acceptable.
 - .5 Review submittal prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittal not stamped, signed, dated and identified as to specific project will be returned without being examined and shall be considered rejected.
 - .6 Notify Departmental Representative in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
 - .7 Verify field measurements and affected adjacent Work are coordinated.
 - .8 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative review of submittal.
 - .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.
 - 10 Keep one reviewed copy of each submission on site.
- .2 Shop Drawings:
 - .1 Drawings to be originals prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate appropriate portion of work; showing

fabrication, layout, setting or erection details as specified in appropriate sections.

.3 Product Data:

.1 Certain specification Sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams, schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings, provided that the product concerned is clearly identified. Submit in sets, not as individual submissions.

.4 Samples:

- .1 Submit samples in sizes and quantities specified.
- .2 Where colour is criterion, submit full range of colours.
- .3 Submit all samples as soon as possible after the contract is awarded, to facilitate production of complete colour scheme by the Departmental Representative.

.5 Mock-ups:

- .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of all Sections required to provide mock-ups.
- .2 Construct in location as specified in specific Section.
- .3 Prepare mock-ups for Departmental Representative' review with reasonable promptness and in an orderly sequence, so as not to cause any delay in 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 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.

.6 Progress Photographs:

- .1 Provide construction photographs in accordance with procedures and submission requirements specified in this clause.
- .2 Progress Photographs:
 - .1 Provide digital photographs with images of minimum 3.1 mega pixel resolution and stored in Jpeg format with minimal compression.
 - .2 Number of viewpoints: four (4), locations of viewpoints or as directed by Departmental Representative.
 - .3 Frequency: weekly, submitted on disk with monthly progress statement, sent via e-mail or as directed by Departmental Representative.
 - .4 Identify photos by location, date and sequential numbering system.
- .3 Final Photographs:

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- .1 Provide digital photographs with images of minimum 3.1 mega pixel resolution and stored in Jpeg format with minimal compression. Where photos are e-mailed compression can be increased.
 - .2 Number of viewpoints:
 - .1 Each interior elevation on both attack side and guard side.
 - .2 In addition to locations of viewpoints determined by Departmental Representative.
 - .3 Submit final photographs in digital format on CD, before final acceptance of building.
 - .4 Label disks and identify with name and project number of project. Indicate exposure dates and viewpoints of each photo and photo number.
- .7 Submission Requirements:
- .1 Schedule submissions at least ten days before dates reviewed submissions will be needed.
 - .2 Submit number of copies of product data, shop drawings which Contractor requires for distribution plus four (4) copies which will be retained by Departmental Representative.
 - .3 Accompany submissions with transmittal letter in duplicate.
 - .4 Submit bond copies (hard copy) as directed by Departmental Representative.
- .8 Coordination of Submissions:
- .1 Review shop drawings, product data and samples prior to submission.
 - .2 Coordinate with field construction criteria.
 - .3 Verify catalogue numbers and similar data.
 - .4 Coordinate each submittal with requirements of the work of all trades and contract documents.
 - .5 Responsibility for errors and omissions in submittal is not relieved by Departmental Representative's review of submittal.
 - .6 Responsibility for deviations in submittal from requirements of Contract documents is not relieved by Departmental Representative's review of submittal, unless Departmental Representative gives written acceptance of specified deviations.
 - .7 Notify Departmental Representative, in writing at time of submission, of deviations in submittal from requirements of Contract documents.
 - .8 Make any changes in submissions which Departmental Representative may require consistent with Contract Documents and re-submit as directed by Departmental Representative.
 - .9 After Departmental Representative's review, distribute copies.
 - .10 Shop Drawings Review:

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- .1 Review of shop drawings by Public Works and Government Services Canada (PWGSC) is for the sole purpose of ascertaining conformance with the general concept.
 - .2 The Departmental Representative's review does not mean that PWGSC approves the detail design inherent in the shop drawings, responsibility remains with the contractor submitting same, and such review will not relieve the Contractor of responsibility for errors or omissions in the shop drawings or of responsibility for meeting all requirements of the construction and contract documents.
 - .3 Without restricting the generality of the foregoing, the Contractor is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to fabrication processes or to techniques of construction and installation, and for co-ordination of the work of all subtrades.

1.5 HEALTH AND SAFETY

- .1 Specified in Section 01 35 33.

1.6 ENVIRONMENTAL PROCEDURES

- .1 Fires and burning of rubbish on site not permitted.
- .2 Do not bury rubbish and waste materials on site unless approved by Departmental Representative.
- .3 Do not dispose of waste or volatile materials such as oil, paint thinner or mineral spirits into waterways, storm or sanitary systems.
- .4 Provide temporary drainage and pumping as necessary to keep excavations and site free from water during excavation and grading activities.
- .5 Control disposal of run-off of water containing suspended materials or other harmful substances in accordance with local authority requirements. Construct settlement ponds and silt fences as required by the Provincial Environmental authority.
- .6 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.
- .7 Under no circumstances dispose of rubbish or waste materials on adjoining property.

1.7 REGULATORY REQUIREMENTS

- .1 References and Codes:
 - .1 Perform Work in accordance with National Building Code of Canada (NBCC2010) and where applicable British Columbia Building Code (BCBC2012) including all amendments up to bid closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.
- .2 Meet or exceed requirements of:
 - .1 Contract documents.
 - .2 Specified standards, codes and referenced documents.

1.8 QUALITY CONTROL

- .1 Inspection:
 - .1 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.
 - .2 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.
 - .3 Departmental Representative may order any part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.
- .2 Procedures:
 - .1 Notify appropriate agency and Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.
 - .2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.
 - .3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.
- .3 Rejected Work:
 - .1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.
 - .2 Make good other Contractor's work damaged by such removals or replacements promptly.
- .4 Reports:
 - .1 Submit (4) four copies of inspection and test reports to Departmental Representative as required by the work.
- .5 Mock-ups:
 - .1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of all Sections required to provide mock-ups.
 - .2 Construct in locations acceptable to Departmental Representative and as specified in specific Section.
 - .3 Prepare mock-ups for Departmental Representative review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.

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- .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 If requested, Departmental Representative will assist in preparing a schedule fixing dates for preparation.
 - .6 Specification section identifies whether mock-up may remain as part of Work or if it is to be removed and when.

1.9 TEMPORARY UTILITIES

- .1 Installation and Removal:
 - .1 Provide temporary utilities controls in order to execute work expeditiously.
 - .2 Remove from site all such work after use.
- .2 Temporary Communication Facilities:
 - .1 Provide and pay for temporary telephone and fax hook up, line(s) necessary for own use.
- .3 Fire Protection:
 - .1 Provide and maintain temporary fire protection equipment during performance of Work required by governing codes, regulations and bylaws.

1.10 CONSTRUCTION FACILITIES

- .1 Installation and Removal:
 - .1 Provide construction facilities in order to execute work expeditiously.
 - .2 Remove from site all such work after use.
- .2 Scaffolding:
 - .1 Design, construct and maintain scaffolding in rigid, secure and safe manner, in accordance with WorkSafeBC regulations and Section 01 35 33.
 - .2 Erect scaffolding independent of walls. Remove promptly when no longer required.
- .3 Site Storage/Loading:
 - .1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
 - .2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.
- .4 Construction Parking:
 - .1 Make good damage to existing roads used for access to project site.
 - .2 Build and maintain temporary access where required and provide snow removal during period of Work.
 - .3 Park vehicles outside perimeter fence in designated parking areas.

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- .4 Contractor may park one (1) pre-approved vehicle within the facility and in a designated area for the purpose of delivering their daily materials to the site from storage area. The vehicle may remain for daily removal of refuse.
 - .5 Equipment, Tools and Material Storage:
 - .1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
 - .2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.

1.11 TEMPORARY BARRIERS AND ENCLOSURES

- .1 Protection for Off-Site and CSC Property:
 - .1 Protect surrounding CSC property from damage during performance of Work.
 - .2 Be responsible for damage incurred.
- .6 Protection of Building Finishes:
 - .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
 - .2 Provide necessary screens, covers, and hoardings.
 - .3 Confirm with Departmental Representative locations and installation schedule 3 days prior to installation.
 - .4 Be responsible for damage incurred due to lack of or improper protection.

1.12 COMMON PRODUCT REQUIREMENTS

- .1 Reference Standards:
 - .1 If there is question as to whether any product or system is in conformance with applicable standards, Departmental Representative reserves right to have such products or systems tested to prove or disprove conformance.
 - .2 Cost for such testing will be born by Departmental Representative in event of conformance with Contract Documents or by Contractor in event of non-conformance.
 - .3 Conform to latest date of issue of referenced standards in effect on date of submission of Bids, except where specific date or issue is specifically noted.
- .2 Quality:
 - .1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new, not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
 - .2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not

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- 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 Should any dispute arise as to quality or fitness of products, decision rests strictly with Departmental Representative based upon requirements of Contract Documents.
 - .4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.
 - .5 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.
- .3 Storage, Handling and Protection:
- .1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.
 - .2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.
 - .3 Store products subject to damage from weather in weatherproof enclosures.
 - .4 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.
 - .5 Remove and replace damaged products at own expense and to satisfaction of Departmental Representative .
 - .6 Touch-up damaged factory finished surfaces to Departmental Representative's satisfaction. Use touch-up materials to match original. Do not paint over name plates.
- .4 Transportation:
- .1 Pay costs of transportation of products required in performance of Work.
 - .2 Transportation cost of products supplied by Departmental Representative will be paid for by Departmental Representative. Unload, handle and store such products.
- .5 Manufacturer's Instructions:
- .1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
 - .2 Notify Departmental Representative in writing, of conflicts between specifications and manufacturer's instructions, so that Departmental Representative may establish course of action.
 - .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Departmental Representative to require removal and re-installation at no increase in Contract Price or Contract Time.

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- .6 Quality of Work:
 - .1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Departmental Representative if required Work is such as to make it impractical to produce required results.
 - .2 Do not employ anyone unskilled in their required duties. Departmental Representative reserves right to require dismissal from site, workers deemed incompetent or careless.
 - .3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Departmental Representative, whose decision is final.
 - .7 Co-ordination:
 - .1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.
 - .2 Be responsible for coordination and placement of openings, sleeves and accessories.
 - .8 Remedial Work:
 - .1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.
 - .2 Perform remedial work by specialists familiar with materials affected. Perform in a manner neither to damage nor to put at risk any portion of Work.
 - .9 Fastenings:
 - .1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
 - .2 Prevent electrolytic action between dissimilar metals and materials.
 - .3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
 - .4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
 - .5 Keep exposed fastenings to a minimum, space evenly and install neatly.
 - .6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.
 - .10 Protection of Work in Progress:
 - .1 Prevent overloading of any part of building. Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated without written approval of Departmental Representative.
 - .11 Existing Utilities:
 - .1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to pedestrian and vehicular traffic.

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- .2 Before commencing work, establish location and extent of service lines in areas of work and notify Departmental Representative of findings.
 - .3 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility. Adhere to approved schedule and provide notice to affected parties.
 - .4 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
 - .5 Record locations of maintained, capped and re-routed services lines.
- .12 Contractors Options for Selection of Products:
- .1 Products specified by "**Prescriptive**" specifications: select any product meeting or exceeding specifications.
 - .2 Products specified under "**Acceptable Products**" (used for complex Mechanical or Electrical Systems): select any one of the indicated manufacturers, or any other manufacturer meeting or exceeding the Prescriptive specifications and indicated Products.
 - .3 Products specified by performance and referenced standard: select any product meeting or exceeding the referenced standard.
 - .4 Products specified to meet particular design requirements or to match existing materials: use only material specified Approved Product. Alternative products may be considered provided full technical data is received in writing by Departmental Representative in accordance with "Instructions to Bidders".
 - .5 When products are specified by a referenced standard or by Performance specifications, upon request of Departmental Representative, obtain from manufacturer an independent laboratory report showing that the product meets or exceeds the specified requirements.
- .13 Substitution after award of Contract:
- .1 No substitutions are permitted without prior written approval of the Departmental Representative.
 - .2 Proposals for substitution may only be submitted after Contract award. Such request must include statements of respective costs of items originally specified and the proposed substitution.
 - .3 Proposals will be considered by the Departmental Representative if:
 - .1 products selected by tenderer from those specified are not available;
 - .2 delivery date of products selected from those specified would unduly delay completion of Contract, or
 - .3 alternative product to that specified, which is brought to the attention of and considered by Departmental Representative as equivalent to the product specified, and will result in a credit to the Contract amount.
 - .4 Should the proposed substitution be accepted either in part or in whole, assume full responsibility and costs when substitution affects other work on the project. Pay for design or drawing changes required as result of substitution.

- .5 Amounts of all credits arising from approval of the substitutions will be determined by the Departmental Representative, and the Contract price will be reduced accordingly.

1.13 EXAMINATION AND PREPARATION

- .1 Existing Services:
 - .1 Before commencing work, establish location and extent of service lines in area of Work and notify Departmental Representative of findings.
 - .2 Remove abandoned service lines within 2 m of structures. Cap or otherwise seal lines at cut-off points as directed by Departmental Representative.
- .2 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 Departmental Representative of impending installation and obtain approval for actual location.
 - .4 Submit field drawings to indicate relative position of various services and equipment when required by Departmental Representative.

1.14 EXECUTION REQUIREMENTS

- .1 Preparation:
 - .1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.
 - .2 After uncovering, inspect conditions affecting performance of Work.
 - .3 Beginning of cutting or patching means acceptance of existing conditions.
 - .4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.
 - .5 Provide protection from elements for areas which may be exposed by uncovering work; maintain excavations free of water.
- .2 Execution:
 - .1 Execute cutting, fitting, and patching, to complete Work.
 - .2 Fit several parts together, to integrate with other Work.
 - .3 Uncover Work to install ill-timed Work.
 - .4 Remove and replace defective and non-conforming Work.
 - .5 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
 - .6 Cut rigid materials using purpose made saw or core drill. Pneumatic or impact tools not allowed on brittle materials without prior approval.

- .7 Restore work with new products in accordance with requirements of Contract Documents.
- .9 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- .10 Refinish surfaces to match adjacent finishes or as noted on dwgs: For continuous surfaces refinish to nearest intersection; for an assembly, refinish entire unit.

1.15 CLEANING

- .1 Project Cleanliness:
 - .1 Maintain Work in tidy condition, free from accumulation of waste products and debris.
 - .2 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials on site, unless approved by Departmental Representative.
 - .4 Provide on-site containers for collection of waste materials and debris.
 - .5 Provide and use clearly marked separate bins for recycling. Refer to- Construction/Demolition Waste Management And Disposal.
 - .6 Clean interior areas prior to start of finish work, and maintain areas free of dust and other contaminants during finishing operations.
 - .7 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
 - .8 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
 - .9 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
 - .10 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.
- .2 Final Cleaning:
 - .1 When Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
 - .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
 - .3 Prior to final review, remove surplus products, tools, construction machinery and equipment.
 - .4 Remove waste products and clean and polish glass and plastic laminate. Replace broken, scratched or disfigured glass.
 - .5 Remove stains, spots, marks and dirt from work, electrical and mechanical fixtures, furniture fitments, walls, and floors.
 - .6 Clean lighting reflectors, lenses, and other lighting surfaces.

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- .7 Vacuum clean and dust building interiors, behind grilles, louvres and screens.

1.16 CONSTRUCTION/DEMOLITION WASTE MANAGEMENT AND DISPOSAL

- .1 Provide on-site facilities for collection, handling, and storage of anticipated quantities of reusable and/or recyclable materials and waste.
 - .1 Separate non-salvageable materials from salvaged items.
 - .2 Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.
 - .3 Transport and deliver non-salvageable items to licensed disposal facility.
- .2 Provide containers to deposit reusable and/or recyclable materials. Locate containers in locations, to facilitate deposit of materials without hindering daily operations. Provide containers to deposit reusable and/or recyclable materials.
- .3 Collect, handle, store on-site and transport off-site, salvaged materials in separate condition. Transport to approved and authorized recycling facility and/or users of material for recycling.
- .4 Locate waste and salvage bins on site as directed by Departmental Representative.

1.17 CLOSEOUT PROCEDURES

- .1 Inspection and Declaration:
 - .1 Contractor's Inspection: Conduct an inspection of Work with all subcontractors, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .2 Notify Departmental Representative in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
 - .3 Request Departmental Representative's Inspection.
- .2 Inspection: Departmental Representative and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor shall correct Work accordingly.
- .3 Substantial Completion: submit written certificate that following have been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents.
 - .2 Defects have been corrected and deficiencies have been completed.
 - .3 Operation of systems have been demonstrated to Departments personnel.
 - .4 Work is complete and ready for Final Inspection.
- .4 Final Inspection: when items noted above are completed, request final inspection of Work by Departmental Representative. If Work is deemed incomplete by Departmental Representative, complete outstanding items and request re-inspection.

1.18 CLOSEOUT SUBMITTAL

- .1 Record Drawings:
 - .1 As work progresses, maintain accurate records to show all deviations from the Contract Drawings. Note on as-built drawings as changes occur. At completion supply:
 - .1 Four (4) sets of CD's in AutoCad file format (version: 2007) with all as-built information on the diskettes.
 - .2 Four (4) sets of as-built plotted reproducible drawings.
 - .3 Four (4) sets of printed as-built drawings.
 - .4 Submit one copy of check plots to Departmental Representative prior to final printing of as-built drawings.
 - .5 Departmental Representative will supply copies of the original AutoCad files.
 - .6 Retain original logo and title block on the as-built drawings. Contractor may place on the upper right-hand title block area a small company logo, the text "AS-BUILT" and the date.
 - .2 Costs for transferring as-built information from marked up working set of drawings to electronic format using ACAD and plotting service is included in the Contract.
- .2 Maintenance manual:
 - .1 On completion of project submit to Departmental Representative four (4) CD R/ disk copies and four (4) paper copies (in loose leaf type binder) of Operations and Maintenance Manual, made up as follows:
 - .1 Provide maintenance manual on CDs using pdf, or other approved format for descriptive writing, page size images and page size drawings. Organize manuals into industry standard maintenance manual tabs with links in index to each descriptive section describing the component or maintenance procedure etc.
 - .2 Organize files into CSI Masterformat numbering system or other approved descriptive titles.
 - .3 Label disk "Operation and Maintenance Data", project name, date, names of Contractor, subcontractors, consultants and subconsultants.
 - .4 Include scanned guarantees, diagrams and drawings.
 - .5 Organize contents into applicable sections of work to parallel project specification break-down. Mark each section by labeled tabs (navigational buttons).
 - .6 Drawings, diagrams and manufacturer's literature must be legible.
- .3 Maintenance Materials, Special Tools and Spare Parts:
 - .1 Specific requirements for maintenance materials, tools and spare parts are specified in individual sections.

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- .2 Deliver maintenance materials, special tools and spare parts to Departmental Representative and store in designated area as directed by Departmental Representative.
 - .3 Prepare lists of maintenance materials, special tools and spare parts for inclusion in Manual specified in Clause 18.2.
 - .4 Special tools:
 - .1 Assemble as specified;
 - .2 Include identifications and instructions on intended use of tools.
 - .4 Warranties and Bonds:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing in maintenance manual.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work.
 - .4 Except for items put into use with Departmental Representative's permission, leave date of beginning of time of warranty until the Date of Interim Completion is determined.
 - .5 Verify that documents are in proper form, contain full information, and are notarized.
 - .6 Retain warranties and bonds until time specified for submittal.

1.19 DEMONSTRATION AND TRAINING

- .1 Demonstration and Training:
 - .1 Demonstrate operation and maintenance of equipment and systems to maintenance personnel following interim Completion and prior to date of final certificate of completion
- .2 Departmental Representative will provide list of personnel to receive instructions, and will coordinate their attendance at agreed-upon times.

1.20 GENERAL COMMISSIONING

- .1 Commission installed systems prior to Demonstration and Training.

END OF SECTION

PART 1 GENERAL

1.1 PURPOSE

- .1 To ensure that both the construction project and the institutional operations may proceed without undue disruption or hindrance and that the security of the Institution is maintained at all times.

1.2 PURPOSE

- .1 "Contraband" means:
 - .1 an intoxicant, including alcoholic beverages, drugs and narcotics
 - .2 a weapon or a component thereof, ammunition for a weapon, and anything that is designed to kill, injure or disable a person or that is altered so as to be capable of killing, injuring or disabling a person, when possessed without prior authorization,
 - .3 an explosive or a bomb or a component thereof,
 - .4 currency over any applicable prescribed limit, \$25.00, and
 - .5 any item not described in paragraphs (a) to (d) that could jeopardize the security of a Penitentiary or the safety of persons, when that item is possessed without prior authorization.
- .2 Unauthorized smoking and related Items@ means all smoking items including, but not limited to, cigarettes, cigars, tobacco, chewing tobacco, cigarette making machines, matches and lighters.
- .3 "Commercial Vehicle" means any motor vehicle used for the shipment of material, equipment and tools required for the construction project.
- .4 "CSC" means Correctional Service Canada.
- .5 "Director" means Director or Warden of the Institution as applicable or their representative.
- .6 "Construction employees" means persons working for the general contractor, the sub-contractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies.
- .7 "Departmental Representative" means the Public Works and Government Services Canada representative defined in General Conditions.
- .8 "Perimeter" means the fenced or walled area of the institution that restrains the movement of the inmates.
- .9 "Construction zone" means the area, as indicated in the contract documents, that the contractor will be allowed to work". This area may or may not be isolated from the security area of the institution. Limits to be confirmed at construction start-up meeting.

1.3 PRELIMINARY PROCEEDINGS

- .1 At construction start-up meeting:
 - .1 Discuss the nature and extent of all activities involved in the Project.

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- .2 Establish mutually acceptable security procedures in accordance with this instruction and the institution's particular requirements.
 - .2 The Contractors' responsibilities:
 - .1 Ensure that all construction employees are aware of the CSC security requirements.
 - .2 Ensure that a copy of the CSC security requirements is always prominently on display at the job site.
 - .3 Co-operate with institutional personnel in ensuring that security requirements are observed by all construction employees.

1.4 CONSTRUCTION EMPLOYEES

- .1 Submit CPIC form and scanned copy of government issued ID for each employee to the Departmental Representative.
- .2 Allow 10 working days for processing of security clearances. Employees will not be admitted to the Institution without a valid security clearance in place and a recent picture identification such as a provincial driver's license. Security clearances obtained from other CSC institutions are not valid at this institution except as approved otherwise.
- .3 The Director may require that facial photographs may be taken of construction employees and these photographs may be displayed at appropriate locations in the institution or in an electronic database for identification purposes. The Director may require that Photo ID cards be provided for all construction workers. ID cards will then be left at the designated entrance to be picked upon arrival at the institution and shall be displayed prominently on the construction employees clothing at all time while employees are at the institution.
- .4 Entry to Institutional Property will be refused to any person there may be reason to believe may be a security risk.
- .5 Any person employed on the construction site will be subject to immediate removal from Institutional Property if they:
 - .1 appear to be under the influence of alcohol, drugs or narcotics.
 - .2 behave in an unusual or disorderly manner.
 - .3 are in possession of contraband.

1.5 VEHICLES

- .1 All unattended vehicles on CSC property must have windows closed; fuel caps locked, doors and trunks locked and keys removed. The keys must be securely in the possession of the owner or an employee of the company that owns the vehicle.
- .2 The director may limit at any time the number and type of vehicles allowed within the Institution.
- .3 Drivers of delivery vehicles for material required by the project will require security clearances and must remain with their vehicle the entire time that the vehicle is in the Institution. The director may require that these vehicles be escorted by Institutional staff or PWGSC Construction Escorts while in the Institution.

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- .4 If the Director permits trailers to be left inside the secure perimeter of the Institution, the trailer doors must be locked at all times. All windows must be securely locked bars when left unoccupied. Cover all windows with expanded metal mesh. When not in use lock all storage trailers located inside and outside the perimeter. All storage trailers inside and outside the perimeter must be locked when not in use.

1.6 PARKING

- .1 The parking area(s) to be used by construction employees will be designated by the Director. Parking in other locations will be prohibited and vehicles may be subject to removal.

1.7 SHIPMENTS

- .1 To avoid confusion with the institution's own shipments, address all shipments of project material, equipment and tools in the Contractor's name and have a representative on site to receive any deliveries or shipments. CSC or PWGSC staff will **NOT** accept receipt of deliveries or shipments of any material equipment or tools for the contractor.

1.8 TELEPHONES

- .1 The installation of telephones, facsimile machines and computers with Internet connections is not permitted within the Institution perimeter unless prior approved by the Director.
- .2 The Director will ensure that approved telephones, facsimile machine and computers with Internet connections are located where they are not accessible to inmates. All computers will have an approved password protection that will stop an Internet connection to unauthorized personnel.
- .3 Wireless cellular and digital telephones, including but not limited to devices for telephone messaging, pagers, Blackberries, PDAs, telephone used as 2-way radios are not permitted within the Institution unless approved by the Director. If wireless cellular telephones are permitted, the user will not permit their use by any inmate.
- .4 The Director may approve but limit the use of 2-way radios.

1.9 WORK HOURS

- .1 Work hours within the Institution are: conform to Division.
- .2 Work is not permitted during weekends and statutory holidays without the permission of the Director. A minimum of seven days advance notice will be required to obtain the required permission. In case of emergencies or other special circumstances, this advance notice may be waived by the Director.

1.10 OVERTIME WORK

- .1 Conform to Division 1.
- .2 Provide 48 hours advance notice to Director for all work to be performed after normal working hours of the Institution. Notify Director immediately if emergency work is required, such as to complete a concrete pour or make the construction site safe and secure.

1.11 TOOLS AND EQUIPMENT

- .1 Maintain a complete list of all tools and equipment to be used during the construction project. Make this inventory available for inspection when required by the Institution.
- .2 Throughout the construction project maintain up-to-date the list of tools and equipment specified above.
- .3 Keep all tools and equipment under constant supervision, particularly power-driven and cartridge-driven tools, cartridges, files, saw blades, rod saws, wire, rope, ladders and any sort of jacking device.
- .4 Store all tools and equipment in approved secure locations.
- .5 Lock all tool boxes when not in use. Keys to remain in the possession of the employees of the contractor. Secure and lock scaffolding when not erected and when erected Secure in a manner agreed upon with the Institution designate.
- .6 Report all missing or lost tools or equipment immediately to the Departmental Representative/Director.
- .7 The Director will ensure that the security staff members carry out checks of the Contractor's tools and equipment against the list provided by the Contractor. These checks may be carried out at the following intervals:
 - .1 At the beginning and conclusion of every work day or shift upon entering and exiting the Institution.
 - .2 At any time when contractor is on Institution property.
- .8 Certain tools/equipment such as cartridges and hacksaw blades are highly controlled items. The contractor will be given at the beginning of the day, a quantity that will permit one day's work. Used blades/cartridges will be returned to the Director's representative at the end of each day. Maintain up to date inventory of all used blades/cartridges.
- .9 If propane or natural gas is used for heating the construction, the institution will require that the contractor supervise the construction site during non-working hours.

1.12 KEYS

- .1 Security Hardware Keys.
 - .1 Arrange with the security hardware supplier/installer to have the keys for the security hardware to be delivered directly to Institution, specifically the Security Maintenance Officer (SMO).
 - .2 The SMO will provide a receipt to the Contractor for security hardware keys.
 - .3 Provide a copy of the receipt to the Departmental Representative.
- .2 Other Keys
 - .1 Use standard construction cylinders for locks for his use during the construction period.
 - .2 Issue instructions to employees and sub-trades, as necessary, to ensure safe custody of the construction set of keys.

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- .3 Upon completion of each phase of the construction, the CSC representative will, in conjunction with the lock manufacturer:
 - .1 Prepare an operational keying schedule
 - .2 Accept the operational keys and cylinders directly from the lock manufacturer.
 - .3 Arrange for removal and return of the construction cores and install the operational core in all locks.
 - .4 Upon putting operational security keys into use, the PWGSC construction escort will obtain these keys as they are required from the SMO and open doors as required by the Contractor. The Contractor shall issue instructions to his employees advising them that all security keys shall always remain with the PWGSC construction escort.

1.13 SECURITY HARDWARE

- .1 Turn over all removed security hardware to the Director of the Institution for disposal or for safekeeping until required for re-installation.

1.14 PRESCRIPTION DRUGS

- .1 Employees of the contractor who are required to take prescription drugs during the workday shall obtain approval of the Director to bring a one day supply only into the Institution.

1.15 SMOKING RESTRICTIONS

- .1 Smoking is not permitted inside correctional facilities or outdoors within the perimeter of a correctional facility and persons must not possess unauthorized smoking items within the perimeter of a correctional facility.
- .2 Persons in violation of this policy will be requested to immediately cease smoking or dispose of any unauthorized smoking items and, if they persist will be directed to leave the Institution.
- .3 Smoking is permitted outside the perimeter of a correctional facility in an area designated by the Director.

1.16 CONTRABAND

- .1 Weapons, ammunition, explosives, alcoholic beverages, drugs and narcotics are prohibited on institutional property.
- .2 The discovery of contraband on the construction site and the identification of the person(s) responsible for the contraband shall be reported immediately to the Director.
- .3 Contractors should be vigilant with both their staff and the staff of their sub-contractors and suppliers that the discovery of contraband may result in cancellation of the security clearance of the affected employee. Serious infractions may result in the removal of the company from the Institution for the duration of the construction.
- .4 Presence of arms and ammunition in vehicles of contractors, sub-contractors and suppliers or employees of these will result in the immediate cancellation of security clearances for the driver of the vehicle.

1.17 SEARCHES

- .1 All vehicles and persons entering institutional property may be subject to search.
- .2 When the Director suspects, on reasonable grounds, that an employee of the Contractor is in possession of contraband, he may order that person to be searched.
- .3 All employees entering the Institution may be subject to screening of personal effects for traces of contraband drug residue.

1.18 ACCESS AND REMOVAL FROM INSTITUTION PROPERTY

- .1 Construction personnel and commercial vehicles will not be admitted to the institution after normal working hours, unless approved by the Director.

1.19 MOVEMENT VEHICLES

- .1 Construction vehicles are not to leave the Institution until an inmate count is completed. Escorted commercial vehicles will be allowed to enter or leave the institution through the vehicle access gate during the following hours:
 - .1 AM: 0745 hrs. to 1100 hrs.
 - .2 PM: 1300hrs. to 1530 hrs.
- .2 The contractor will advise the Director twenty four (24) hours in advance to the arrival on the site of heavy equipment such as concrete trucks, cranes, etc.
- .3 Vehicles being loaded with soil or other debris, or any vehicle considered impossible to search, must be under continuous supervision by CSC staff or PWGSC construction escorts working under the authority of the Director.
- .4 Commercial vehicles will only be allowed access to institutional property when their contents are certified by the Contractor or his representative as being strictly necessary to the execution of the construction project.
- .5 Vehicles will be refused access to institutional property if, in the opinion of the Director, they contain any article which may jeopardize the security of the institution. Arrange with Director for parking of contractor=s vehicles at minimum security Institutions.
- .6 Private vehicles of construction employees will not be allowed within the security wall or fence of medium or maximum security institutions without the authorization of the Director.
- .7 With the approval of the Director, certain equipment may be permitted to remain on the construction site overnight or over the weekend. This equipment must be securely locked, with the battery removed. The Director may require that the equipment be secured with a chain and padlock to another solid object.

1.20 MOVEMENT OF CONSTRUCTION EMPLOYEES ON INSTITUTIONAL PROPERTY

- .1 Subject to the requirements of good security, the Director will permit the Contractor and his employees as much freedom of action and movement as is possible.
- .2 However, notwithstanding paragraph above, the Director may:

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- .1 Prohibit or restrict access to any part of the institution.
 - .2 Require that in certain areas of the institution, either during the entire construction project or at certain intervals, construction employees only be allowed access when accompanied by a member of the CSC security staff or PWGSC Construction Escort Officer.
 - .3 During the lunch and coffee/health breaks, all construction employees will remain within the construction site. Construction employees are not permitted to eat in the Institution cafeteria and dining room.

1.21 SURVEILLANCE AND INSPECTION

- .1 Construction activities and all related movement of personnel and vehicles will be subject to surveillance and inspection by CSC security staff members to ensure that established security requirements are met.
- .2 CSC staff members will ensure that an understanding of the need to carry out surveillance and inspections, as specified above, is established among construction employees and maintained throughout the construction project.

1.22 STOPPAGE OF WORK

- .1 The director may request at any time that the contractor, his employees, sub-contractors and their employees not enter or leave the work site immediately due to a security situation occurring within the Institution. The contractor's site supervisor will note the name of the staff member giving the instruction, the time of the request and obey the order as quickly as possible.
- .2 The contractor shall advise the Departmental Representative of this interruption of the work within 24 hours.

1.23 CONTACT WITH INMATES

- .1 Unless specifically authorized, it is forbidden to come into contact with inmates, to talk with them, to receive objects from them or to give them objects. Any employee doing any of the above will be removed from the site and his security clearance revoked.
- .2 Digital cameras (or any other type) are not allowed on CSC property.
- .3 Notwithstanding the above paragraph, if the director approves of the use of cameras, it is strictly forbidden to take pictures of inmates, of CSC staff members or of any part of the Institution other than those required as part of this contract.

1.24 COMPLETION OF CONSTRUCTION PROJECT

- .1 Upon completion of the construction project or, when applicable, the takeover of a facility, the Contractor shall remove all remaining construction material, tools and equipment that are not specified to remain in the Institution as part of the construction contract.

END OF SECTION

PART 1 - GENERAL

1.1 REFERENCES

- .1 Government of Canada.
 - .1 Canada Labour Code - Part II
 - .2 Canada Occupational Health and Safety Regulations.
- .2 National Building Code of Canada (NBC):
 - .1 Part 8, Safety Measures at Construction and Demolition Sites.
- .3 The Canadian Electric Code (as amended)
- .4 Canadian Standards Association (CSA) as amended:
 - .1 CSA Z797-2009 Code of Practice for Access Scaffold
 - .2 CSA S269.1-1975 (R2003) Falsework for Construction Purposes
 - .3 CSA S350-M1980 (R2003) Code of Practice for Safety in Demolition of Structures
 - .4 CSA Z1006-10 Management of Work in Confined Spaces.
 - .5 CSA Z462- Workplace Electrical Safety Standard
- .5 National Fire Code of Canada 2010 (as amended)
 - .1 Part 5 – Hazardous Processes and Operations and Division B as applicable and required.
- .6 American National Standards Institute (ANSI):
 - .1 ANSI A10.3, Operations – Safety Requirements for Powder-Actuated Fastening Systems.
- .7 Province of British Columbia:
 - .1 Workers Compensation Act Part 3-Occupational Health and Safety.
 - .2 Occupational Health and Safety Regulation

1.2 RELATED SECTIONS

- .1 Refer to the following current NMS sections as required:
 - .1 Section 01 01 50 General Instructions

1.3 WORKERS' COMPENSATION BOARD COVERAGE

- .1 Comply fully with the Workers' Compensation Act, regulations and orders made pursuant thereto, and any amendments up to the completion of the work.
- .2 Maintain Workers' Compensation Board coverage during the term of the Contract, until and including the date that the Certificate of Final Completion is issued.

1.4 COMPLIANCE WITH REGULATIONS

- .1 PWGSC may terminate the Contract without liability to PWGSC where the Contractor, in the opinion of PWGSC, refuses to comply with a requirement of

the Workers' Compensation Act or the Occupational Health and Safety Regulations.

- .2 It is the Contractor's responsibility to ensure that all workers are qualified, competent and certified to perform the work as required by the Workers' Compensation Act or the Occupational Health and Safety Regulations.

1.5 SUBMITTALS

- .1 Submit to Departmental Representative submittals listed for review in accordance with Section 01 01 50.
- .2 Work effected by submittal shall not proceed until review is complete.
- .3 Submit the following:
 - .1 Health and Safety Plan.
 - .2 Copies of reports or directions issued by Federal and Provincial health and safety inspectors.
 - .3 Copies of incident and accident reports.
 - .4 Complete set of Material Safety Data Sheets (MSDS), and all other documentation required by Workplace Hazardous Materials Information System (WHMIS) requirements.
 - .5 Emergency Procedures.
- .4 The Departmental Representative will review the Contractor's site-specific project Health and Safety Plan and emergency procedures, and provide comments to the Contractor within 10 days after receipt of the plan. Revise the plan as appropriate and resubmit to Departmental Representative.
- .5 Medical surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of work, and submit additional certifications for any new site personnel to Departmental Representative.
- .6 Submission of the Health and Safety Plan, and any revised version, to the Departmental Representative is for information and reference purposes only. It shall not:
 - .1 Be construed to imply approval by the Departmental Representative.
 - .2 Be interpreted as a warranty of being complete, accurate and legislatively compliant.
 - .3 Relieve the Contractor of his legal obligations for the provision of health and safety on the project.

1.6 RESPONSIBILITY

- .1 Assume responsibility as the Prime Contractor for work under this contract.
- .2 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

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- .3 Comply with and enforce compliance by employees with safety requirements of Contract documents, applicable Federal, Provincial, Territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.7 HEALTH AND SAFETY COORDINATOR

- .1 The Health and Safety Coordinator (Registered Occupational Hygienist, Certified Industrial Specified Hygienist) must:
 - .1 Be responsible for completing all health and safety training, and ensuring that personnel that do not successfully complete the required training are not permitted to enter the site to perform work.
 - .2 Be responsible for implementing, daily enforcing, and monitoring the site specific Health and Safety Plan.
 - .3 Be on site during execution of work.

1.8 GENERAL CONDITIONS

- .1 Provide safety barricades and lights around work site as required to provide a safe working environment for workers and protection for pedestrian and vehicular traffic.
- .2 Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the work site.
 - .1 Provide appropriate means by use of barricades, fences, warning signs, traffic control personnel, and temporary lighting as required.
 - .2 Secure site at night time or provide security guard as deemed necessary to protect site against entry.

1.9 PROJECT/SITE CONDITIONS

- .1 Work at site will involve contact with:
 - .1 Multi-employer work site.
 - .2 Federal employees and general public.
 - .3 Energized electrical services.
 - .4 Working from heights
 - .5 Persons incarcerated in the federal institutional system

1.10 UTILITY CLEARANCES

- .1 The Contractor is solely responsible for all utility detection and clearances prior to starting the work.
- .2 The Contractor will not rely solely upon the Reference Drawings or other information provided for utility locations.

1.11 REGULATORY REQUIREMENTS

- .1 Comply with specified codes, acts, bylaws, standards and regulations to ensure safe operations at site.

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- .2 In event of conflict between any provision of the above authorities, the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, the Departmental Representative will advise on the course of action to be followed.

1.12 WORK PERMITS

- .1 Obtain specialty permit related to project before start of work.

1.13 FILING OF NOTICE

- .1 The General Contractor is to complete and submit a Notice of Project as required by Provincial authorities.
- .2 Provide copies of all notices to the Departmental Representative.

1.14 SITE SPECIFIC HEALTH AND SAFETY PLAN

- .1 Conduct a site-specific hazard assessment based on review of Contract documents, required work, and project site. Identify any known and potential health risks and safety hazards.
- .2 Prepare and comply with a Site-Specific Health and Safety Plan based on hazard assessment, including, but not limited to, the following:
 - .1 Primary requirements:
 - .1 Contractor's safety policy.
 - .2 Identification of applicable compliance obligations.
 - .3 Definition of responsibilities for project safety/organization chart for project.
 - .4 General safety rules for project.
 - .5 Job-specific safe work, procedures.
 - .6 Inspection policy and procedures.
 - .7 Incident reporting and investigation policy and procedures.
 - .8 Occupational Health and Safety Committee/Representative procedures.
 - .9 Occupational Health and Safety meetings.
 - .10 Occupational Health and Safety communications and record keeping procedures.
 - .2 Summary of health risks and safety hazards resulting from analysis of hazard assessment, with respect to site tasks and operations which must be performed as part of the work.
 - .3 List hazardous materials to be brought on site as required by work.
 - .4 Indicate Engineering and administrative control measures to be implemented at the site for managing identified risks and hazards.
 - .5 Identify personal protective equipment (PPE) to be used by workers.
 - .6 Identify personnel and alternates responsible for site safety and health.

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- .7 Identify personnel training requirements and training plan, including site orientation for new workers.
 - .3 Develop the plan in collaboration with all subcontractors. Ensure that work/activities of subcontractors are included in the hazard assessment and are reflected in the plan.
 - .4 Revise and update Health and Safety Plan as required, and re-submit to the Departmental Representative.
 - .5 Departmental Representative's review: the review of Health and Safety Plan by Public Works and Government Services Canada (PWGSC) shall not relieve the Contractor of responsibility for errors or omissions in final Health and Safety Plan or of responsibility for meeting all requirements of construction and Contract documents.

1.15 EMERGENCY PROCEDURES

- .1 List standard operating procedures and measures to be taken in emergency situations. Include an evacuation plan and emergency contacts (i.e. names/telephone numbers) of:
 - .1 Designated personnel from own company.
 - .2 Regulatory agencies applicable to work and as per legislated regulations.
 - .3 Local emergency resources.
 - .4 Departmental Representative.
- .2 Include the following provisions in the emergency procedures:
 - .1 Notify workers and the first-aid attendant, of the nature and location of the emergency.
 - .2 Evacuate all workers safely.
 - .3 Check and confirm the safe evacuation of all workers.
 - .4 Notify the fire department or other emergency responders.
 - .5 Notify adjacent workplaces or residences which may be affected if the risk extends beyond the workplace.
 - .6 Notify Departmental Representative.
- .3 Provide written rescue/evacuation procedures as required for, but not limited to:
 - .1 Work at high angles.
 - .2 Work in confined spaces or where there is a risk of entrapment.
 - .3 Work with hazardous substances.
 - .4 Underground work.
 - .5 Work on, over, under and adjacent to water.
 - .6 Workplaces where there are persons who require physical assistance to be moved.
- .4 Design and mark emergency exit routes to provide quick and unimpeded exit.

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- .5 Revise and update emergency procedures as required, and re-submit to the Departmental Representative.

1.16 HAZARDOUS PRODUCTS

- .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 the Departmental Representative and in accordance with the Canada Labour Code.
- .2 Where use of hazardous and toxic products cannot be avoided:
 - .1 Advise Departmental Representative beforehand of the product(s) intended for use. Submit applicable MSDS and WHMIS documents as per Section 01 01 50.
 - .2 In conjunction with Departmental Representative, schedule to carry out work during "off hours" when tenants have left the building.
 - .3 Provide adequate means of ventilation in accordance with Section 01 51 00.
 - .4 The contractor shall ensure that the product is applied as per manufacturers recommendations.
 - .5 The contractor shall ensure that only pre-approved products are brought onto the work site in an adequate quantity to complete the work.

1.17 ASBESTOS HAZARD

- .1 Carry out any activities involving asbestos in accordance with applicable Provincial Regulations.
- .2 Removal and handling of asbestos will be performed as indicated in Division 2 specifications.

1.18 PCB REMOVALS

- .1 Mercury-containing fluorescent tubes and ballasts which contain polychlorinated biphenyls (PCBs) are classified as hazardous waste.
- .2 Remove, handle, transport and dispose of as indicated in Division 2 specifications.

1.19 REMOVAL OF LEAD-CONTAINING PAINT

- .1 All paints containing TCLP lead concentrations above 5 ppm are classified as hazardous.
- .2 Carry out demolition activities involving lead-containing paints in accordance with applicable provincial regulations.
- .3 Work with lead containing paints shall be completed as per provincial and federal regulations.

1.20 ELECTRICAL SAFETY REQUIREMENTS

- .1 Comply with authorities and ensure that, when installing new facilities or modifying existing facilities, all electrical personnel are completely familiar with existing and new electrical circuits and equipment and their operation.
 - .1 Before undertaking any work, coordinate required energizing and de-energizing of new and existing circuits with Departmental Representative.
 - .2 Maintain electrical safety procedures and take necessary precautions to ensure safety of all personnel working under this Contract, as well as safety of other personnel on site.

1.21 ELECTRICAL LOCKOUT

- .1 Develop, implement and enforce use of established procedures to provide electrical lockout and to ensure the health and safety of workers for every event where work must be done on any electrical circuit or facility.
- .2 Prepare the lockout procedures in writing, listing step-by-step processes to be followed by workers, including how to prepare and issue the request/authorization form. Have procedures available for review upon request by the Departmental Representative.
- .3 Keep the documents and lockout tags at the site and list in a log book for the full duration of the Contract. Upon request, make such data available for viewing by Departmental Representative or by any authorized safety representative.

1.22 OVERLOADING

- .1 Ensure no part of work is subjected to a load which will endanger its safety or will cause permanent deformation.

1.23 FALSEWORK

- .1 Design and construct falsework in accordance with CSA S269.1-1975 (R2003).

1.24 SCAFFOLDING

- .1 Design, construct and maintain scaffolding in a rigid, secure and safe manner, in accordance with CSA Z797-2009 Code of Practice for Access Scaffold and BC Occupational Health and Safety Regulations.

1.25 CONFINED SPACES

- .1 Carry out work in confined spaces in compliance with Provincial regulations.

1.26 POWDER-ACTUATED DEVICES

- .1 Use powder-actuated devices in accordance with ANSI A10.3 only after receipt of written permission from the Departmental Representative.

1.27 FIRE SAFETY AND HOT WORK

- .1 Obtain Departmental Representative's authorization before any welding, cutting or any other hot work operations can be carried out on site.

-
- .2 Hot work includes cutting/melting with use of torch, flame heating roofing kettles, or other open flame devices and grinding with equipment which produces sparks.

1.28 FIRE SAFETY REQUIREMENTS

- .1 Store oily/paint-soaked rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
- .2 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.
- .3 Portable gas and diesel fuel tanks are not permitted on most federal work sites. Approval from the Departmental Representative is required prior to any gas or diesel tank being brought onto the work site.

1.29 FIRE PROTECTION AND ALARM SYSTEM

- .1 Fire protection and alarm systems shall not be:
 - .1 Obstructed.
 - .2 Shut off.
 - .3 Left inactive at the end of a working day or shift.
- .2 Do not use fire hydrants, standpipes and hose systems for purposes other than firefighting.
- .3 Be responsible/liable for costs incurred from the fire department, the building owner and the tenants, resulting from false alarms.

1.30 UNFORESEEN HAZARDS

- .1 Should any unforeseen or peculiar safety-related factor, hazard or condition become evident during performance of the work, immediately stop work and advise the Departmental Representative verbally and in writing.

1.31 POSTED DOCUMENTS

- .1 Post legible versions of the following documents on site:
 - .1 Health and Safety Plan.
 - .2 Sequence of work.
 - .3 Emergency procedures.
 - .4 Site drawing showing project layout, locations of the first-aid station, evacuation route and marshalling station, and the emergency transportation provisions.
 - .5 Notice of Project.
 - .6 Floor plans or site plans. Must be posted in a non-inmate access area and locked up when not being used.
 - .7 Notice as to where a copy of the Workers' Compensation Act and Regulations are available on the work site for review by employees and workers.

-
- .8 Workplace Hazardous Materials Information System (WHMIS) documents.
 - .9 Material Safety Data Sheets (MSDS).
 - .10 List of names of Joint Health and Safety Committee members, or Health and Safety Representative, as applicable.
 - .2 Post all Material Safety Data Sheets (MSDS) on site, in a common area, visible to all workers and in locations accessible to tenants when work of this Contract includes construction activities adjacent to occupied areas.
 - .3 Postings should be protected from the weather, and visible from the street or the exterior of the principal construction site shelter provided for workers and equipment, or as approved by the Departmental Representative.

1.32 MEETINGS

- .1 Attend health and safety pre-construction meeting and all subsequent meetings called by the Departmental Representative.

1.33 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by the Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance with health and safety issues identified.
- .3 The Departmental Representative may issue a "stop work order" if non-compliance of health and safety regulations is not corrected immediately or within posted time. The General Contractor/subcontractors will be responsible for any costs arising from such a "stop work order".

PART 2 - PRODUCTS

2.1 NOT USED

PART 3 - EXECUTION

3.1 NOT USED

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 01 50 – General Instructions
- .2 Section 01 35 33 – Health and Safety Requirements

1.2 REFERENCES

- .1 Reports:
 - .1 “Pre-Renovation Hazardous Building Material Assessment, Living Unit J & K Segregation Control Post, Kent Institution, Agassiz, BC”, prepared by SNC Lavalin Inc., dated February 16, 2017 (further referred to herein as the Assessment Report) – attached as an Appendix
- .2 Definitions:
 - .1 Dangerous Goods: product, substance, or organism specifically listed or meets hazard criteria established in Transportation of Dangerous Goods Regulations.
 - .2 Hazardous Material: product, substance, or organism used for its original purpose; and is either dangerous goods or material that will cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into the environment.
 - .3 Hazardous Waste: hazardous material no longer used for its original purpose and that is intended for recycling, treatment or disposal.
 - .4 Hazardous Building Material: component of a building or structure that will cause adverse impact to environment or adversely affect health of persons, animals, or plant life when altered, disturbed or removed during maintenance, renovation or demolition.
- .3 Reference Standards:
 - .1 Canadian Environmental Protection Act, 1999 (CEPA 1999)
 - .1 Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2005-149).
 - .2 Department of Justice Canada
 - .1 Transportation of Dangerous Goods Act, 1992 (TDG Act) [1992], (c. 34).
 - .2 Transportation of Dangerous Goods Regulations (T-19.01-SOR/2001-286).
 - .3 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
 - .4 WorkSafe BC
 - .1 British Columbia’s Occupational Health and Safety Regulation (BC Reg. 296/97, including amendments to date of work)

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- .2 "Safe Work Practices for Handling Asbestos" (2012)
 - .3 "Lead-Containing Paints and Coatings; Preventing Exposure in the Construction Industry" (2011)
 - .5 British Columbia Hazardous Waste Regulation (BC Reg. 63/88)
 - .6 The Federal PCB Regulations (SOR/2008-273).

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 01 50 – General Instructions.
- .2 Product Data for hazardous materials to be used by the Contractor to complete the Work:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets, and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two copies of WHMIS MSDS in accordance with Section 01 35 33- Health and Safety Requirements to Departmental Representative for each hazardous material required prior to bringing hazardous material on site.
 - .3 Submit site specific hazardous materials plan to Departmental Representative that identifies hazardous materials, usage, location, personal protective equipment requirements, and disposal arrangements.
 - .4 Construction/Demolition Waste Management:
 - .1 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating percentage of construction/demolition wastes were recycled or salvaged
 - .5 Low-Emitting Materials: submit listing of adhesives and sealants used in building, comply with VOC and chemical component limits or restrictions requirements.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle hazardous materials to be used by the Contractor to complete the Work in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver hazardous materials to be used by the Contractor to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Transport hazardous materials and wastes in accordance with Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.
- .4 Storage and Handling Requirements:
 - .1 Co-ordinate storage of hazardous materials to be used by the Contractor to complete the Work with Departmental Representative and abide by internal requirements for labelling and storage of materials and wastes.

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- .2 Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.
 - .3 Store and handle flammable and combustible materials in accordance with National Fire Code of Canada requirements.
 - .4 Keep no more than 45 litres of flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use.
 - .1 Store flammable and combustible liquids in approved safety cans bearing the Underwriters' Laboratory of Canada or Factory Mutual seal of approval.
 - .2 Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Departmental Representative.
 - .5 Transfer of flammable and combustible liquids is prohibited within buildings.
 - .6 Transfer flammable and combustible liquids away from open flames or heat-producing devices.
 - .7 Solvents or cleaning agents must be non-flammable or have flash point above 38 degrees C.
 - .8 Store flammable and combustible waste liquids for disposal in approved containers located in safe, ventilated area. Keep quantities to minimum.
 - .9 Observe smoking regulations, smoking is prohibited in areas where hazardous materials are stored, used, or handled.
 - .10 Storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 litres for liquids:
 - .1 Store hazardous materials and wastes in closed and sealed containers.
 - .2 Label containers of hazardous materials and wastes in accordance with WHMIS.
 - .3 Store hazardous materials and wastes in containers compatible with that material or waste.
 - .4 Segregate incompatible materials and wastes.
 - .5 Ensure that different hazardous materials or hazardous wastes are stored in separate containers.
 - .6 Store hazardous materials and wastes in secure storage area with controlled access.
 - .7 Maintain clear egress from storage area.
 - .8 Store hazardous materials and wastes in location that will prevent them from spilling into environment.
 - .9 Have appropriate emergency spill response equipment available near storage area, including personal protective equipment.
 - .10 Maintain inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.
 - .11 When hazardous waste is generated on site:
 - .1 Co-ordinate transportation and disposal with Departmental Representative.

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- .2 Comply with applicable federal, provincial and municipal laws and regulations for generators of hazardous waste.
 - .3 Use licensed carrier authorized by provincial authorities to accept subject material.
 - .4 Before shipping material obtain written notice from intended hazardous waste treatment or disposal facility it will accept material and it is licensed to accept this material.
 - .5 Label containers with legible, visible safety marks as prescribed by federal and provincial regulations.
 - .6 Only trained personnel handle, offer for transport, or transport dangerous goods.
 - .7 Provide photocopy of shipping documents and waste manifests to Departmental Representative.
 - .8 Track receipt of completed manifest from consignee after shipping dangerous goods. Provide photocopy of completed manifest to Departmental Representative.
 - .9 Report discharge, emission, or escape of hazardous materials immediately to Departmental Representative and appropriate provincial authority. Take reasonable measures to control release.
 - .12 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements.
 - .13 Report spills or accidents immediately to Departmental Representative. Submit a written spill report to Departmental Representative within 24 hours of incident.

Part 2 Products

2.1 MATERIALS

- .1 Description:
 - .1 Bring on site only quantities hazardous material required to perform Work.
 - .2 Maintain MSDS in proximity to where materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

Part 3 Execution

3.1 HAZARDOUS MATERIALS ABATEMENT

- .1 Scope of Abatement Activities.
 - .1 Abatement shall be conducted to handle, remove and/or dispose of hazardous building materials as identified in the Assessment Report in

-
- accordance with applicable regulations, guidelines, standards and/or best practices for such work.
- .2 The listing below is a summary of the identified hazardous building material categories and associated handling, removal and disposal regulations, guidelines and/or standards.
- .1 Asbestos-Containing Materials (ACMs)
- .1 According to the Assessment Report, the following ACMs are present, and will require removal prior to renovation.
- .1 Black mastic on interior window between pane and frame
- .2 Removal of ACMs is to be conducted in accordance with the requirements of the 2012 WorkSafe BC publication "*Safe Work Practices for Handling Asbestos*".
- .1 Submit Provincial and/or local requirements for Notice of Project Form. Provide copy to Department Representative.
- .2 Submit proof of Contractor's Asbestos Liability Insurance.
- .3 Submit Contractor Notification and Acknowledgement to Department Representative.
- .4 Submit to Departmental Representative necessary permits for transportation and disposal of asbestos containing waste and proof that asbestos containing waste has been received and properly disposed.
- .5 Submit proof that all asbestos workers and/or supervisor have received appropriate training and education by a competent person in the hazards of asbestos exposure, good personal hygiene and work practices while working in Asbestos Work Areas, and the use, cleaning and disposal of respirators and protective clothing. Instruction and training related to respirators is to include, at a minimum:
- .1 Fitting of equipment.
- .2 Inspection and maintenance of equipment.
- .3 Disinfecting of equipment.
- .4 Limitations of equipment.
- .3 Department Representative will be responsible for arranging for an environmental consultant to conduct air monitoring.
- .4 Waste transportation to be conducted in accordance with BC Reg. 63/88 and the Federal Transportation of Dangerous Goods Regulation.
- .5 Waste disposal to be conducted in accordance with BC Reg. 63/88.

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- .6 Notify Departmental Representative of suspected ACM discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material pending instructions from Departmental Representative.
 - .2 Lead and Lead-Containing Paints (LCPs)
 - .1 According to the Assessment Report, the following LCPs are present and will require consideration during renovation.
 - .1 Cream paint on the walls and window frames of the control post
 - .2 Tan paint on the exterior window frames of the control post
 - .2 Actions that will disturb materials coated with LCPs are to be conducted in accordance with the requirements of the current version of the WorkSafe BC publication "*Lead-Containing Paint and Coatings: Preventing Exposure in the Construction Industry*", keeping airborne exposure to lead dust to less than the 8-hour Occupational Exposure Limit (OEL) for lead of 0.05 milligram per cubic metre (mg/m³).
 - .3 Waste transportation to be conducted in accordance with BC Reg. 63/88 and the Federal Transportation of Dangerous Goods Regulation.
 - .4 Waste disposal to be conducted in accordance with BC Reg. 63/88.
 - .3 Polychlorinated Biphenyls (PCBs)
 - .1 Removal, alteration and/or disposal of PCB-containing equipment is not anticipated to be required during the Work.
 - .4 Mould
 - .1 Removal and/or disposal of mould-impacted materials is not anticipated to be required.
 - .5 Mercury
 - .1 Removal, alteration and/or disposal of mercury-containing equipment is not anticipated to be required.
 - .6 Ozone-Depleting Substances (ODSs)
 - .1 Removal and/or disposal of refrigeration or air conditioning equipment with ODS refrigerants is not anticipated to be required.
 - .7 Silica
 - .1 According to the Assessment Report, silica is not suspected in the Work area. However, concrete may be present beneath the metal clad support columns.
 - .2 If silica-containing materials are to be disturbed during renovation, ensure dust control measures are employed such that airborne silica dust concentrations do not exceed

the exposure limit as stipulated by BC Reg. 296/97 (Cristobalite and Quartz – each 0.025 mg/m³). This would include, but not be limited to, the following:

- .1 Providing workers with respiratory protection
- .2 Wetting the surface of the materials, use of water or dust suppressing agents to prevent dust emissions
- .3 Providing workers with facilities to properly wash prior to exiting the work area.

3.2 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 01 50 – General Instructions. Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 01 50 – General Instructions.
- .3 Waste Management: separate waste materials for reuse and recycling.
 - .1 Dispose of hazardous waste materials in accordance with applicable federal and provincial acts, regulations, and guidelines.
 - .2 Recycle hazardous wastes for which there is approved, cost effective recycling process available.
 - .3 Send hazardous wastes to authorized hazardous waste disposal or treatment facilities.
 - .4 Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.
 - .5 Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.
 - .6 Dispose of hazardous wastes in timely fashion in accordance with applicable federal and provincial regulations.
 - .7 Minimize generation of hazardous waste to maximum extent practicable. Take necessary precautions to avoid mixing clean and contaminated wastes.
 - .8 Identify and evaluate recycling and reclamation options as alternatives to land disposal, such as:
 - .1 Hazardous wastes recycled in manner constituting disposal.
 - .2 Hazardous waste burned for energy recovery.
 - .3 Lead-acid battery recycling.
 - .4 Hazardous wastes with economically recoverable precious metals.

END OF SECTION

1 GENERAL

1.01 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM C 542-05, Standard Specification for Lock-Strip Gaskets.
 - .2 ASTM D 790-07e1, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
 - .3 ASTM D 1003-07e1, Standard Test Method for Haze and Luminous Transmittance of Plastics.
 - .4 ASTM D 1929-96(R2001)e1, Standard Test Method for Determining Ignition Temperature of Plastics.
 - .5 ASTM D 2240-05, Standard Test Method for Rubber Property - Durometer Hardness.
 - .6 ASTM E 84-10, Standard Test Method for Surface Burning Characteristics of Building Materials.
 - .8 ASTM F 1233-08, Standard Test Method for Security Glazing Materials and Systems.
 - .9 ASTM C881 – 15 Standard Specification for Epoxy-Resin Bonding Systems for Concrete
 - .10 ASTM C661 – 15 Standard Test Method for Indentation Hardness of Elastomeric – Type Sealants by Means of a Durometer.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-12.1-M90, Tempered or Laminated Safety Glass.
 - .2 CAN/CGSB-12.12-M90, Plastic Safety Glazing Sheets.
- .3 Glass Association of North American (GANA)
 - .1 GANA Glazing Manual - 2008.
 - .2 GANA Laminated Glazing Reference Manual - 2009.

1.02 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-Installation Meetings:
 - .1 Convene pre-installation meeting 1 week prior to beginning work of this Section with Departmental Representative in accordance with Section 01 31 19 - Project Meetings to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review manufacturer's written installation instructions and warranty requirements.

1.03 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 01 50 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for glazing accessories and include product characteristics, performance criteria,

physical size, finish and limitations.

- .3 Shop Drawings:
 - .1 Submit drawings stamped and signed by professional engineer registered or licensed in British Columbia, Canada.
 - .2 Verify existing gun port condition to ensure it is compatible with 2.01 Materials – Design Criteria.
 - .3 Glazing shop drawings to indicate existing gun port installation.
- .4 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit 1 - 150x150 mm size sample of polycarbonate glazing.
 - .4 Submit 1 sample of sealant for Departmental Representative approval.
- .5 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .6 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

1.04 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 01 50 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for glazing for incorporation into manual.

1.05 QUALITY ASSURANCE

- .1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .2 Mock-ups / Installation Review:
 - .1 Construct mock-ups in accordance with Section 01 01 50 - Quality Control.
 - .2 Construct mock-up / installation review to include glass & plastic glazing including glazing stops and gun port.
 - .3 Mock-up / installation review will be used:
 - .1 To judge quality of work, substrate preparation, operation of equipment and material application.
 - .4 Locate where directed.
 - .5 Allow 48 hours for inspection of mock-up before proceeding with work.
 - .6 When accepted, mock-up will demonstrate minimum standard of quality required for this work. Approved mock-up may remain as part of finished work.

1.06 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory

packaging, labelled with manufacturer's name and address.

- .3 Storage and Handling Requirements:
 - .1 Store materials indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area as arranged with Departmental Representative.
 - .2 Store and protect glazing from nicks, scratches, and blemishes.
 - .4 Replace defective or damaged materials with new.

2 PRODUCTS

2.01 MATERIALS

- .1 Design Criteria:
 - .1 Polycarbonate laminated glazing:
 - .1 Glazing shall meet the equivalent H.P. WHITE rating of Level C Ballistics (.44 Magnum hand gun) and Level III Forced Entry or.
 - .2 Class / Level HG4 Ballistics (Table 1) (.44 Magnum hand gun) and Class IV Forced Entry (Table 2, Sequence 31) in ASTM F1233-08
 - .3 Both surfaces to be factory abrasion resistant surface coating.
 - .2 Polycarbonate laminated glazing shall be protected by a sacrificial layer of 6mm tempered glass complete with air space between it and Polycarbonate glazing.
- .2 Flat Glass:
 - .1 Safety glass: to CAN/CGSB-12.3-M, transparent, 6 mm thick.
 - .1 Type 2-tempered.
 - .2 Class B-float.
 - .3 Category II.
 - .2 Polycarbonate security glazing:
 - .1 Laminated, 4 plys (3mm, 13mm, 13mm, 3mm), each lamination separated by polyurethane interlayer, 32 mm overall thickness polycarbonate sheet, clear colour.
 - .2 Ballistic performance: to ASTM F 1233-08.
 - .4 % Light transmittance: 67 clear to ASTM D 1003.
 - .5 Surface burning characteristics for flame and smoke spread: to ASTM E 84.
 - .6 Self ignition characteristics: to ASTM D 1929.
- .3 Sealants:
 - .1 Two-part Nonsag Epoxy Security ("pick proof") Sealant
 - .1 High Solids, High-Modulus, High Strength Epoxy Resin Compound
 - .2 ASTM C661 Shore D Rated Hardness.
 - .3 ASTM C881, Types I and III or IV, Grade-3, Class-C

2.02 ACCESSORIES

- .1 Setting blocks: santoprene rubber blocks to suit glazing method, glass light weight and area.

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- .2 Compatible sealant or gasket material / tape with flexible material on both sides of the laminate as recommended by glazing manufacturer.
 - .3 Glazing tape:
 - .1 As recommended by glazing manufacturer.
 - .4 Lock-strip gaskets: to ASTM C 542.

3 EXECUTION

3.01 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for glazing installation in accordance with manufacturer's written instructions.
 - .1 Verify that openings for glazing are correctly sized and within tolerance.
 - .2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.
 - .3 Visually inspect substrate in presence of Departmental Representative.
 - .4 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .5 Proceed with installation only after unacceptable conditions have been remedied.

3.02 PREPARATION

- .1 Clean contact surfaces with solvent and wipe dry.
- .2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- .3 Prime surfaces scheduled to receive sealant.

3.03 INSTALLATION: INTERIOR - DRY METHOD (TAPE AND TAPE)

- .1 Perform work in accordance with GANA Glazing Manual and GANA Laminated Glazing Reference Manual for glazing installation methods.
- .2 Cut glazing tape to length and set against permanent stops, projecting 1.6 mm above sight line.
- .3 Place setting blocks at 1/4 points, with edge block maximum 150 mm from corners or as required.
- .4 Rest glazing on setting blocks and push against tape for full contact at perimeter of light or unit.
- .5 Place glazing tape on free perimeter of glazing in same manner described.
- .6 Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
- .7 Knife trim protruding tape.

3.11 CLEANING

- .1 Progress Cleaning:
 - .1 Leave Work area clean at end of each day.
 - .1 Remove traces of primer, caulking.
 - .2 Remove glazing materials from finish surfaces.
 - .3 Remove labels.
 - .4 Clean glass using approved non-abrasive cleaner in accordance with manufacturer's instructions.
 - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.
- .2 Waste Management: separate waste materials for reuse and recycling.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.12 PROTECTION

- .1 Protect installed products and components from damage during construction.
- .3 Repair damage to adjacent materials caused by glazing installation.

3.13 SCHEDULE

- .1 Type D – 32mm Laminated Polycarbonate Glazing
Type E – 6mm Tempered Glazing
Type F – 6mm Polycarbonate Glazing

END OF SECTION



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February 16, 2017

Project: 644051

Public Works and Government Services Canada
219 – 800 Burrard Street
Vancouver, BC V6Z 0B9

ATTENTION: Amy Moizumi, B.Sc. (Agr.),
Environmental Specialist, Environmental Services

REFERENCE: **Pre-Renovation Hazardous Building Material Assessment,
Living Units J & K Segregation Control Post,
Kent Institution, Agassiz, BC**

On behalf of Public Works and Government Services Canada (PWGSC) for Correctional Service Canada (CSC), SNC-Lavalin Inc. (SNC-Lavalin) has completed a pre-renovation destructive hazardous building materials assessment (HBMA) of the Living Units J&K segregation control post at the Kent Institution in Agassiz, BC (the "Site").

All work was completed as per the Hazardous Materials Assessment Consulting Services Task Authorization – EZ113-150642/003/PWY.

Objectives and Project Understanding

The objective of the work was to identify and sample all suspect hazardous building materials related to the Living Units J&K segregation control post that is to undergo glazing replacement in the near future. Samples were collected, to the maximum extent possible, from all accessible locations.

The PWGSC project number for this work is as follows:

- › Project Number R.082441.001 – Living Units J&K Segregation Control Post HBMS.

Scope of Work

On February 10, 2017, SNC-Lavalin personnel observed the interior and exterior of the Site to identify the potential existence of the following hazardous materials: asbestos; lead-containing paint; and, silica.

The following materials were excluded from the HBMA: polychlorinated biphenyls (PCBs); mercury; ozone depleting substances (ODS); radiological sources and/or substances; biological hazards (e.g., rodent droppings); mould and/or moisture; formaldehyde; carbon monoxide; radon; volatile organic compounds; very-short-lived low-level radioactive waste; and, indoor air quality pollutants.

Representative samples were collected and laboratory analysis completed for suspected asbestos-containing materials (ACMs) and lead-containing paints.





Summary

Based on the results of the survey, there are hazardous building materials located on the Site requiring specific procedures prior to deconstruction/demolition for: handling; abatement; demolition; and disposal, as outlined in Table 1. The sample locations are presented on Drawing 644051-BM26. Photographs of the sample locations are included in Attachment 1. A copy of the laboratory analytical report for the asbestos and lead analyses is included in Attachment 2.

A summary of the materials assessed is as follows:

Asbestos-Containing Materials

- › **Asbestos-containing black mastic** was identified on an interior window facing the Living Unit J stairwell between the pane and frame (Photograph 1).
 - The mastic is not readily accessible under normal conditions due to its location, non-friable, and is suspected to be limited to windows with integrated wire mesh.

Lead-Based Paint

- › **Lead-containing cream paint** was identified on the interior walls and window frames of the control post (Photograph 2).
- › **Lead-containing tan paint** was identified on the exterior window frames of the control post (Photograph 3).

It should be noted that all materials found at the Site of similar colours as identified above should be considered as lead-containing.

Silica

No suspect sources of silica were observed in the areas assessed; however, concrete may be present beneath the metal clad support columns.

Recommendations

If PWGSC undertakes renovations at the Site, PWGSC should require that the qualified contractors (i.e., abatement, renovation, and/or disposal contractors) submit the following documentation to PWGSC to verify that the qualified contractors have acted in a responsible manner in accordance with the existing applicable regulations:

- › notice of project for work involving asbestos (NOPA) to be filed with WorkSafeBC prior to asbestos abatement;
- › notice of project lead (NOPL) to be filed with WorkSafeBC prior to lead abatement;
- › site-specific work procedures for materials of concern (asbestos and lead procedures are included with NOPA and NOPL); and,





- › relevant Waste Disposal Manifests.

The above documentation should be retained by PWGSC and/or CSC to verify compliance with the applicable regulations. The information supplied by the contractor(s) should include, but not be limited to the above list.

Asbestos

SNC-Lavalin understands that PWGSC (for CSC) intends to complete renovations at the Site; therefore, SNC-Lavalin recommends that all known and suspect ACMs identified be removed and disposed of by a qualified contractor in accordance with applicable federal and/or provincial regulations. All work should be completed in accordance with the Canada Labour Code (Sections 124[1]y and 125[1]Z.14), which is in place to protect any person accessing the work place. Control of exposure to asbestos is governed by the WorkSafeBC Occupational Health and Safety Regulation (OHSR), BC Reg. 296/97 (as amended) and the provincial Hazardous Waste Regulation. Additional guidance is provided in the WorkSafeBC publication *Safe Work Practices for Handling Asbestos*¹.

A NOPA should be filed with WorkSafeBC prior to any asbestos abatement work taking place.

Lead

WorkSafeBC suggests that improper removal of paint with a lead concentration of 600 mg/kg or more can result in airborne lead concentrations that exceed 50% of the airborne lead exposure limit of 0.05 mg/m³; this would trigger the requirement for an employer to file a NOPL and the development and implementation of an exposure control plan and safe work procedures prior to any work being completed.

There is the potential for lead exposure for high risk individuals in the event that lead-containing paint with lead concentrations >90 mg/kg is burned and/or becomes airborne during renovation, deconstruction, and/or demolition activities such as cutting, grinding, etc. These individuals should be excluded from the work area whenever lead-containing paint is being disturbed by work activities to minimize potential lead exposure to these individuals.

The waste generated from removal of paint and surface coatings may be hazardous. Given the possible need for off-site disposal of waste material during deconstruction/demolition activities, laboratory analysis for preliminary waste characterization of select samples (concentrations of metals in the leachate) may be required. If leachate analysis (Toxicity Characteristic Leaching Procedure [TCLP]) is required for disposal of materials containing elevated lead concentrations, additional sampling may be required.

¹ Available at <https://www.worksafebc.com/en/resources/health-safety/books-guides/safe-work-practices-for-handling-asbestos>





Silica

Suspected silica-containing material, such as concrete support pillars (if encountered), must be managed appropriately. Parts 5, 6, and 20 of the OHSR set out occupational exposure guidelines and controls for silica dust to eliminate, reduce, or manage workers' exposure risk. WorkSafeBC identifies the requirement to develop an exposure control plan to protect workers from overexposure to airborne silica dust in excess of 50% of the exposure limit (i.e., crystalline silica has an OHSR occupational exposure limit of 0.025 mg/m³).

Regulatory Framework

Federal and provincial regulations require that hazardous building materials be properly identified and managed to prevent potential exposure to workers. In addition, a more intrusive assessment is required to identify materials of concern prior to renovations, salvage, and/or demolition of a building or structure. These materials must be properly controlled, removed, and/or disposed of at a suitably permitted facility in accordance with the applicable federal and provincial regulations. The following federal and provincial regulations relate to these materials:

Federal

Various Regulations made under the Canadian Environmental Protection Act (CEPA), 1999, S.C. 1999, c. 33, last amended on June 17, 2016, including specialized handling and/or disposal requirements for materials including lead, PCBs, mercury, halocarbons (ODS and Non-ODS), radiological sources and/or substances, and solid/hazardous wastes. Regulations include the following:

- › Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2005-149).
- › Federal Halocarbon Regulations, 2003 (SOR/2003-289) and Regulations Amending the Federal Halocarbon Regulations, 2003 (SOR/2009-221).
- › Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, 2008 (SOR/2008-197).
- › Interprovincial Movement of Hazardous Waste Regulations (SOR/2002-301).
- › Ozone-Depleting Substances Regulations, 1998 (SOR/99-7).
- › PCB Regulations (SOR/2008-273).
- › PCB Waste Export Regulations, 1996 (SOR/97-109).
- › Transportation of Dangerous Goods (TDG) Act, 1992, S.C. 1992, c. 34, as amended up to November 26, 2016, Transportation of Dangerous Goods Regulations (SOR/2001-286), as amended, requires that radioactive materials must be transported in accordance with the provisions of the Act.
- › Hazardous Products Act (R.S.C., 198, c. H-3), as amended up to December 12, 2016, prohibits the sale or importation of urea formaldehyde foam insulation (UFFI) into Canada.





- › Surface Coating Materials Regulations, SOR/2005-109, as amended up to June 22, 2016, requires the concentration of total lead present in a surface coating material to be not more than 90 mg/kg.
- › Human Resources Social Development Canada (HRSDC), Canada Labour Code Part II, Canada Occupational Health and Safety Regulations, Part X, Hazardous Substances, as amended, requires that all hazardous substances in the workplace, including asbestos, be identified and controlled to minimize potential exposure to workers. Under the Canada Labour Code Part II definitions, a “hazardous substance” includes a controlled product and a chemical, biological, or physical agent that, by reason of a property that the agent possess, is hazardous to the safety or health of a person exposed to it.

Provincial

- › WorkSafeBC Occupational Health and Safety Regulation (OHSR), BC Reg. 296/97, includes amendments up to B.C. Reg. 195/2015, February 1, 2016, requires that materials including any asbestos, lead, or other heavy metal or toxic substance, and flammable or explosive materials that may be handled, disturbed, or removed during demolition must be identified and removed or safely contained prior to demolition. In addition, a copy of the observation report identifying these materials must be available at the work site.
- › Environmental Management Act (EMA), B.C. Reg. 179/2016 / July 19, 2016, Ozone Depleting Substances (ODS) and Other Halocarbons Regulation, BC Reg. 387/99, including amendments up to BC Reg. 317/2012, requires ODS to be recovered from equipment prior to disposal.
- › Hazardous Waste Regulation (HWR), B.C. Reg. 63/88, including amendments up to B.C. Reg. 179/2016, requires all Hazardous Wastes (HW) must be properly managed and disposed of.

We note that at the time of this report, the provincial OHSR defines ACMs as any manufactured article or other material which contains 0.5% or more asbestos by weight and vermiculite insulation containing any amount of asbestos.

Federal and provincial guidelines limit lead concentrations in paint to 90 mg/kg for high risk individuals (i.e., pregnant women and children), and any concentrations that exceed this limit would be considered a lead-containing paint. WorkSafeBC suggests that improper removal of paint with a lead concentration of 600 mg/kg or more can result in airborne lead concentrations that exceed 50% of the airborne lead exposure limit of 0.05 mg/m³; this would trigger the requirement for an employer to file a NOPL and the development and implementation of an exposure control plan and safe work procedures prior to any work being completed. Therefore, for the purposes of this report we have identified paint as lead based if the total lead concentration is >90 mg/kg as per the federal regulations, and if the paint contains a lead concentration of 600 mg/kg or greater, an exposure control plan may be required if the paint is disturbed in such a manner that workers could be exposed to lead at >50% of the exposure limit.

There are no special disposal requirements for materials coated with lead paint unless the lead is found to be leachable in excess of the regulated standard of 5 mg/L in the HW regulations while considering the entire mass of the object the paint is coating.





WorkSafeBC indicates that employers are required under Section 5.54 of the OHSR to develop an exposure control plan when workers are or may be exposed to airborne silica dust in excess of 50% of the exposure limit. Exposure limits vary depending on the type of silica identified.

Methodology

The following sections outline the specific protocols followed when completing the survey.

Asbestos

The methodology for completing the asbestos assessment was in accordance with WorkSafeBC guidelines and included the identification of suspect materials and collection of an adequate number of representative samples of these materials. All accessible portions of the Living Units J & K segregation control post were observed for possible ACMs. The Site was also inspected for areas that could potentially contain vermiculite insulation.

On February 10, 2017, a total of three (3) potential asbestos samples were collected from selected areas of the Site. No vermiculite insulation was identified or suspected within the areas inspected. All samples were submitted to Maxxam Analytics Inc. in Burnaby, BC (Maxxam) and analyzed for asbestos in accordance with the applicable regulations.

Lead Paint

Different paint colours may contain different concentrations of lead; therefore, SNC-Lavalin personnel inspected the Site to determine primary paint colour(s) that had been applied to major surfaces. The approach was to try to obtain samples from structures that may need to be cut, ground, or sanded during renovation activities. Factory painted metal surfaces are not sampled as the paint is applied in thin layers, making it difficult to obtain a sufficient amount of paint to analyze.

During the survey, two (2) paint samples were collected and submitted to Maxxam for analysis of total lead in accordance with the applicable regulations.

Silica

Silica occurs naturally as a crystalline material in rock, sand, concrete, and cement; therefore, is likely present in poured concrete slabs/floors, concrete blocks, mortar, plaster, drywall, acoustic ceiling tiles, and ceramic tiles. Crystalline silica is significantly more toxic than amorphous silica; however, both are regulated. Crystalline silica dust can be generated through processes such as breaking, drilling, hammering, blasting, grinding, crushing, or sandblasting silica-containing materials. When breathed in, the crystalline silica dust can cause permanent damage to the lungs.

SNC-Lavalin personnel noted materials at the Site that are suspected of containing silica.





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February 16, 2017

Project 644051

Results

Details of the results are presented for each regulated material of concern in Table 1, below. This information includes recommendations for removal/handling during renovation or demolition/deconstruction activities, where required. All samples were given the prefix "KENT-"; for conciseness, this prefix has been omitted in Table 1.





Table 1: Detailed Inventory of Hazardous Materials – J&K Segregation Control Post, Kent Institution, Agassiz, BC

Issue / Location	Results	Renovation/Pre-Demolition Requirement
ASBESTOS-CONTAINING MATERIALS (ACMs)		
Suspect ACMs sampled – <u>Asbestos Identified</u> : > J/K-A1 – Mastic, black, interior of window between pane and frame facing Living Unit J stairwell.	Analytical Result: > 0.5%-10% Chrysotile	Prior to renovation/demolition, the ACMs must be removed by a qualified asbestos removal contractor. Work should be performed in accordance with the OHSR and BC HWR. Note: At the time of this report, ACMs means any manufactured article or other material, which contains 0.5% or more asbestos by weight as defined in the regulations.
Suspect ACMs sampled – <u>Asbestos NOT Identified</u> : > J/K-A2 – Mastic, grey, interior of window between pane and frame on the door facing Living Unit J kitchen (Photograph 4). > J/K-A3 – Mastic, black, exterior of window between pane and frame facing Janitor's Room (Photograph 5).	Analytical Result: > non-asbestos > non-asbestos	No renovation/pre-demolition requirements necessary.
Suspect ACMs not sampled: > The area was assessed for structures which may conceal vermiculite insulation; however, no such locations were identified.	Analytical Result: > None identified	No pre-demolition requirements necessary; however, if vermiculite is observed during demolition/renovation, a sample should be collected and analyzed for potential asbestos content.





Table 1 (Cont'd): Detailed Inventory of Hazardous Materials – J&K Segregation Control Post, Kent Institution, Agassiz, BC

Issue / Location	Results	Renovation/Pre-Demolition Requirement
LEAD PAINT (mg/kg) Suspect lead-based paint sampled: > <u>J/K-P1 – Cream, walls and window frames, interior.</u> > <u>J/K-P2 – Tan, window frame, exterior.</u>	Analytical Result: > <u>735 mg/kg</u> > <u>224 mg/kg</u>	Lead paint was identified containing >90 mg/kg. If a cutting torch, grinding equipment, or other work methods are used on the painted areas of the structures that could mobilize lead dust or fumes, then high risk individuals such as pregnant women or children should be kept out of the work area. One paint sample was also found to contain a lead concentration >600 mg/kg; therefore, an exposure control plan must be implemented if work activities could generate lead dust or fumes. A fog nozzle to wet the area should be used to reduce particles during the demolition process.
SILICA No suspect sources of silica were observed in the areas assessed; however, concrete may be present beneath the metal clad support columns	> N/A	No pre-demolition requirements necessary; however, if concrete is encountered and the material is to be cut, ground, drilled, or broken up during renovation/demolition, then airborne silica particles may be released. An exposure control plan must be implemented if work activities could generate silica dust.





Notice to Reader

This report has been prepared by SNC-Lavalin Inc. (SNC-Lavalin) for PWGSC, who has been party to the development of the scope of work for this project and understands its limitations². Copyright of this report vests with Her Majesty the Queen in Right of Canada. This report was prepared in accordance with a services contract between SNC-Lavalin and PWGSC, including General Conditions 2035 of the Standard Acquisition Clauses and Conditions (SACC) Manual and liability is specified in the contract with PWGSC.

This report is intended to provide information to PWGSC to assist it in making business decisions. SNC-Lavalin is not a party to the various considerations underlying the business decisions, and does not make recommendations regarding such business decisions.

The findings, conclusions and recommendations in this report have been developed in a manner consistent with the level of skill normally exercised by environmental professionals currently practising under similar conditions in the area. The findings contained in this report are based, in part, upon information provided by others. If any of the information is inaccurate, modifications to the findings, conclusions and recommendations may be necessary.

The findings, conclusions and recommendations presented by SNC-Lavalin in this report reflect SNC-Lavalin's best judgement based on the site conditions at the time of the site inspection on the date(s) set out in this report and on information available at the time of preparation of this report. They have been prepared for specific application to this site and are based, in part, upon visual observation of the site and specific analysis of hazardous building material samples as described in this report. Substances other than those described may exist within the site, reported substance parameters may exist in areas of the site not investigated, and concentrations of substances greater or less than those reported may exist between sample locations.

The findings and conclusions of this report are valid only as of the date of this report. If site conditions change, new information is discovered, or unexpected site conditions are encountered in future work, including excavations, borings, or other studies, the findings, conclusions and/or recommendations of this report should be re-evaluated. It is recommended that users of this report should engage a suitably qualified professional to assist in interpreting the significance, if any, of the findings.

² © Her Majesty the Queen in Right of Canada (2016)





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PWGSC – Page 11 of 11
February 16, 2017

Project 644051

We trust this provides you with the information you currently require. If you have any questions, please contact this office at your earliest convenience.

M. Aaron Hall, B.Sc, A.Sc.T.

Project Scientist

Environment & Geoscience
Infrastructure

Tim Drozda, P.Eng.

Project Engineer

Environment & Geoscience
Infrastructure

TDD/cmp
P:\CP\PWGSC\644051\5.0 DEL\5.5 OTHL\216MAHA (J-K CONTROL POST)_FINAL.DOCX
enc.

Drawing

> 644051-BM26 – Building Material Survey Sampling Plan – Living Unit J&K Segregation Control Post

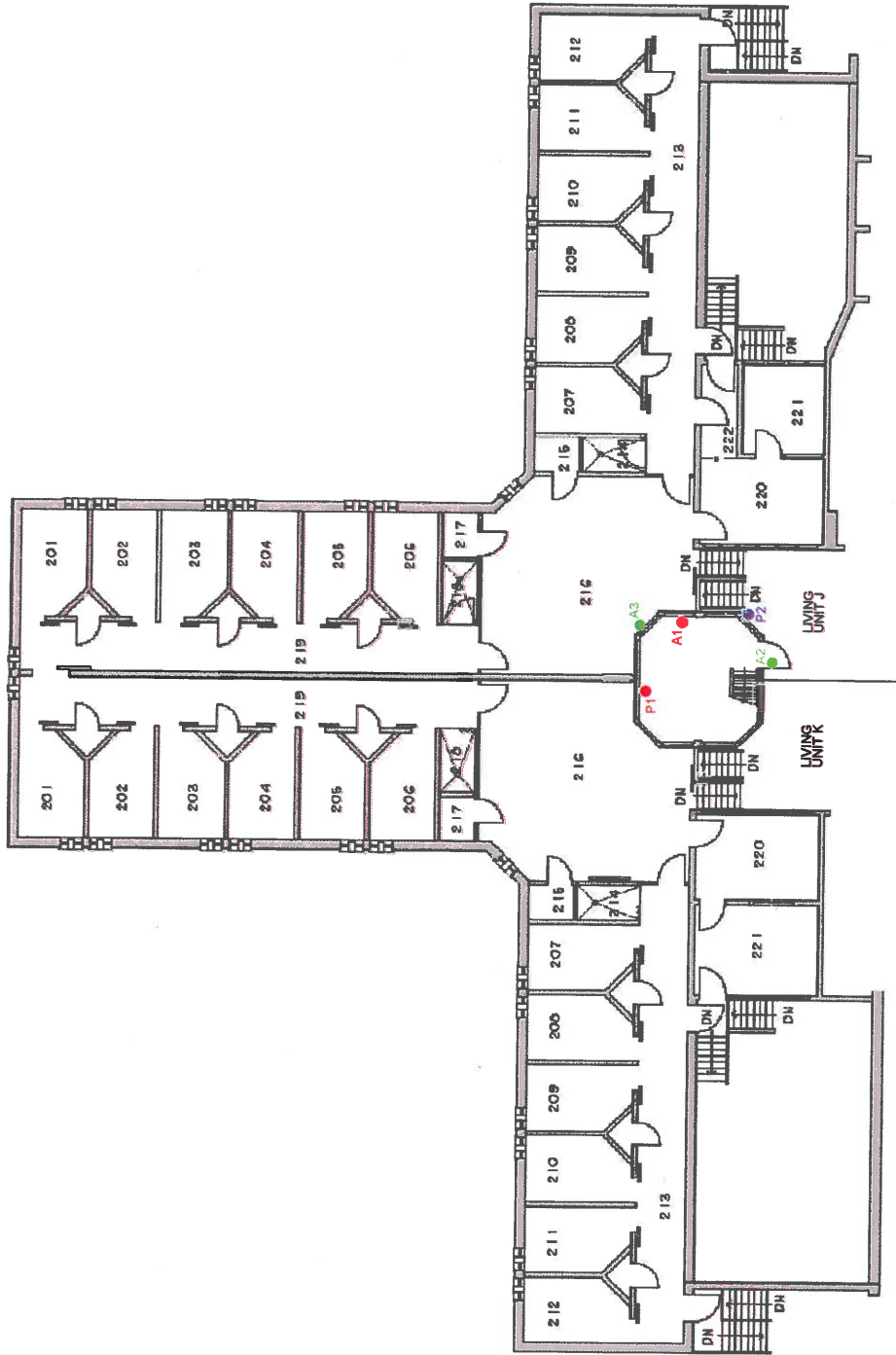
Attachments

1. Photographs
2. Laboratory Analytical Report



DRAWING

- › 644051-BM26 – Building Material Survey Sampling Plan – Living Unit J&K Segregation Control Post



LEGEND

- P18 ● PAINT SAMPLE WITH LEAD CONCENTRATION LESS THAN OR EQUAL TO 90 mg/kg
- P21 ● PAINT SAMPLE WITH LEAD CONCENTRATION GREATER THAN 90 mg/kg AND LESS THAN 600 mg/kg
- P17 ● PAINT SAMPLE WITH LEAD CONCENTRATION GREATER THAN OR EQUAL TO 600 mg/kg
- A13 ● ASBESTOS SAMPLE WITH CONCENTRATION LESS THAN 0.5%
- A14 ● ASBESTOS SAMPLE WITH CONCENTRATION GREATER THAN OR EQUAL TO 0.5%

REFERENCE DRAWINGS

DWG. NO.	DATE	DESCRIPTION
REVISIONS		
1	2017-02-15	ISSUED TO CLIENT
0	2017-02-14	ISSUED AS DRAFT
REV.	DATE	DESCRIPTION



CLIENT NAME:
PUBLIC WORKS AND
GOVERNMENT SERVICES

PROJECT LOCATION:
KENT INSTITUTION
AGASSIZ, BC

TITLE:
**BUILDING MATERIAL SURVEY SAMPLING PLAN -
LIVING UNIT J&K SEGREGATION CONTROL POST**

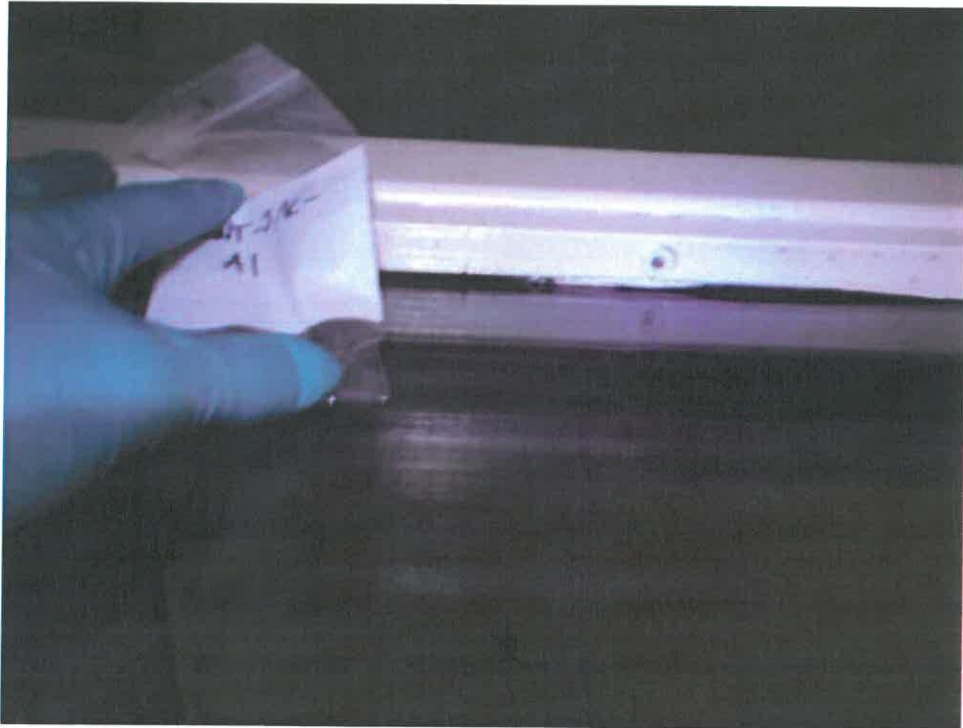
DWG. NO. PRT: 644051-BM26
DATE: 2016-01-19
REV. 1

SCALE: 1:150
DATE: 2017-02-15
DRAWN BY: AH
CHECKED BY: AH

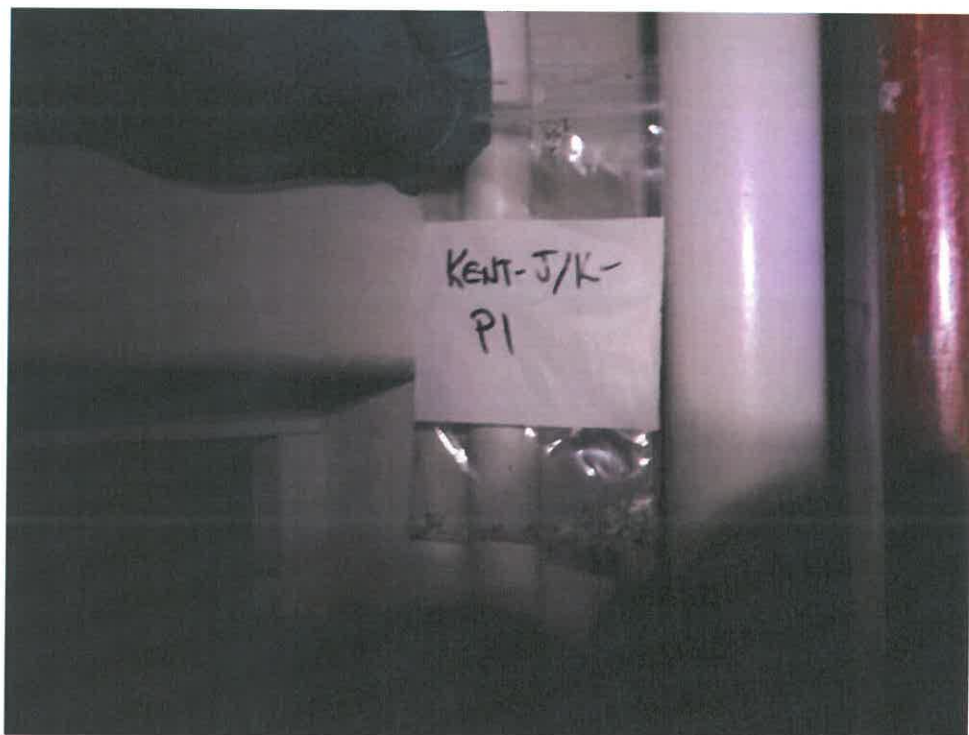
SCALE: 1:150
DATE: 2017-02-15
DRAWN BY: AH
CHECKED BY: AH

ATTACHMENT 1

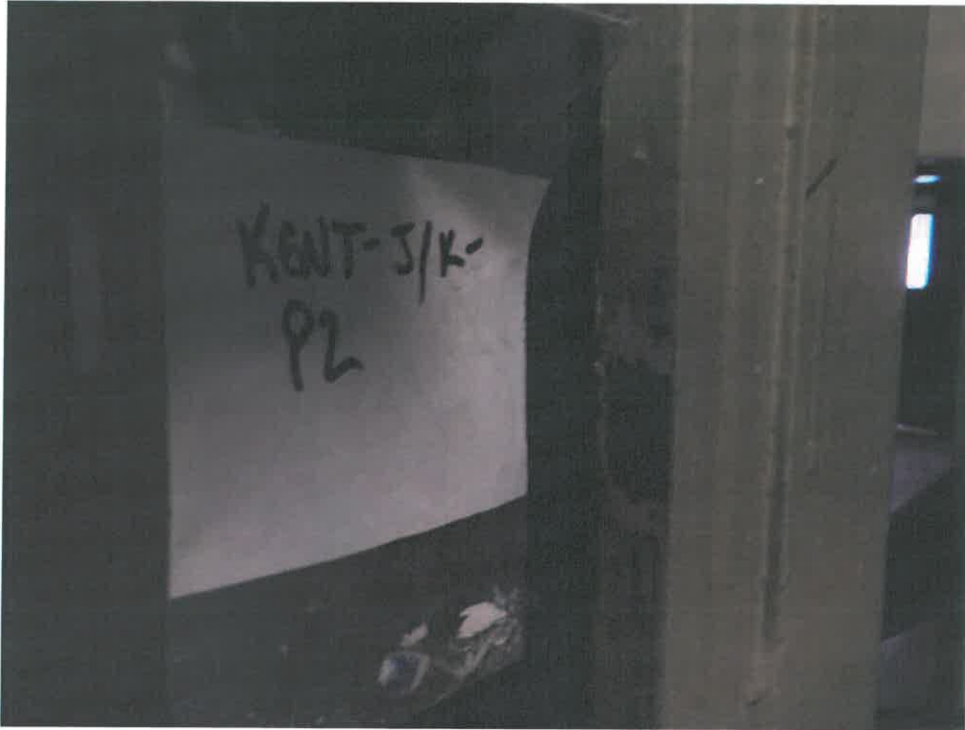
Photographs



Photograph 1: Asbestos-containing black mastic between the window pane and frame of the window facing the Living Unit J stairwell.



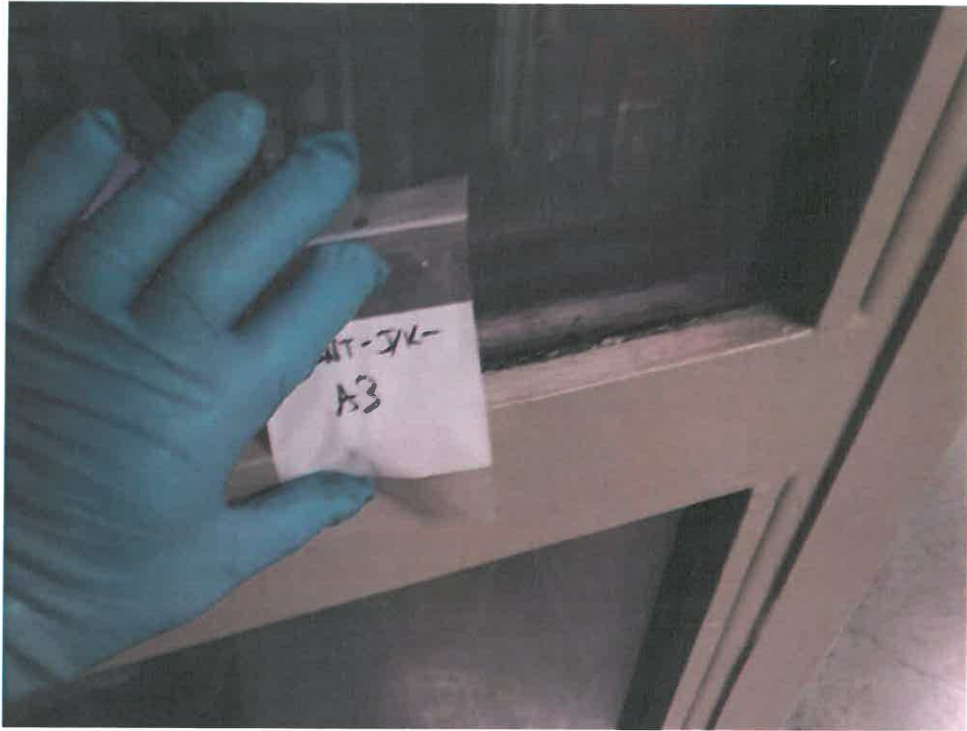
Photograph 2: Lead-containing cream paint on the interior walls and window frames of the control post.



Photograph 3: Lead-containing tan paint on the exterior window frames of the control post.



Photograph 4: Non-Asbestos grey mastic between the window pane and frame on the door facing Living Unit J kitchen.



Photograph 5: Non-Asbestos black mastic between the window pane and frame facing the janitor's room.

ATTACHMENT 2

Laboratory Analytical Report

Your Project #: 644051
Site#: N/A
Site Location: KENT INSTITUTION
Your C.O.C. #: G111384

Attention: Tim Drozda

SNC-LAVALIN INC.
BURNABY, ENVIRONMENT DIVISION
8648 COMMERCE COURT
BURNABY, BC
CANADA V5A 4N6

Report Date: 2017/02/14
Report #: R2345273
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B709826

Received: 2017/02/10, 11:05

Sample Matrix: PAINT
Samples Received: 2

Analyses	Quantity Extracted	Date	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICP-AES (acid extr. solid)	2	2017/02/14	2017/02/14	BBY7SOP-00018	EPA 6010c R3 m

Sample Matrix: Solid
Samples Received: 3

Analyses	Quantity Extracted	Date	Date Analyzed	Laboratory Method	Analytical Method
Asbestos Identification (1)	3	N/A	2017/02/14	BBY5SOP-00020	NIOSH 9002 Issue #2

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported: unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods. Results relate to samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) RDL = 0.5%

Attention: Tim Drozda

SNC-LAVALIN INC.
BURNABY, ENVIRONMENT DIVISION
8648 COMMERCE COURT
BURNABY, BC
CANADA V5A 4N6

Your Project #: 644051
Site#: N/A
Site Location: KENT INSTITUTION
Your C.O.C. #: G111384

Report Date: 2017/02/14
Report #: R2345273
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B709826

Received: 2017/02/10, 11:05

Encryption Key



VJ Oco
Burnaby Project Manager
14 Feb 2017 15:51:53

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

VJ Oco, Burnaby Project Manager

Email: VOco@maxxam.ca

Phone# (604)639-8422

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B709826
Report Date: 2017/02/14

SNC-LAVALIN INC.
Client Project #: 644051
Site Location: KENT INSTITUTION
Sampler Initials: MAH

ASBESTOS IDENTIFICATION (SOLID)

Maxxam ID		QN4811	QN4812	QN4813	QN4813		
Sampling Date		2017/02/10 07:55	2017/02/10 08:10	2017/02/10 08:30	2017/02/10 08:30		
COC Number		G111384	G111384	G111384	G111384		
	UNITS	KENT-J/K-A1	KENT-J/K-A2	KENT-J/K-A3	KENT-J/K-A3 Lab-Dup	RDL	QC Batch
Asbestos Type							
Actinolite	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
Amosite	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
Anthophyllite	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
Chrysotile	% vol/vol	0.5-10	<0.5	<0.5	<0.5	0.5	8552250
Crocidolite	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
Tremolite	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
Others							
Cellulose	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
Filler	% vol/vol	90-99	>99	>99	>99	0.5	8552250
Glass Fibres	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
Hair	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
Other Fibers	% vol/vol	<0.5	<0.5	<0.5	<0.5	0.5	8552250
RDL = Reportable Detection Limit							
Lab-Dup = Laboratory Initiated Duplicate							

Maxxam Job #: B709826
Report Date: 2017/02/14

SNC-LAVALIN INC.
Client Project #: 644051
Site Location: KENT INSTITUTION
Sampler Initials: MAH

LEAD IN PAINT CHIPS (PAINT)

Maxxam ID		QN4809	QN4810		
Sampling Date		2017/02/10 08:05	2017/02/10 08:25		
COC Number		G111384	G111384		
	UNITS	KENT-J/K-P1	KENT-J/K-P2	RDL	QC Batch
Total Metals by ICP					
Total Lead (Pb)	mg/kg	735	224	3.0	8551971
RDL = Reportable Detection Limit					

Maxxam Job #: B709826
Report Date: 2017/02/14

SNC-LAVALIN INC.
Client Project #: 644051
Site Location: KENT INSTITUTION
Sampler Initials: MAH

GENERAL COMMENTS

For Asbestos:

Filler = Non-fibrous material
All layers found are homogeneous
Site Location: Kent Institution

Sample QN4811 [KENT-J/K-A1] : 1 layer: Black mix

Sample QN4812 [KENT-J/K-A2] : 1 layer: Black mix

Sample QN4813 [KENT-J/K-A3] : 1 layer: Black mix

Results relate only to the items tested.

Maxxam Job #: B709826
Report Date: 2017/02/14

QUALITY ASSURANCE REPORT

SNC-LAVALIN INC.
Client Project #: 644051
Site Location: KENT INSTITUTION
Sampler Initials: MAH

QC Batch	Parameter	Date	Method Blank		RPD		QC Standard	
			Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
8551971	Total Lead (Pb)	2017/02/14	<3.0	mg/kg	2.3	35	99	80 - 120

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
 QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.
 Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

CHAIN OF CUSTODY RECORD

BBY FCD-00077/05

Burnaby, 4606 Canada Way, Burnaby, BC V5G 1L5. Toll Free (800) 665-9566

Page 1 of 1

Invoice Information		Report Information (If differs from Invoice)		Project Information (Where applicable)		Turnaround Time (TAT) (Noted)		
Company Name: Sneland Inc.	Company Name: As At Last	Quotation #: Sneland's Pricing	<input type="checkbox"/> Regular TAT 5 days (Most analyses)	Project Information (Where applicable)		<input type="checkbox"/> Rush TAT (Surcharges will be applied)	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS	
Contact Name: Tina Drozda/Brad Hall	Contact Name: _____	PO # / A/E/R: _____	<input type="checkbox"/> Same Day	Project #: 644051		<input type="checkbox"/> 2 Days		
Address: 8648 Commerce Court	Address: _____	Site Location: Kent Washburn	<input checked="" type="checkbox"/> 1 Day	Site Location: N/A		<input type="checkbox"/> 3 Days		
Burnaby, BC V5H 4J6	Phone: 604-55-5151	Site #: _____	Sampled By: MAT		Data Required:			
Phone: _____	Email: tina.drozda@snelandinc.com	PC: _____	Analysis Requested:		Rush Confirmation #:			
Email: _____	Special Instructions:	Return Cooler <input type="checkbox"/>	LABORATORY USE ONLY		CUSTODY SEAL (Y/N)			
Regulatory Criteria:	<input type="checkbox"/> BC CM Sol	<input type="checkbox"/> BC CM Water	Ship Sample Bottles (Please Specify)		Intact			
<input type="checkbox"/> (CMF (Specify))	Paint DL < 90 mg/kg	<input type="checkbox"/> Other (Specify)			Present NA			
<input type="checkbox"/> Drinking Water		<input type="checkbox"/> BC Unaided			COOLING MEDIA PRESENT Y / N			
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM				COOLING TEMPERATURES				COMMENTS
Sample Identification	Lab Identification	Date Sampled (YYYY/MM/DD)	Time Sampled (HH:MM)	Matrix	# OF CONTAINERS SUBMITTED	HOLD - DO NOT ANALYZE		
1 KANT-J/K-P1		2017-02-10	0805	Paint	1			
2 KANT-J/K-P2		2017-02-10	0825	Paint	1			
3 KANT-J/K-A1		2017-02-10	0855	Milk	1			
4 KANT-J/K-A2		2017-02-10	0810	Milk	1			
5 KANT-J/K-A3		2017-02-10	0830	Milk	1			
6								
7								
8								
9								
10								
RELINQUISHED BY: (Signature/Print)		DATE: (YYYY/MM/DD)	TIME: (HH:MM)	RECEIVED BY: (Signature/Print)	DATE: (YYYY/MM/DD)	TIME: (HH:MM)	MAGAZAN JOB #	
[Signature]		2017-02-10	11:05	[Signature]	2017-02-10	11:05		

COC-1020

