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## 1 General

### 1.1 INDEX OF ARTICLES

ARTICLE	TITLE
1	General
1.1	Index of Articles
2	Summary of Work
2.1	Requirements Included
2.2	Departmental Representative Furnished Items
2.3	Examination
2.4	Documents Required
2.5	Codes and Standards
2.6	Laws and Regulations
2.7	Permits and Licenses
3	Site Layout
3.1	Layout of Work
3.2	Concealed or Unknown Conditions
4	Project Coordination
4.1	General
4.2	Interference Meetings
4.3	Interference Drawings
5	Cutting, Fitting and Patching
6	Project Meetings
7	Submittals
7.1	Administrative
7.2	Shop Drawings
7.3	Samples
7.4	Record Drawings
7.5	Progress Photographs
8	Construction Schedule
9	Quality Control
9.1	Inspection
9.2	Rejected Work
10	Construction Facilities and Temporary Controls
10.1	Installation/Removal
10.2	Temporary Fencing
10.3	Barriers
10.4	Site Storage
10.5	Sanitary Facilities
10.6	Water Supply
10.7	Temporary Power and Light
10.8	Temporary Telephone
10.9	Offices and Sheds
10.10	Project Cleanliness
11	Materials and Equipment
11.1	Products and Materials

- 11.2 Storage, Handling and Protection
- 11.3 Manufacturer's Instructions
- 11.4 Workmanship
- 12 Contract Closeout
  - 12.1 Final Cleaning
  - 12.2 Operating and Maintenance Manual
  - 12.3 Documents
  - 12.4 Substantial Performance Inspection
  - 12.5 Total Performance of the Work
- 2 Summary of Work
- 2.1 REQUIREMENTS INCLUDED
  - .1 Work under this Contract includes construction of a new facility in Saint Léonard, including civil, structural, architectural, mechanical, and electrical requirements.
  - .2 Work shall be Substantially Completed by time stated in Bid Form.
- 2.2 DEPARTMENTAL REPRESENTATIVE FURNISHED ITEMS
  - .1 Departmental Representative responsibilities:
    - .1 Arrange for delivery of shop drawings, product data, manufacturer's instructions, and certificates to Contractor.
    - .2 Deliver supplier's bill of materials to Contractor.
    - .3 Arrange and pay for delivery to site in accordance with Progress Schedule.
    - .4 Inspect deliveries jointly with Contractor.
    - .5 Submit claims for transportation damage.
    - .6 Arrange for replacement of damaged, defective, or missing items.
    - .7 Arrange for manufacturer's field services; arrange for and deliver manufacturer's warranties and bonds to Contractor.
  - .2 Contractor responsibilities:
    - .1 Designate submittals and delivery date for each product in progress schedule.
    - .2 Review shop drawings, product data, and other submittals. Submit to Departmental Representative notification of any observed discrepancies or problems anticipated due to non-conformance with Contract Documents.
    - .3 Receive and unload products at site.
    - .4 Inspect deliveries jointly with Departmental Representative, record shortages, and damaged or defective items.
    - .5 Handle products at site, including uncrating and storage.
    - .6 Protect products from damage, and from exposure to elements.
    - .7 Assemble, install, connect, adjust, and finish products.
    - .8 Provide installation inspections required by public authorities.
    - .9 Repair or replace items damaged by Contractor or Subcontractor on site (under his control).
  - .3 Departmental Representative shall furnish the following items for installation by Contractor:
    - .1 Items indicated on drawings as "Supplied and installed by Departmental Representative".

## 2.3 EXAMINATION

- .1 Before submitting Bid, visit the site and examine conditions of work. Departmental Representative will arrange only one site visit.
- .2 Before commencing work, verify all relevant field dimensions.
- .3 Report to the Departmental Representative in writing, defects, faulty work or unsuitable working conditions which may affect the quality of workmanship of this project.

## 2.4 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each of the following:
  - .1 Contract Drawings
  - .2 Specifications
  - .3 Addenda
  - .4 Reviewed shop drawings and, if applicable, all revisions thereof
  - .5 Change Orders
  - .6 Other modifications to Contract
  - .7 Building permit(s).
  - .8 Documents as specified in other sections of these specifications.

## 2.5 CODES AND STANDARDS

- .1 Work shall conform to requirements of the National Building Code of Canada 2010 and local codes which may govern the requirements of the installation.

## 2.6 LAWS AND REGULATIONS

- .1 Comply with all federal, provincial, territorial, municipal or local laws and regulations of the authorities with regard to the works or having jurisdiction in the locality of the works including, but not limited to, any law, ordinance, rule or regulation of public health and safety.

## 2.7 PERMITS AND LICENSES

- .1 Obtain building permits and other permits and licenses required to fully comply with all laws, ordinances and regulations in connection with the performance of the works.

## 3 Site Layout

### 3.1 LAYOUT OF WORK

- .1 Establish basic horizontal and vertical control lines and levels from the drawings.
- .2 Assume responsibility for the layout of work of all trades from the aforementioned basic control lines and levels. Supply, establish and maintain all additional survey reference points and other work lines and levels necessary to perform the work.
- .3 Where layout dimensions are not indicated, respect alignment shown with other elements.

### 3.2 CONCEALED OR UNKNOWN CONDITIONS

- .1 Promptly notify the Departmental Representative in writing if:
  - .1 subsurface or otherwise concealed physical conditions which existed before the start of the Work which differ materially from those indicated in the Contract Documents.

- .2 Physical conditions of a nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents.
  - .2 After prompt investigation, should Departmental Representative determine that the conditions do differ materially, instructions will be issued for changes in the work.
- 4 Project Coordination
- 4.1 GENERAL
  - .1 Contractor shall provide necessary coordination between all trades on site and ensure cooperation of trades with each other.
- 4.2 INTERFERENCE MEETINGS
  - .1 Arrange and hold regular meetings to ensure project construction is proceeding according to design. Identify and correct areas of potential concern or conflict.
    - .1 Contractor, mechanical, electrical and applicable trade contractors shall be in attendance.
  - .2 Interference drawing meetings shall be held separate from project meetings.
  - .3 Make minutes of meetings available to Departmental Representative as requested.
- 4.3 INTERFERENCE DRAWINGS
  - .1 Prepare interference drawings for all areas; consisting of plans, sections and details.
    - .1 Plans and sections shall be minimum 1:50 scale and shall indicate all components in one view. Separate drawings for each trade is not acceptable.
    - .2 Details to be of scale necessary.
  - .2 Coordinate drawings with all trades. Have mechanical, electrical and applicable trade contractors review and approve drawings.
  - .3 Make required changes in layouts, at no increase in Contract Price, to ensure ceiling heights, as noted on drawings, are maintained.
  - .4 Do not start installation until interference drawings have been reviewed and approved by applicable trade contractors.
  - .5 Update drawings as required with information generated by Interference Meetings and to accommodate shop drawings.
  - .6 Interference drawings shall, as a minimum:
    - .1 Show mechanical and electrical services:
      - .1 Ductwork.
      - .2 Major pipe runs including heating and cooling, plumbing, sprinkler.
      - .3 Electrical conduit, cable trays and recessed light fixtures.
      - .4 Ductwork, large piping, cabletrays, and similar services to be drawn to scale.
      - .5 Equipment to be shown to scale using products actually being provided. Identify locations of access panels and doors on equipment.
    - .2 Show ceiling mounted equipment and accessories.
    - .3 Provide sectional details through ceilings.
      - .1 Allow for solid and open structural steel members, hangers and support systems for all above ceiling services, bracing required for walls, thicknesses of ceiling components, and clearances required for installation and maintenance of ceilings and services above ceiling.

- .2 Arrangement of services within ceiling spaces shall provide an efficient and orderly construction sequence and shall maintain required ceiling heights.
    - .4 Ensure areas requiring installation of firestopping or acoustic sealant are accessible for installation of firestopping or acoustic sealant. Note areas, such as at top of walls and around structural members, where firestopping or acoustic sealant will have to be applied before installation of mechanical and electrical services.
    - .5 Ensure access space is provided around equipment for maintenance, servicing and daily use of components.
- 5 Cutting, Fitting and Patching
  - .1 Execute cutting, fitting and patching required to complete the work.
  - .2 Remove defective and nonconforming work, and replace with new at no cost to Departmental Representative.
  - .3 Execute work by methods to avoid damage to other work, and which will provide proper surfaces to receive patching and finishing.
  - .4 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed without prior approval.
  - .5 Restore work with new products in accordance with requirements of Contract Documents.
- 6 Project Meetings
  - .1 Schedule project meetings once every two weeks. Distribute written notice four (4) days in advance of meetings.
  - .2 The Contractor shall preside at meetings, record the Minutes, and reproduce and distribute copies of Minutes to all parties.
  - .3 Representatives of Contractor, subcontractor and suppliers attending meetings shall be qualified and authorized to act on behalf of the party each represents.
  - .4 Distribute copies of minutes within three (3) days after meeting.
  - .5 Agenda to include the following (as a minimum):
    - .1 Review, approval of previous meeting minutes.
    - .2 Health and safety.
    - .3 Review of work progress since last meeting.
    - .4 Schedule update.
    - .5 Progress schedule.
    - .6 Submittal schedule.
    - .7 RFI submittals
    - .8 Change orders.
    - .9 Security
    - .10 New business.
- 7 Submittals
  - 7.1 ADMINISTRATIVE
    - .1 Submit to Departmental Representative, submittals listed for review.

- .2 All submittals (shop drawings, product data, samples, colour samples, etc.) to be submitted within three (3) months after award of contract. Submit in an orderly sequence so as to not cause delay in the work. Departmental Representative reserves the right to prioritize submittals.
- .3 Review submittals prior to submission to the Departmental Representative. This review represents that the contractor has:
  - .1 determined and verified all field requirements and conditions, or will do so, and
  - .2 has checked and coordinated shop drawings with requirements of work and contract documents.
- .4 Present submittals in same units of measurement as drawings and specifications (ie. if drawings and specifications are done in metric, then shop drawings are to be in metric). Where items or information is not produced in the appropriate units of measurement, converted values are acceptable.
- .5 Work affected by the submittal shall not proceed until review is complete.

## 7.2 SHOP DRAWINGS

- .1 The term shop drawings means drawings, diagrams, illustrations, schedules, performance charts, brochures, product data, and other data which the Contractor provides to illustrate details of portions of the work.
- .2 Contractor shall arrange for the preparation of clearly identified shop drawings, as called for by the Contract Documents.
- .3 Submissions include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
  - .4 Cross references to:
    - .1 Design drawing, including plan, detail or section number.
    - .2 Specification Section, Article and paragraph.
  - .5 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
  - .6 Details of appropriate portions of Work as applicable:
    - .1 Materials.
    - .2 Fabrication or construction.
    - .3 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .4 Installation, setting or erection details.
    - .5 Capacities.
    - .6 Performance characteristics.
    - .7 Standards.
    - .8 Operating weight.
    - .9 Wiring diagrams.
    - .10 Single line and schematic diagrams.
    - .11 Relationship to adjacent work.

- .4 At time of submitting shop drawing, advise Departmental Representative in writing of deviations in a shop drawing from the requirements of the Contract Documents. Departmental Representative will indicate, in writing, acceptance or rejection of deviations.
- .5 Departmental Representative's review of shop drawing is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the job site; fabrication processes and techniques of construction; coordination of his or her work with that of all other trades; and the satisfactory performance of his or her work.
- .6 Shop drawing review stamp definitions:
  - .1 "No Exception Taken":
    - .1 The product/system is acceptable as submitted.
  - .2 "Make Corrections Noted. Resubmission Not Required":
    - .1 The product/system is acceptable with the modifications indicated. Resubmission of shop drawing is not required.
  - .3 "Revise and Resubmit":
    - .1 The product/system is not acceptable as submitted. Take actions as indicated to bring product/system in compliance with contract documents. Submit the revised shop drawing.
  - .4 "Rejected. Submit Compliant Product/System":
    - .1 The product/system does not meet requirements of contract documents and cannot be made compliant with contract documents. Submit a different product/system; do not resubmit this product/system.
- .7 Make changes in shop drawings as the Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of any revisions other than those requested.
- .8 Adjustments made on shop drawings by the Departmental Representative are not intended to change the Contract Price. If adjustments affect the value of work, state such in writing to the Departmental Representative prior to proceeding with the work.
- .9 When resubmission is required, submit corrected shop drawings through the same procedure indicated above. Fabrication and installation of work shall not proceed until shop drawings are acceptable to Departmental Representative.
- .10 Quantity of shop drawings submitted shall be at the discretion of the Contractor. A total of two (2) copies will be retained by the Departmental Representative.
- .11 Only shop drawings which have been stamped by the Departmental Representative will be permitted at the site.
- .12 Electronic submission of shop drawings will only be acceptable when Departmental Representative and Contractor agree. The exchange of documentation shall be undertaken as follows:
  - .1 Documents shall be submitted as a PDF file.
  - .2 Include an electronic transmittal form.
  - .3 Content of submission and procedures for submission shall be consistent with that of submitting hard copies.
  - .4 Departmental Representative will return stamped PDF copy to e-mail address from which the submission originated.
  - .5 Contractor shall provide confirmation of receipt of returned shop drawings.

- .6 Departmental Representative's hard copy is the record copy and takes precedence over all other copies, electronic or otherwise.

### 7.3 SAMPLES

- .1 Submit for review, samples as requested in respective specification sections or as may reasonably be required by Departmental Representative. Label samples as to origin and intended use in the work.
- .2 Deliver samples prepaid to Departmental Representative's business address.

### 7.4 RECORD DRAWINGS

- .1 After award of Contract, the Departmental Representative will provide one (1) CD and three (3) paper copies of contract drawings and specifications so the Contractor can provide copies to any and all trades that require additional copies for record drawings or any other reason.
- .2 Accurately and neatly record deviations from Contract Documents caused by site conditions and changes ordered by the Departmental Representative.
- .3 Record locations of concealed components of mechanical and electrical and site services.
- .4 Identify drawings as "Project Record Copy." The progress of recording and preparing record drawings shall be reported at each job meeting.
- .5 On completion of work and prior to final inspection, submit record documents to Departmental Representative.

### 7.5 PROGRESS PHOTOGRAPHS

- .1 On commencement of work and at monthly intervals thereafter, supply the Departmental Representative with photographs taken from three (3) different views to indicate progress of work. Locations of photographs as selected by Departmental Representative.
- .2 Photographs are to be high resolution colour JPEG images.
- .3 Submit progress photographs with monthly application for payment.

## 8 Construction Schedule

- .1 Provide a construction schedule showing starting and completion dates for each sequence of work.
- .2 Work may start immediately after award letter is provided to Contractor.
- .3 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
  - .1 Award.
  - .2 Activities prior to start of construction activities
    - .1 Submission of Site Specific Health and Safety Plan.
    - .2 Submission of Shop Drawings, Samples.
    - .3 Procurement of permits.
  - .3 Mobilization.
  - .4 Major construction activities.
  - .5 Testing and Commissioning.
- .4 Update construction schedule monthly and include with monthly progress invoice.
- .5 Submit cash flow chart with Project Schedule and provide update monthly with progress invoice.



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## 9 Quality Control

### 9.1 INSPECTION

- .1 The Departmental Representative shall have access to the work.
- .2 Give timely notice requesting inspection if work is designated for special tests, inspections or approvals by Departmental Representative instructions, or the law of the place of the work.
- .3 If the Contractor covers or permits to be covered, work that has been designated for special tests, inspections or approvals before such test is made, uncover such work, have the inspections or tests satisfactorily completed and make good such work.

### 9.2 REJECTED WORK

- .1 Remove defective work which has been rejected by the Departmental Representative as failing to conform to the Contract Documents. Replace or re-execute in accordance with Contract Documents.

## 10 Construction Facilities and Temporary Controls

### 10.1 INSTALLATION/REMOVAL

- .1 Provide construction facilities and temporary controls in order to execute the work expeditiously.
- .2 Remove from site after use.

### 10.2 TEMPORARY FENCING

- .1 Provide temporary modular fencing around perimeter of work area for current sequence of work. Fence to be 1800 mm high and have welded-wire or chain-link fabric, end posts, top and bottom rail.
  - .1 Be responsible for moving, adjusting and maintaining fence to ensure site is secure.
  - .2 Provide gates as necessary for pedestrian and vehicular access to site.
  - .3 Remove temporary fencing when approved by Departmental Representative.

### 10.3 BARRIERS

- .1 Provide barricades, signs and warning lights as required by governing authorities.

### 10.4 SITE STORAGE

- .1 Confine the work and the operations of employees to limits indicated by the Contract Documents. Do not unreasonably encumber the premises with products.

### 10.5 SANITARY FACILITIES

- .1 Provide sufficient sanitary facilities for workers in accordance with local health authorities. Maintain in clean condition.
- .2 Sanitary facilities shall comply with NB Occupational Health and Safety Act and its Regulations.

### 10.6 WATER SUPPLY

- .1 Provide a continuous supply of potable water for construction use.

- .2 Arrange for connection with appropriate utility company, and pay costs for installation, maintenance and removal.
- .3 Pay for utility charges at prevailing rate.

#### 10.7 TEMPORARY POWER AND LIGHT

- .1 Provide and pay for temporary power required during construction for temporary lighting and the operating of power tools.
- .2 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.

#### 10.8 TEMPORARY TELEPHONE

- .1 Provide and pay for temporary telephone and facsimile machine necessary for own use.

#### 10.9 OFFICES AND SHEDS

- .1 Site offices:
  - .1 Provide two (2) separate site offices; one for Contractor's use and one for Departmental Representative's use.
  - .2 Each office to be heated to 22° C, lighted 750 lx, ventilated, have sufficient electrical outlets and internet connection.
    - .1 For both offices, pay costs for, and associated with, installation, connection, use and consumption for heating, power, and internet services.
  - .3 Size of office shall accommodate:
    - .1 Normal site office staff.
    - .2 Monthly meetings.
    - .3 Furnishings.
  - .4 Furnish each office with:
    - .1 1000 mm x 2000 mm table.
    - .2 Four (4) chairs.
    - .3 6 m of shelving 300 mm wide.
    - .4 One (1) 3-drawer filing cabinet.
    - .5 One (1) plan rack.
    - .6 One (1) coat rack and shelf.
  - .5 Maintain in clean condition during progress of work.
  - .6 Subcontractors to provide their own offices as necessary. Direct location of these offices.
- .2 Provide adequate required first aid facilities.
- .3 Provide and maintain, in a clean and orderly condition, lockable, weatherproof sheds for storage of tools, equipment and materials.
- .4 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause the least interference with work activities.

#### 10.10 PROJECT CLEANLINESS

- .1 Maintain the work in tidy condition, free from the accumulation of waste products and debris other than that caused by the Departmental Representative or other contractors.
- .2 Remove waste material and debris from the site at the end of each working day.
- .3 Clean interior areas prior to start of finish work; maintain areas free of dust and contaminants during finishing operations.

## 11 Materials and Equipment

### 11.1 PRODUCTS AND MATERIALS

- .1 Products, materials, equipment and articles (referred to as Products throughout the specifications) incorporated in the work shall be new, not damaged or defective, and of the best quality (compatible with specifications) for the purpose intended. If requested, furnish evidence as to type, source and quality of products provided.
- .2 Defective products will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is a precaution against oversight or error. Remove and replace defective products at own expense, and be responsible for delay and expenses caused by rejection.
- .3 Should any dispute arise as to the quality or fitness of products, the decision rests strictly with the Departmental Representative, based upon the requirements of the Contract Documents.
- .4 Unless otherwise indicated in the specification, maintain uniformity of manufacture for any particular or like item throughout the building.
- .5 Contractor's options for selection of materials:
  - .1 Select any product that meets or exceeds the requirements of the specified standard plus additional requirements as may be specified herein.
  - .2 Upon request of Departmental Representative, obtain from manufacturer an independent testing laboratory report, showing that the product meets or exceeds the specified standard or requirements.

### 11.2 STORAGE, HANDLING AND PROTECTION

- .1 Handle and store products in a 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 seals and labels intact.
- .3 Store products subject to damage from weather in weatherproof enclosures.

### 11.3 MANUFACTURER'S INSTRUCTIONS

- .1 Unless otherwise indicated in the specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosure provided with products. Obtain written instructions directly from manufacturers.
- .2 Notify the Departmental Representative, in writing, of conflicts between the specifications and manufacturer's instructions so that the Departmental Representative may establish the course of action.
- .3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes the Departmental Representative to require removal and reinstallation at no increase in Contract Price.

### 11.4 WORKMANSHIP

- .1 Workmanship shall be the best quality, executed by workers experienced and skilled in the respective duties for which they are employed.
- .2 Do not employ any unfit person or anyone unskilled in their required duties.

- .3 Decisions as to the quality of fitness of workmanship in cases of dispute rest solely with the Departmental Representative, whose decision is final.

## 12 Contract Closeout

### 12.1 FINAL CLEANING

- .1 When the work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for the performance of the remaining work.
- .2 Remove waste materials and debris from the site at regularly scheduled times, or dispose of as directed by the Departmental Representative.
- .3 Leave the work broom-clean before the inspection process commences.

### 12.2 OPERATING AND MAINTENANCE MANUAL

- .1 Two weeks prior to Substantial Completion, submit, to the Departmental Representative, three (3) hard copies of draft operating and maintenance manuals. Make changes to manuals as required by Departmental Representative and submit final copies. Final copies shall include three (3) hard copies and one (1) electronic copy.
- .2 Manuals shall contain:
  - .1 Title sheet, labelled "Operating and Maintenance Instructions," containing project name and date.
  - .2 List of names, addresses and phone numbers of contractor, subcontractors and suppliers who can effect repair or maintenance on equipment.
  - .3 Table of contents.
  - .4 Full description of building systems and operation.
  - .5 List of maintenance materials, special tools and spare parts.
  - .6 List of equipment including service depots.
  - .7 Equipment nameplate information.
  - .8 Parts list.
  - .9 Installation details.
  - .10 Operation and maintenance information for equipment.
  - .11 Maintenance information for finishes.
  - .12 Warranties, guarantees and copies of approvals and certificates as called for
  - .13 Reports such as those from manufacturer's representatives and balancing contractor.
  - .14 Complete set of final reviewed shop drawings.
- .3 Bind contents in three-ring, hard-covered binder. Organize contents into applicable categories of work, parallel to specification sections.
- .4 Bind warranties and guarantees in separate three-ring, hard-covered binder.

### 12.3 DOCUMENTS

- .1 Collect reviewed submittals and assemble documents executed by subcontractors, suppliers and manufacturers.
- .2 Submit material prior to total performance of work.
- .3 Provide warranties fully executed and notarized.
- .4 Execute transition of Performance and Labour and Material Payment Bond to warranty period requirements.

- .5 Submit a final statement of accounting giving total adjusted Contract Price, previous payments and monies remaining due.

#### 12.4 SUBSTANTIAL PERFORMANCE INSPECTION

- .1 Review work to ensure that Substantial Performance has been achieved before notifying Departmental Representative regarding Inspection. Provide Departmental Representative with detailed list of items not completed prior to notification.
- .2 Notify the Departmental Representative in writing when the project is substantially complete. Departmental Representative will review the work and prepare a deficiency list.
- .3 Departmental Representative will issue deficiency list to the Contractor. Contractor will have 14 days to clean up deficiencies and reach Total Performance. Departmental Representative will re-check deficiency items to assure that building is ready for occupancy.

#### 12.5 TOTAL PERFORMANCE OF THE WORK

- .1 After the deficiencies established at the time of the Substantial Performance Inspection are completed, and when Change Orders are completed, the Contractor shall apply to the Departmental Representative, in writing, that the Work is completed.

END OF SECTION

## 1 General

### 1.1 REFERENCES

- .1 Fire Protection Standards issued by Fire Protection Services of the Department of Human Resources and Social Development, as follows:
  - .1 FCC No. 301-June 1982, Standard for Construction Operations.
  - .2 FCC No. 302-June 1982, Standard for Welding and Cutting.

### 1.2 DEFINITIONS

- .1 Hot Work defined as:
  - .1 Welding work.
  - .2 Cutting of materials by use of torch or other open flame devices
  - .3 Grinding with equipment which produces sparks.
  - .4 Use of open flame torches such as for roofing work.

### 1.3 SUBMITTALS

- .1 Submit in accordance with Section 01 10 01 - General Requirements.
- .2 Submit copy of Hot Work Procedures and sample of Hot Work permit to Departmental Representative for review, within 14 calendar days after contract award.

### 1.4 FIRE SAFETY REQUIREMENTS

- .1 Implement and follow fire safety measures during Work. Comply with following:
  - .1 National Fire Code.
  - .2 Fire Protection Standards FCC 301 and FCC 302.
  - .3 Federal and Provincial Occupational Health and Safety Acts and Regulations.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on course of action to be followed.

### 1.5 HOT WORK AUTHORIZATION

- .1 Obtain Departmental Representative's written "Authorization to Proceed" before conducting any form of Hot Work on site.
- .2 To obtain authorization submit to Departmental Representative:
  - .1 Contractor's typewritten Hot Work Procedures to be followed on site as specified below.
  - .2 Description of the type and frequency of Hot Work required.
  - .3 Sample Hot Work Permit to be used.
- .3 Upon review and confirmation that effective fire safety measures will be implemented during performance of hot work, Departmental Representative will give authorization to proceed as follows:
  - .1 Issue one written "Authorization to Proceed" covering the entire project for duration of work or;
  - .2 Subdivide the work into individual activities. Each activity requiring a separately written "Authorization to Proceed".
- .4 Requirement for individual authorization will be based on:
  - .1 Nature or phasing of work;
  - .2 Risk to Facility operations;

- .3 Quantity of various trades needing to perform hot work on project or;
- .4 Other situation deemed necessary by Departmental Representative to ensure fire safety on premises.
- .5 Do not perform any Hot Work until receipt of Departmental Representative's written "Authorization to Proceed" for that portion of work.

#### 1.6 HOT WORK PROCEDURES

- .1 Develop and implement safety procedures and work practises to be followed during performance of Hot Work.
- .2 Procedures to include:
  - .1 Requirement to perform hazard assessment of site and immediate work area beforehand for each hot work event in accordance with Safety Plan specified in Section 01 35 29 - Health and Safety Requirements.
  - .2 The step-by-step process of how to prepare and issue permit.
  - .3 Permit shall be issued by Contactor's site superintendent, or other authorized person designated by Contractor, granting permission to worker or subcontractor to proceed with hot work.
  - .4 Permit required for each Hot Work event.
  - .5 Designation of a person on site as Fire Safety Watcher, to carry out a Fire Safety Watch for a minimum of 120 minutes immediately upon completion of the Hot Work.
  - .6 Compliance with fire safety codes, standards and occupational health and safety regulations specified.
  - .7 Site specific rules and procedures in force at the site as provided by the Facility Manager.
- .3 Generic procedures, if used, must be edited and supplemented with pertinent information tailored to reflect specific Project conditions. Label document as being the Hot Work Procedures for this contract.
- .4 Procedures shall clearly establish responsibilities of:
  - .1 Worker,
  - .2 Authorized person issuing Hot Work Permit,
  - .3 Fire Safety Watcher,
  - .4 Subcontractor(s) and Contractor.
  - .5 Brief all workers and subcontractors on Hot Work Procedures and of Permit system. Stringently enforce compliance.
  - .6 Failure to comply with fire safety procedures may result in the issue of a Non-Compliance notification with disciplinary measures imposed as specified in Section 01 35 29 - Health and Safety Requirements.

#### 1.7 HOT WORK PERMIT

- .1 Hot Work Permit to include the following:
  - .1 Project name and project number;
  - .2 Building name and specific room or area where hot work will be performed;
  - .3 Date of issue;
  - .4 Description of work type to be performed;
  - .5 Special precautions required, including type of fire extinguisher needed;
  - .6 Name and signature of permit issuer.
  - .7 Name of worker (clearly printed) to which the permit is issued.

- .8 Permit validity period, not to exceed 8 hours. Indicate start time/date and termination time/date.
- .9 Worker's signature with time/date of hot work completion.
- .10 Specified time period requiring safety watch.
- .11 Fire Safety Watcher's name and signature complete with time and date; certifying that surrounding area was under his continual surveillance and inspection during the full watch period and commenced immediately upon completion of Hot Work.
- .2 Permit to be typewritten form. Industry Standard forms shall only be used if all data specified above is included on form.
- .3 Each Hot Work Permit to be completed in full, signed as follows:
  - .1 By permit issuer before Hot Work commences;
  - .2 By Worker upon completion of Hot Work;
  - .3 By Fire Safety Watcher upon termination of safety watch;
  - .4 Returned to Contractor's Superintendent for safe keeping on site.
- 1.8 FIRE PROTECTION AND ALARM SYSTEMS
  - .1 Fire protection and alarm systems shall not be:
    - .1 Obstructed.
    - .2 Shut-off, unless approved by Departmental Representative.
    - .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 Costs incurred, from the fire department, Facility owner and tenants, resulting from negligently setting off false alarms will be charged to the Contractor in the form of financial progress payment reductions and holdback assessments against the Contract.
- 1.9 DOCUMENTS ON SITE
  - .1 Keep Hot Work Permits and Hazard assessment documentation on site for duration of Work.
  - .2 Upon request, make available to Departmental Representative or to authorized safety Representative for inspection.
- 2 Products
  - 2.1 NOT USED
    - .1 Not Used.
- 3 Execution
  - 3.1 NOT USED.
    - .1 Not Used.

END OF SECTION



## 1 General

### 1.1 REFERENCES

- .1 Canadian Standards Association (CSA).
  - .1 CSA C22.1-15, Canadian Electrical code, Part I (23rd edition), Safety Standard for Electrical Installations.
  - .2 CSA-C22.3 No.1-15, Overhead Systems.
  - .3 CSA C22.3 No.7-15, Underground Systems.
- .2 Canada Occupational Health and Safety (COSH)
  - .1 Regulations made under Part II of the Canada Labour Code.

### 1.2 DEFINITIONS

- .1 Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons.
- .2 Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment has been isolated.
- .3 De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD).
- .4 Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, inaccessible by location, or otherwise protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.
- .5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.
- .6 Live/alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

### 1.3 COMPLIANCE REQUIREMENTS

- .1 Perform lockouts in compliance with:
  - .1 Canadian Electrical Code.
  - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations.
  - .3 Regulations and code of practice as applicable to mechanical equipment or other machinery being de-energized.
  - .4 Procedures specified herein.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on course of action to be followed.

### 1.4 SUBMITTALS

- .1 Submit in accordance with Section 01 10 01 - General Requirements.

- .2 Submit copy of proposed lockout procedures and sample of lockout permit or lock out tags for review.
- .3 Submit documentation within 21 calendar days of contract award. Do not proceed with work until submittal has been reviewed by Departmental Representative.
- .4 Resubmit Lockout Procedures with noted revisions as may result from Departmental Representative's review.

## 1.5 LOCKOUTS

- .1 De-energize, isolate and lockout electrical facility, mechanical equipment and machinery from all potential sources of energy prior to working on such items.
- .2 Develop and implement clear and specific lockout procedures to be followed as part of the Work.
- .3 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.
- .4 Use industry standard lockout tags.
- .5 Provide appropriate safety grounding and guards as required.
- .6 Prepare type written Lockout Procedures describing safe work practices, procedures, worker responsibilities and sequence of activities to be followed on site to safely isolate potential energy sources and lockout/tagout facilities and equipment.
- .7 Include within Procedures a system of requests and issuance of individual lockout permits managed by a person, employed by Contractor, designated to be "in-charge" and being responsible for:
  - .1 Issuance of permits and lockout tags to workers.
  - .2 Determining permit duration.
  - .3 Maintaining record of permits and tags issued.
  - .4 Submitting a Request for Isolation to Departmental Representative when required as specified above.
  - .5 Designating a Safety Watcher, when one is required based on type of work.
  - .6 Ensuring equipment or facility has been properly isolated, providing a Guarantee of Isolation to workers prior to proceeding with work.
  - .7 Collecting and safekeeping lockout tags returned by workers as a record of the event.
- .8 Clearly establish, describe and allocate responsibilities of:
  - .1 Workers.
  - .2 Person managing the lockout tags/permit system.
  - .3 Safety Watcher.
  - .4 Subcontractors and General Contractor.
- .9 Procedures shall meet requirements of Codes and Regulations.
- .10 Generic procedures, if used, must be edited and supplemented with pertinent information to reflect specific project requirements.
  - .1 Incorporate site specific rules and procedures in force at site as provided by Facility Manager through the Departmental Representative.
  - .2 Clearly label document as being Lockout procedures applicable to work of this contract.

## 1.6 CONFORMANCE

- .1 Brief all workers and subcontractors on requirements of this section. Stringently enforce use and compliance.
- .2 Failure to follow lockouts procedures specified herein may result in the issuance of a Non-Compliance Notification as specified in Section 01 35 29 - Health and Safety Requirements.

## 1.7 DOCUMENTS ON SITE

- .1 Post Lockout Procedures on site in common location for viewing by workers.
- .2 Keep copies of Request for Isolation forms and lockout permits and tags issued to workers on site for full duration of Work.
- .3 Upon request, make available to Departmental Representative or to authorized safety Representative for inspection.

## 2 Products

### 2.1 NOT USED

- .1 Not Used.

## 3 Execution

### 3.1 NOT USED

- .1 Not Used.

END OF SECTION

## 1.1 RELATED REQUIREMENTS

- .1 Section 01 35 24 - Special Procedures on Fire Safety Requirements.
- .2 Section 01 35 25 - Special Procedures on Lockout Requirements.

## 1.2 DEFINITIONS

- .1 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- .2 Competent Person: means a person who is:
  - .1 Qualified by virtue of personal knowledge, training and experience to perform assigned work in a manner that will ensure the health and safety of persons in the workplace, and;
  - .2 Knowledgeable about the provisions of occupational health and safety statutes and regulations that apply to the Work and;
  - .3 Knowledgeable about potential or actual danger to health or safety associated with the Work.
- .3 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
- .4 PPE: personal protective equipment
- .5 Work Site: where used in this section shall mean areas, located at the premises where Work is undertaken, used by Contractor to perform all of the activities associated with the performance of the Work.

## 1.3 SUBMITTALS

- .1 Make submittals in accordance with Section 01 10 01 - General Requirements.
- .2 Submit site-specific Health and Safety Plan prior to commencement of Work.
  - .1 Submit within 15 work days of notification of Bid Acceptance. Provide three (3) copies.
  - .2 Departmental Representative will review Health and Safety Plan and provide comments.
  - .3 Revise the Plan as appropriate and resubmit within five (5) work days after receipt of comments.
  - .4 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
  - .5 Submit revisions and updates made to the Plan during the course of Work.
- .3 Submit name of designated Health & Safety Site Representative and support documentation specified in the Safety Plan.
- .4 Submit building permit, compliance certificates and other permits obtained.
- .5 Submit copy of Letter in Good Standing from Provincial Workers Compensation or other department of labour organization.
  - .1 Submit update of Letter of Good Standing whenever expiration date occurs during the period of Work.

- .6 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
- .7 Submit copies of incident reports.
- .8 Submit WHMIS MSDS - Material Safety Data Sheets.

#### 1.4 COMPLIANCE REQUIREMENTS

- .1 Comply with Occupational Health and Safety Act for Province of New Brunswick, and General Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code - Part II (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
  - .1 The Canada Labour Code can be viewed at: [www.http://laws.justice.gc.ca/en/L-2/](http://laws.justice.gc.ca/en/L-2/)
  - .2 COSH can be viewed at: [www.http://laws.justice.gc.ca/eng/SOR-86-304/n e.html](http://laws.justice.gc.ca/eng/SOR-86-304/n_e.html)
  - .3 A copy may be obtained at: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F)
- .3 Observe construction safety measures of:
  - .1 Part 8 of National Building Code
  - .2 Municipal by-laws and ordinances.
- .4 In case of conflict or discrepancy between above specified requirements, the more stringent shall apply.
- .5 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof of clearance through submission of Letter in Good Standing.
- .6 Medical Surveillance: Where prescribed by legislation or regulation, obtain and maintain worker medical surveillance documentation.

#### 1.5 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons and environment adjacent to the site to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to Work Site with safety requirements of Contract Documents, applicable federal, provincial, and local by-laws, regulations, and ordinances, and with site-specific Health and Safety Plan.

#### 1.6 SITE CONTROL AND ACCESS

- .1 Control the Work and entry points to Work Site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
  - .1 Departmental Representative will provide names of those persons authorized by Departmental Representative to enter onto Work Site and will ensure that such authorized persons have the required knowledge and training on Health and Safety pertinent to their reason for being at the site, however, Contractor remains responsible for the health and safety of authorized persons while at the Work Site.

- .2 Isolate Work Site from other areas of the premises by use of appropriate means.
  - .1 Erect fences, hoarding, barricades and temporary lighting as required to effectively delineate the Work Site, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment. See Section 01 10 01 - General Requirements for minimum acceptable requirements.
  - .2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.
  - .3 Use professionally made signs with bilingual message in the 2 official languages or international known graphic symbols.
- .3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.
- .4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.
- .5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm. Provide security guard where adequate protection cannot be achieved by other means.

#### 1.7 PROTECTION

- .1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.
- .2 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

#### 1.8 FILING OF NOTICE

- .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
  - .1 Departmental Representative will assist in locating address if needed.

#### 1.9 PERMITS

- .1 Post permits, licenses and compliance certificates, specified in section 01 10 01 - General Requirements, at Work Site.
- .2 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and obtain approval to proceed before carrying out applicable portion of work.

#### 1.10 HAZARD ASSESSMENTS

- .1 Perform site specific health and safety hazard assessment of the Work and its site.
- .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site.
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation on site for entire duration of the Work.

### 1.11 MEETINGS

- .1 Attend pre-construction health and safety meeting, convened and chaired by Departmental Representative, prior to commencement of Work, at time, date and location determined by Departmental Representative. Ensure attendance of:
  - .1 Superintendent of Work
  - .2 Designated Health & Safety Site Representative
  - .3 Subcontractors
- .2 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations.
- .3 Keep documents on site.

### 1.12 HEALTH AND SAFETY PLAN

- .1 Prior to commencement of Work, develop written Health and Safety Plan specific to the Work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
- .2 Health and Safety Plan shall include the following components:
  - .1 List of health risks and safety hazards identified by hazard assessment.
  - .2 Control measures used to mitigate risks and hazards identified.
  - .3 On-site Contingency and Emergency Response Plan as specified below.
  - .4 On-site Communication Plan as specified below.
  - .5 Name of Contractor's designated Health & Safety Site Representative and information showing proof of his/her competence and reporting relationship in Contractor's company.
  - .6 Names, competence and reporting relationship of other supervisory personnel used in the Work for occupational health and safety purposes.
- .3 On-site Contingency and Emergency Response Plan shall include:
  - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
  - .2 Evacuation Plan: site and floor plan layouts showing escape routes, marshalling areas. Details on alarm notification methods, fire drills, location of fire fighting equipment and other related data.
  - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
  - .4 Emergency Contacts: name and telephone number of officials from:
    - .1 General Contractor and subcontractors.
    - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
    - .3 Local emergency resource organizations.
  - .5 Harmonize Plan with Facility's Emergency Response and Evacuation Plan. Departmental Representative will provide pertinent data including name of PWGSC and Facility Management contacts.
- .4 On-site Communication Plan:
  - .1 Procedures for sharing of work related safety information to workers and subcontractors, including emergency and evacuation measures.
  - .2 List of critical work activities to be communicated with Facility Manager which have a risk of endangering health and safety of Facility users.
- .5 Address all activities of the Work including those of subcontractors.

- .6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrive at Work Site.
- .7 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.
- .8 Post copy of the Plan, and updates, prominently on Work Site.

#### 1.13 SAFETY SUPERVISION

- .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.
- .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
  - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work
  - .2 Monitor and enforce Contractor's site-specific Health and Safety Plan.
  - .3 Conduct site safety orientation session to persons granted access to Work Site.
  - .4 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent person while on the Work Site.
  - .5 Stop the Work as deemed necessary for reasons of health and safety.
- .3 Health & Safety Site Representative must:
  - .1 Be qualified and competent person in occupational health and safety.
  - .2 Have site-related working experience specific to activities of the Work.
  - .3 Be on Work Site at all times during execution of the Work.
- .4 All supervisory personnel assigned to the Work shall also be competent persons.
- .5 Inspections:
  - .1 Conduct regularly scheduled safety inspections of the Work on a minimum bi-weekly basis. Record deficiencies and remedial action taken.
  - .2 Conduct Formal Inspections on a minimum monthly basis. Use standardized safety inspection forms. Distribute to subcontractors.
  - .3 Follow-up and ensure corrective measures are taken.
- .6 Cooperate with Facility's Occupational Health and Safety representative should one be designated by Departmental Representative.
- .7 Keep inspection reports and supervision related documentation on site.

#### 1.14 TRAINING

- .1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.
- .2 Maintain employee records and evidence of training received. Make data available to Departmental Representative upon request.
- .3 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.



### 1.15 MINIMUM SITE SAFETY RULES

- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:
  - .1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses and hearing protection.
  - .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
  - .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
  - .4 Obey warning signs and safety tags.
- .2 Brief persons of disciplinary protocols to be taken for non-compliance. Post rules on site.

### 1.16 CORRECTION OF NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Departmental Representative will stop Work if non-compliance of health and safety regulations is not corrected in a timely manner.

### 1.17 INCIDENT REPORTING

- .1 Investigate and report the following incidents to Departmental Representative:
  - .1 Incidents requiring notification to Provincial Department of Occupational Safety and Health, Workers Compensation Board or to other regulatory Agency.
  - .2 Medical aid injuries.
  - .3 Property damage in excess of \$10,000.00,
  - .4 Interruptions to Facility operations resulting in an operational lost to a Federal department in excess of \$5000.00.
- .2 Submit report in writing.

### 1.18 HAZARDOUS PRODUCTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).
- .2 Keep MSDS data sheets for all products delivered to site.
  - .1 Post on site.
  - .2 Submit copy to Departmental Representative.

### 1.19 BLASTING

- .1 Blasting or other use of explosives is not permitted on site without prior receipt of written permission and instructions from Departmental Representative.

### 1.20 POWDER ACTUATED DEVICES

- .1 Use powder actuated fastening devices only after receipt of written permission from Departmental Representative.

### 1.21 CONFINED SPACES

- .1 Abide by occupational health and safety regulations regarding work in confined spaces.

## 1.22 SITE RECORDS

- .1 Maintain on Work Site copy of safety related documentation and reports stipulated to be produced in compliance with Acts and Regulations of authorities having jurisdiction and of those documents specified herein.
- .2 Upon request, make available to Departmental Representative or authorized Safety Officer for inspection.

## 1.23 POSTING OF DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on Work Site in accordance with Acts and Regulations of Province having jurisdiction.
- .2 Post other documents as specified herein, including:
  - .1 Site specific Health and Safety Plan
  - .2 WHMIS data sheets.

END OF SECTION

## 1 General

### 1.1 REFERENCES

- .1 The New Brunswick Department of Transportation
  - .1 Environmental Management Manual, January 2010.
  - .2 Standard Specifications for Highway Construction, January 2015.

### 1.2 DEFINITIONS

- .1 Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
- .2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

### 1.3 SUBMITTALS

- .1 Submit in accordance with Section 01 10 01 - General Requirements.
- .2 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative. Environmental Protection Plan is to present comprehensive overview of known or potential environmental issues that shall be addressed during construction.
- .3 Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .4 Include in Environmental Protection Plan:
  - .1 Name of person responsible for ensuring adherence to Environmental Protection Plan.
  - .2 Name and qualifications of person responsible for training site personnel.
  - .3 Descriptions of environmental protection personnel training program.
  - .4 Submit a Sedimentation and Erosion Control Plan designed and approved by a professional engineer licensed in the province of New Brunswick for approval by Departmental Representative before starting work at site. Plan shall identify type and location of erosion and sediment controls to be provided, including monitoring and reporting requirements to assure control measures are in compliance with Sedimentation and Erosion Control Plan, Federal, Provincial, and Municipal laws and regulations.
  - .5 Traffic control plans: include measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plans include measures to minimize amount of mud transported onto paved public roads by vehicles or runoff.
  - .6 Spill Control Plan: include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.

- .7 Non-Hazardous solid waste disposal plan: identify methods and locations for solid waste disposal including clearing debris.
- .8 Air pollution control plan: detail provisions to assure that dust, debris, materials, and trash, are contained on project site.
- .9 Contaminant Prevention Plan: identify potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .10 Excavation and Dewatering Plan: designed and approved by a professional engineer licensed in the province of New Brunswick.
  - .1 Waste Water Management Plan: identify methods and procedures for management and discharge of waste waters that are directly derived from construction activities.
  - .2 Excavation Plan: show proposed activity in each portion of work area and identify areas of limited use or non-use. Plan shall include measures for marking limits of use areas including methods for protection of features to be preserved within authorized work areas.
- .11 Historical, archaeological, cultural resources, biological resources and wetlands plan: define procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.

#### 1.4 ENVIRONMENTAL COORDINATION

- .1 Employ and assign to Work, a competent and authorized Environmental Coordinator. Environmental Coordinator shall:
  - .1 Have successfully completed an industry recognized Erosion and Sedimentation Control Course. Submit a copy of Environmental Coordinator's Certificate to Departmental Representative before starting work on site.
  - .2 Be responsible for coordinating, implementing, enforcing, and monitoring compliance with the Environmental Protection Plan.

#### 1.5 COMPLIANCE

- .1 Perform Work in accordance with specifications, guidelines and recommendations published in the Environmental Management Manual, and Division 600 of the Standard Specifications for Highway Construction.

#### 1.6 FIRES

- .1 Fires and burning of rubbish and construction waste materials not permitted on site.

#### 1.7 DISPOSAL OF WASTE

- .1 Do not bury rubbish and waste material on site.
- .2 Do not dispose of waste and volatile materials, such as mineral spirits, oil and paint thinner into waterways, storm and sanitary sewers.

#### 1.8 PRECAUTIONARY MEASURES

- .1 Prevent discharge of material into environment. Provide necessary procedures, materials, equipment, and labour for prevention of discharges.

- .2 Report to Departmental Representative, spills or releases on site of substances introduced to site by Contractor (e.g. fuel, lubricants, halocarbons). Adhere to spill reporting and remedial requirements as outline in provincial and federal legislation.
- .3 Take necessary measures to remedy effects of spills, whether of hazardous or non-hazardous substances, and to assume full financial liability for remedial measures required.

#### 1.9 SEDIMENTATION AND EROSION CONTROL

- .1 Provide Sedimentation and Erosion Control Plan that identifies type and location of sediment and erosion controls to be provided. Include monitoring and reporting requirements to assure that control measures are in compliance with Sedimentation and Erosion Control Plan, Federal, Provincial, and Municipal laws and regulations.
  - .1 Install and maintain erosion control measures as specified in the approved Sedimentation and Erosion Control Plan. Include:
    - .1 Site trailer location.
    - .2 Dust control.
    - .3 Silt fencing.
    - .4 Gravel or stone filter dam.
    - .5 Storm drain inlet protection (curb inlet and catch basin).
    - .6 Sediment trap.
    - .7 Coarse gravel or washed rock site access.
    - .8 Mulching.
    - .9 Geotextiles.
    - .10 Seeding and planting.
    - .11 Stabilization of construction entrance.
  - .2 Take additional measures to prevent erosion as required by site conditions, or as directed by the New Brunswick Department of Environment, or authority having jurisdiction.
  - .3 Repair damage that occurs as a result of erosion.
  - .4 Prevent loss of soil during construction by storm water runoff and wind erosion, including protecting topsoil by stockpiling for reuse.
  - .5 Prevent sedimentation of storm sewer and receiving streams.
- .2 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .3 Do not pump water contain suspended materials into waterways, sewer and drainage systems.
- .4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements. Collect water samples in receiving water course to approval of Departmental Representative, and provide lab results of suspended material content.
- .5 Maintain erosion control measures and monitor daily until Substantial Performance of Completion.
- .6 Leave site so that no environmental damage to watercourses and surrounding properties may occur after completion of contract.

#### 1.10 SITE CLEARING AND PLANT PROTECTION

- .1 Protect trees and plants on site and adjacent properties where indicated, and in accordance with Departmental Representative requirements.
- .2 Protect roots of designated trees, to drip line during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of material over root zones.
- .3 Minimize striping of topsoil and vegetation.
- .4 Restrict tree removal to areas indicated or designated by Departmental Representative.

#### 1.11 POLLUTION CONTROL

- .1 Maintain temporary erosion and pollution control features installed under this Contract. Carry out regular inspections and maintenance of sedimentation and erosion controls ensuring proper installation and function, especially before and after major storm events.
- .2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.
- .3 Cover or wet down dry materials, rubbish and work that generates dust to prevent blowing dust and debris. Provide dust control for temporary roads and work. Prevent polluting air with dust and particulate matter.
- .4 Provide a buffer zone in combination with appropriate sedimentation and erosion control when working adjacent to watercourse. Consult with regulatory agencies as required.
- .5 Provide and maintain clean gravel covered access/egress roads as required. Do not convey soils onto paved surfaces of existing streets. Immediately sweep clean soils displaced and deposited on existing asphalt streets.

#### 1.12 HISTORIC/ARCHAEOLOGICAL CONTROL

- .1 Provide historical, archaeological, cultural resources, biological resources and wetlands plan that identifies procedures to be followed if historical, archaeological, cultural resources, biological resources and wetlands, not previously known to be on site or in area, are discovered during construction.
- .2 Plan shall include methods to assure protection of known and discovered resources and identify lines of communication between Contractor personnel and Departmental Representative.

#### 1.13 PERMITS AND APPROVALS

- .1 Obtain copies of permits and approvals issued by approval agencies. Review and comply with conditions contained in permits and approvals.
- .2 Be responsible for obtaining permits and approvals that are required, but not obtained at time of bidding.
- .3 Be responsible to obtain and pay for required permits.
- .4 Ensure staff and subcontractors are aware of terms and conditions of permit and approval issues and ensure compliance.
- .5 Traffic control is considered part of contractor's work.

#### 1.14 EQUIPMENT MAINTENANCE

- .1 Contain, handle and dispose of maintenance fluids in accordance with New Brunswick Clean Environment Act and its regulations. Spillage on ground is prohibited. Report spills to the Environmental emergency number: 1-800-565-1633.
- .2 Equip vehicles and equipment with suitable dry chemical fire extinguisher.
- .3 If vehicles and equipment are fuelled at work site, undertake in location approved by the Province, and in accordance with regulatory requirements.

#### 1.15 ENVIRONMENTAL EFFECTS DETERMINATION FORM

- .1 See attached Appendix A - CEAA 2012 - Environmental Effects Determination for environmental requirements required for this project (including Species at Risk Assessment).

#### 2 Products

##### 2.1 NOT USED

- .1 Not Used.

#### 3 Execution

##### 3.1 NOT USED

- .1 Not Used.

END OF SECTION

CEAA 2012- Environmental Effects Determination Form

Species at Risk Letter Report



CEAA 2012 – Environmental Effects Determination

Project Location: St. Leonard, NB	Project Name: St. Leonard - New District Building Construction	Project Number: Z-00002
Project Manager: Tony Simpson	Email: tony.simpson@rcmp-grc.gc.ca	Phone Number: 506-451-6092

1. Complete the following table in order to identify the relevant potential adverse environmental effects.

		Environmental Effects							Socio-Economic Effects (aboriginal peoples)				Socio-Economic Effects (general – non-aboriginal peoples)				
Project Phase	Component / Activity	1 - Harmfully alter, disturb or destroy vulnerable natural features (e.g. habitat for endangered species, water source for a town, wetlands, etc.)?	2 - Release a polluting substance into the land, water, or air?	3 - Cause land use changes (e.g. resource extraction, deforestation, clearing of vegetation, etc.)?	4 - Affect vegetation, birds and wildlife (flora and fauna), including species at risk and its critical habitat?	5 - Result in alteration of water level, quality, flow or management regime in a water body, or result in other important changes to surface or groundwater resources (including well-water)?	6 - Cause sensory disturbances (i.e. eyesores, noise, vibrations, smells)?	7 – Cause any other change to the environment on federal lands or incidental to a federal decision? If so, define:	8 - Health and Socio-economic conditions (e.g. impact to an aboriginal fishery resulting from a change in fish population).	9 - Physical and cultural heritage.	10 - The current use of lands and resources for traditional purposes (e.g. hunting and gathering).	11 - Any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.	12 – Other? Please specify.	13 - Health and Socio-economic conditions (e.g. impact to a commercial fishery resulting from a change in fish population).	14 - Physical and cultural heritage.	15 - Any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.	16 – Other? Please specify.
Geotechnical	1. Intrusive Sampling/Investigation	.	I	I	S	.	I	.	.	.	.	.	.	.	.	.	.
	2. Land Clearing	.	I	S	S	.	I	.	.	.	.	.	.	.	.	.	.
Mobilization	3. Transport equipment and materials to site	.	I	.	.	I	I	.	.	.	.	.	.	.	.	.	.
Site Preparation and Construction	4. Site Preparation	.	S	S	S	S	S	.	.	.	.	.	.	.	.	.	.
	5. Construction – Detachment	.	I	I	I	I	I	S	.	.	.	.	.	.	.	.	.
	6. Construction - Auxiliary Structures	.	I	I	I	I	I	S	.	.	.	.	.	.	.	.	.
	7. Installation of municipal services	.	I	I	I	I	I	.	.	.	.	.	.	.	.	.	.
	8. Installation of generator and storage tank	.	S	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	9. Installation of HVAC equipment	.	S	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	10. Construction – Parking Lot	.	S	S	I	S	I	I	.	.	.	.	.	.	.	.	.
	11. Landscaping	.	S	S	S	S	I	.	.	.	.	.	.	.	.	.	.
Demobilization	12. Transport equipment and materials from site	.	I	.	.	I	I	.	.	.	.	.	.	.	.	.	.

Legend: '.' = No interaction, 'I' = potential interactions are not significant (i.e. negligible, small magnitude and reversible), 'S' = potential significant environmental impact

☒ If the answer is 'S' to at least one question in the above table, proceed to 2.

☒ If the answers to every question in the above table is either '.' and/or 'I', proceed to 3.

# CEAA 2012 – Environmental Effects Determination

## 2. Identify Mitigation Measures

Complete a new line in the table below for each, Environmental Effect or Socio-Economic Effect for which a potential significant impact was identified in Section 1.

#	Effect	Environmental / Socio Economic Effect	Mitigation Measures Describe the effective and established mitigation measure which will be used to manage corresponding potential adverse biophysical and/or socio-economic effect.**	Mitigation measures effective and established <sup>1</sup> (Y/N)
1	4	Potential alteration of site vegetation from use of heavy equipment and drilling activities	Prepare an Environmental Protection Plan that includes measures to protect site vegetation from heavy equipment use. Measures include but are not limited to: -Restrict vehicular/drilling equipment to established access routes and throughways on the subject property. -Operate machinery in such a way that limits damage to existing vegetation. -Complete the minimum amount of necessary investigation as required for the proposed site development (i.e. proposed placement/footprints of structures).	Y
1,2,8,9	2	Potential accidental release from equipment (i.e. fuel, hydraulic fluid, oil, halocarbons, etc.)	Prepare a site specific spill response plan, which includes, but is not limited to, the following: -Perform all work related to fuel storage tanks in accordance with the Federal Storage Tank Regulations (2008), Canadian Environmental Protection Act 1999. -Ensure spill contingency equipment and measures in place before work begins -Ensure all equipment is well maintained and free of leaks -Establish appropriate spill reporting procedures. -Report/manage immediately any leaks and spills -Do not conduct fueling activities where run-off could carry contaminants into drainage pathways  -All work in relation to halocarbon containing equipment must be completed in accordance with the Federal Halocarbon Regulations 2003, Canadian Environmental Protection Act, 1999.	Y
1	4	Potential alteration of established nesting sites	-Visually identify any existing nesting sites on the subject property prior to initiating any physical work. -Do not alter, disrupt, or destroy any existing nests or associated vegetation.	Y
2	3,4	Damage/alteration of site vegetation during land clearing and development	-Perform land clearing activities outside of the documented nesting season to avoid any interaction with migratory birds and established nests, as required under the Migratory Birds Act (see Table 3 below). -Perform only the minimum amount of land clearing required for the proposed site development based on structure footprints and location on the subject property.	Y
2,3,4,5,6,7,10,11	2	Dust production from vehicle movement/Decrease in air quality from vehicle emissions	Prepare an Environmental Protection Plan that includes measures for pollution control. Measures include but are not limited to: -Control dust production through wet/cover dry, exposed soils on which there will be vehicle movement or disturbance -Control emissions from equipment to local emission requirements	Y



CEAA 2012 – Environmental Effects Determination

			<ul style="list-style-type: none"> <li>-Ensure all equipment is properly tuned, in good operating condition and fitted with standard air emission control devices</li> <li>-Minimize idling of engines at all times</li> </ul>	
2, 10	2,3,4	Increased runoff/sedimentation resulting from soil disturbance and changes to landscape	<p>Prepare an Environmental Protection Plan that includes measures for sedimentation and erosion control. Measures include but are not limited to:</p> <ul style="list-style-type: none"> <li>-Halt construction activity on exposed soils during high intensity rainfall events</li> <li>-Minimize vegetation cover removal</li> <li>-Control run-off water containing suspended materials or other harmful substances in accordance with local authority requirements, using appropriate methods/equipment such as bales, vegetation filter strips, diversion ditches, settlement ponds, sediment traps, and/or silt fences</li> <li>-Cover stockpiled soils with tarps</li> <li>-Replant disturbed areas as soon as possible</li> </ul>	Y
2,4, 10,11	3	Increased erosion potential during construction as a result of site preparation and landscaping	<p>Prepare an Environmental Protection Plan that includes measures for sedimentation and erosion control. Measures include but are not limited to:</p> <ul style="list-style-type: none"> <li>-Cover stockpiled soils with tarps</li> <li>-Replant disturbed areas as soon as possible</li> <li>-Protect exposed soils with coarse granular materials, mulches, or straw</li> <li>-Use interceptor ditches or berms up gradient of construction to divert overland flow around exposed soils</li> <li>-Line steep ditches with filter fabric, rock, or polyethylene lining to prevent channel erosion</li> </ul>	Y
2,4,10, 11	3	Loss of topsoil due to disturbance and movement during site preparation and landscaping	<p>Prepare an Environmental Protection Plan that includes measures for sedimentation and erosion control. Measures include but are not limited to:</p> <ul style="list-style-type: none"> <li>-Remove and store topsoil separately and cover with tarp</li> <li>-Strip topsoil when dry enough to prevent contamination with subgrade material</li> <li>-Do not handle topsoil in wet or frozen condition</li> <li>-Replace excavated soils in the same order after completion of work</li> <li>-Replant disturbed areas as soon as possible</li> </ul>	Y
2,4,10, 11	3	Compaction due to heavy equipment and vehicle traffic	<ul style="list-style-type: none"> <li>-Restrict vehicular traffic to construction site and approved access routes</li> <li>-Minimize construction traffic during wet conditions</li> <li>-Restrict parking to designated areas</li> <li>-Cultivate soils before planting</li> </ul>	Y
4,11	4	Damage to adjacent and on-site vegetation during site preparation and landscaping	<p>Prepare an Environmental Protection Plan that includes measures to protect site vegetation during site preparation and landscaping. Measures include but are not limited to:</p> <ul style="list-style-type: none"> <li>-Protect all existing trees and plants on site and on adjacent properties except as indicated otherwise</li> <li>-Protect roots of existing trees to drip-line during excavation and grading</li> <li>-Cut trees so that they fall inside cleared perimeters</li> <li>-Operate machinery in such a way that it does not damage vegetation</li> </ul>	Y

## CEAA 2012 – Environmental Effects Determination

			<ul style="list-style-type: none"> <li>-Do not cover retained vegetation with excavated materials</li> <li>-Imported topsoil will be clean and weed free</li> <li>-Replant disturbed areas as soon as possible</li> <li>-Accumulated snow contaminated with salt should only be deposited at designated areas away from retained vegetation and drainage pathways</li> <li>-Restrict salt use to traveled surfaces and minimize through pre-wetting of salt, calibration of spreaders, combined use with sand and gravel, early snow removal</li> </ul>	
1-7, 10-12	6	Sensory disturbances caused by construction	<ul style="list-style-type: none"> <li>-Confine work, where practical, to normal working hours</li> <li>-Follow requirements of local governing authorities</li> </ul>	Y
5,6	7	Management of construction waste	<ul style="list-style-type: none"> <li>Prepare a project-specific waste management plan that includes, but is not limited to the following:</li> <li>-Methods will be used to minimize and divert waste both hazardous and non-hazardous waste throughout the project</li> <li>-Construction waste must be recycled or disposed of according to local infrastructure</li> <li>-Hazardous wastes to be stored in sealed, labeled containers and disposed of in accordance with applicable regulations</li> <li>-Keep work area free from accumulation of waste materials and debris</li> </ul>	Y

1 - Mitigation measures are considered effective and established if they meet all of the following criteria: have been implemented before in similar situations, are well understood and considered reliable, and are 'Avoid - type' or 'Reduce - type' mitigation measures.

**\*\*The mitigation measures identified above reflect effective and established mitigation measures for the environmental interactions identified in Table 1 and shall be reflected in the project specifications and/or in the subsequent environmental protection plans (i.e. spill response, sedimentation and erosion control, waste management, contaminant prevention, excavation and dewatering plan, historical/archaeological/cultural resources, etc.). Alternative equivalent measures may be presented in the Environmental Protection Plans as deemed appropriate by the site professional. All proposed measures must be proven effective and established to mitigate the identified environmental interaction. Environmental Protection Plans will be reviewed and approved by RCMP Environment.**

### 3. Resources Consulted

List any resources consulted within the completion of this form (e.g. expert departments, external sources, scientific articles, codes of practice, guidelines, standard operation procedures, etc.).

**Species at Risk Assessment (SARA)** – one threatened species in the area under Schedule 1 of SARA, however, critical habitat is not identified on the subject site. Further, population declines are not linked to reduction or absence of suitable habitat. **Resource:** Species at Risk Assessment, PWGSC, May 2015 (attached).


**Migratory Birds Act (MBA)** – to ensure compliance with the MBA, land clearing activities should be performed outside of the documented nesting season for the geographic area in which the subject property is situated. The documented nesting season spans April-August. Given the proposed construction start of April 2016, all land clearing activities should occur prior to April 2016, and as early as September 2015, to avoid any potential interactions with established nests on site during construction. **Resource:** [http://www.ec.gc.ca/paom-ilmb/default.asp?lang=En&n=4F39A78F-1#\\_fig01](http://www.ec.gc.ca/paom-ilmb/default.asp?lang=En&n=4F39A78F-1#_fig01)

**Federal Storage Tank Regulations (2008)**  
**Federal Halocarbon Regulations (2003)**

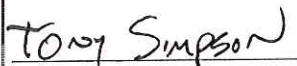
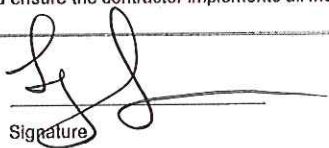
Dillon Consulting Limited. January 2011. Phase I Environmental Site Assessment (Final) Vacant Land, Saint-Léonard Madawaska County, NB PWGSC Project ID #R.044100.002 *Public Works and Government Services Canada*

CEAA 2012 – Environmental Effects Determination

4. RCMP Environmental Unit Recommendation, Sign-off and Project Manager Acknowledgment:

Sara Cook, Reg. Env. Officer		December 10, 2015
RCMP Divisional Environmental Name	Signature	Date
<p>a. <input checked="" type="checkbox"/> Project may proceed.</p> <p><input type="checkbox"/> As there are no project/environment interactions, there are no potential adverse biophysical and/or socio economic effects. Therefore, the project is not likely to cause significant adverse environmental effects. No mitigation measures are required.</p> <p><input checked="" type="checkbox"/> There are project/environment interactions and mitigation measures have been identified. All the mitigation measures identified in section 2 are determined to be effective and established. Taking into account implementation of mitigation measures outlined in the analysis, this project is not likely to cause significant adverse environmental effects.</p> <p>b. <input type="checkbox"/> Project may <u>not</u> proceed. Requires further analysis. Complete a Non-Basic Project Environmental Effects Determination Form. As either the answer of "Unknown" was provided in section 1 and / or at least one mitigation measures in section 2 is determined to not be an effective and established mitigation measures.</p> <p>c. Comments (optional): _____</p>		

**Project Manager Acknowledgment:** The RCMP Project Manager acknowledges the above determination. If project may proceed, the RCMP Project Manager agrees to include the mitigation measures (outlined in Section 2) in the project contract and ensure the contractor implements all measures accordingly.

		11-Dec-2015
Project Manager (print)	Signature	Date





Sara Cook  
Regional Environment Officer  
Atlantic Region Real Property  
Assets and Procurement Branch  
Royal Canadian Mounted Police  
80 Garland Avenue, Mailstop H-060  
Dartmouth, NS B3B 0A7

May 20, 2015

Dear Sara:

**RE: letter report on Species at Risk at potential RCMP site St Leonard**

This letter is a report on a desktop survey for species at risk conducted with regard to the proposed site of a new RCMP detachment building at the outskirts of the town of St. Leonard, NB. The site is rural and is near the Trans-Canada Highway and the entrance/exit intersections to St Leonard. Presently the site is wooded and is adjacent to residential lots, a power line cut, the Trans-Canada Highway and vacant woodland.

A search of the Atlantic Canada Conservation Data Centre (ACCDC) database was conducted. The ACCDC provides a list of nationally and/or provincially rare/unique biological species within a 5 km radius (standard ACCDC procedure) of the site of the proposed work (Appendix 1). All species in the Table were cross-referenced with the Species at Risk Act (SARA). The SARA status is shown in the table as 1 - Extirpated, 2 - Endangered, 3 - Threatened, 4 - Special Concern, or 5 - Not at Risk. Species that have not been assessed for SARA are marked in the Table as 6 - not listed.

Additionally, the list of species assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) was consulted to search for species that might use the area but have not actually been recorded by the ACCDC. The Maritimes Breeding Bird Atlas (MBBA) was also consulted for the same reason. As it turns out, the proposed RCMP site is located within one of the MBBA 10 km squares (for intensive study) and the data collected had been integrated into the ACCDC database at the time.

Apart from Species at Risk, there are the legislated requirements of the Migratory Birds Convention Act to consider. It is stipulated under Section 6 of the *Migratory Birds Regulations* (MBR), no person shall disturb, destroy or take a nest or egg of a migratory bird except under authority of a permit. It is important to note that under the current MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities. The peak nesting season in the St Leonard area is from now until the end of July, although the late spring this year has likely delayed nesting. Information from the Canadian Wildlife Service is included in Appendix 2.

Several species assessed as at risk by COSEWIC and/or the SARA were identified in the ACCDC search. Of these, the proposed project may have impacts on two species - the **Olive-Sided Flycatcher, and the Wood Thrush**. Both these species nest in woodland, which is the habitat proposed for development in this project. However, the suspected causes of the population declines in these two species have little to do with the amount of available breeding habitat, which leads to two conclusions – 1. The project will not have an effect on the populations of the species, and 2. The lowered population densities from the declines in numbers means that there is likely plenty of other habitat available where individuals of the species could nest.

What follows are accounts of the species identified in the ACCDC search and a statement on the likelihood of any impact on each species.

The **Canada Warbler** (*Wilsonia canadensis*) is a bird of damp mixed forest habitat with a well developed shrub layer. It is insectivorous and hunts in shrubby undergrowth in ravines, swales and forest edges. The species was evaluated by COSEWIC because the population has declined by 85% since 1968. It is listed as Threatened by both COSEWIC and SARA. The habitat at the site of the proposed project is not as just described above so interaction with the proposed project is highly unlikely.

.../2

The **Chimney Swift** (*Chaetura pelagica*) is a gregarious species that feeds, roosts and nests in large flocks. Swifts can be found everywhere and are limited mostly by nesting habitat, which is hollow trees, traditional brick chimneys and abandoned buildings. Forest harvesting is a major impact as it removes old or dead hollow trees. Building demolition and modernization is also a threat. It is estimated that the Canadian population of chimney swifts has declined by 95% since 1968. Both the COSEWIC status and the SARA status of the species is Threatened. It is suspected that the lot under consideration for the proposed project does not contain any nesting habitat so an impact on the species is unlikely.

The **Common Nighthawk** (*Chordeiles minor*) was identified in the ACCDC search to be in the general area of St Leonard. This is an area of mixed farmland, wooded areas and meadow. There are gravel-sand areas in neighbouring lots. These habitats are suitable for feeding and nesting by Common Nighthawks. The species was evaluated by COSEWIC because the population has declined by 49% in the last three generations. The species was listed by COSEWIC as Threatened and is also listed under SARA as Threatened. The current habitat on the site is unlikely suitable for nesting by nighthawks. It is possible that site development may create some nesting habitat for the species.

The **Olive-Sided Flycatcher** (*Contopus cooperi*) was identified in the ACCDC search to be in the general area of St Leonard. This is an area of mixed farmland, wooded areas and meadow. These habitats are suitable for feeding and nesting by the Olive Sided Flycatcher. This species feeds by sitting in a tree top near an open area and visually sighting prey insects. The bird then pursues and intercepts the insect after which it returns to its perch. The Olive Sided Flycatcher nests in adjacent areas more wooded than the foraging areas. The species was evaluated by COSEWIC as Threatened because the population has declined by 79% since 1968. It is also listed under SARA as Threatened. It is possible that the site in question would have areas suitable for nesting by this species.

The **Short-eared Owl** (*Asio flammeus*) is found in open and grassland habitat. The species is very widespread but populations have decreased by approximately 23% since 1998. Habitat loss and degradation on its wintering grounds are most likely the major threat, while continuing habitat loss and degradation on its breeding grounds in southern Canada and pesticide use are secondary threats. The species is designated of Special Concern by both COSEWIC and SARA. It is unlikely the proposed project will impact the habitat of the short-eared owl.

The **Bank Swallow** (*Riparia riparia*) was identified in the ACCDC search. The breeding distribution of this species is determined by habitat, namely steep soil banks suitable for burrowing by the birds. The species is an aerial feeder on flying insects. The species was evaluated by COSEWIC as Threatened because the population has declined by 98% since 1973. The species has not been listed on a SARA schedule. Interaction with the proposed project is highly unlikely as no suitable habitat is to be found on the site.

The **Barn Swallow** (*Hirundo rustica*) was identified in the ACCDC search. This species is associated with agricultural buildings and buildings in small towns and semi-rural areas. It is an aerial feeder on flying insects. The species was evaluated by COSEWIC as Threatened because the population has declined by 76% since 1968. The species has not been listed on a SARA schedule. Interaction with the proposed project is highly unlikely due to unsuitable habitat on site.

The **Bobolink** (*Dolichonyx orizyvorus*) was identified in the ACCDC search. It is a bird of open fields and agricultural land and is absent from forested areas. The species was evaluated by COSEWIC as Threatened because the Canadian population has declined by 88% since 1968. The species has not been listed on a SARA schedule. Interaction with the proposed project is highly unlikely due to unsuitable habitat on site.

The **Eastern Meadowlark** (*Sturnella magna*) is found in grassland habitat, which in the east is primarily man made farmland. Populations have declined as farms have become disused and also in response to changes in agricultural practices. The species is widespread but populations have decreased by approximately 70% overall. The species has been listed by COSEWIC as Threatened but has no status under the SARA. The habitat at the proposed work site is not suitable for this species.



The **Wood Thrush** (*Hylocichla mustelina*) nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers. This species prefers large forest mosaics, but may also nest in small forest fragments. The main threats to the species include habitat degradation and fragmentation due to development and over-browsing by White-tailed Deer. High rates of nest predation and Brown-headed Cowbird nest parasitism are associated with habitat fragmentation. The total population is estimated to have declined by 83% since 1970. The species has been listed by COSEWIC as Threatened but has no status under the SARA. . It is possible that the site in question would have areas suitable for nesting by this species.

The **Eastern Wood-Pewee** (*Contopus virens*) is a common bird of forests in eastern North America. Because of a rapid decline in population, the species has been designated as Special Concern by COSEWIC but not listed under SARA. The reason for the decline may be lack of food (flying insects) or habitat loss or winter habitat loss. It is unlikely that the proposed project would be the cause of any of these impacts.

The following three species have been added to the discussion even though they did not appear in the ACCDC survey. The data about the Rusty Blackbird come from the Maritime Breeding Bird Atlas database, while the Monarch Butterfly is found anywhere one might find milkweed plants.

The **Rusty Blackbird** (*Euphagus carolinus*) is found in all of the provinces and territories of Canada. Seventy percent of the world breeding population breeds in Canada. The total population is estimated to have declined by 85% since 1965. The rusty blackbird is designated of Special Concern by both COSEWIC and SARA. The species' preferred habitat is forest edge along wetlands and water bodies. No such habitat is to be found at the proposed project site.

The **Monarch** (*Danaus plexippus*) is a large butterfly famous for its extended migration to a specific overwintering location in the mountains of Mexico. It is the vulnerability of this location to destruction that is a major reason for concern among conservation biologists. The monarch is found in New Brunswick in the summer where it reproduces by laying eggs on milkweed plants. There is no suitable habitat for monarchs at the project site, but there is reason to think there is habitat in adjacent areas. No interaction between the monarch and the project is expected.

The **Butternut** (*Juglans cinerea*) is unlikely to occur near St Leonard as its range does not extend that far north along the Saint John River. It would be worthwhile to investigate the site of the proposed project to double check that the species is absent. If the tree were to be found on site, then it is mandatory that any specimens be saved from disturbance or injury and the project designed around them.

Other than those discussed above, there are no listed wildlife species or critical habitats that will likely be affected by the project activities as there is no critical or limiting habitat at the proposed work site. Given the limited geographic extent, spatial and temporal footprint and limited magnitude of the proposed project, no significant adverse residual effects are anticipated. The proposed project will not disrupt any wetlands. No sensitive elements have been identified that would be adversely affected by the project.

I hope the information included is helpful to you.

Yours truly,



Stephen E. Barbour, Ph.D.  
Senior Biologist



**Appendix 1:** Table of species of interest from the ACCDC database.

ACCDC Results				
SCIENTIFIC NAME	COMMON NAME	SARA STATUS	COSEWIC STATUS	OBSERVATIONS
<i>Wilsonia canadensis</i>	Canada Warbler	c-Threatened	c-Threatened	Count: 101-1000. Activity: Probable breeding: territorial behaviour twice in same location.
<i>Chaetura pelagica</i>	Chimney Swift	c-Threatened	c-Threatened	Count: 11-100. Activity: Probable breeding: territorial behaviour twice in same location.
<i>Chordeiles minor</i>	Common Nighthawk	c-Threatened	c-Threatened	Pheno.: mature. Activity: territorial.
<i>Contopus cooperi</i>	Olive-sided Flycatcher	c-Threatened	c-Threatened	Count: 101-1000. Activity: Probable breeding: territorial behaviour twice in same location.
<i>Asio flammeus</i>	Short-eared Owl	d-Special Concern	d-Special Concern	Count: 1. Pheno.: mature. Sex: male. Activity: singing.
<i>Riparia riparia</i>	Bank Swallow	No Status	c-Threatened	Count: 101-1000. Activity: Confirmed breeding: adult occupying nest.
<i>Hirundo rustica</i>	Barn Swallow	No Status	c-Threatened	Count: 101-1000. Activity: Confirmed breeding: adult occupying nest.
<i>Dolichonyx oryzivorus</i>	Bobolink Eastern Meadowlark	No Status	c-Threatened	Count: 11-100. Activity: Confirmed breeding: adult attending young.
<i>Sturnella magna</i>	Wood Thrush	No Status	c-Threatened	Count: 2-10. Activity: Confirmed breeding: adult attending young.
<i>Hylocichla mustelina</i>	Eastern Wood-Pewee	No Status	c-Threatened	Count: 101-1000. Activity: Confirmed breeding: adult attending young.
<i>Contopus virens</i>		No Status	d-Special Concern	Count: 101-1000. Activity: Probable breeding: territorial behaviour twice in same location.
<b>Additional Species</b>				
<i>Euphagus carolinus</i>	Rusty Blackbird	d-Special Concern	d-Special Concern	Unlikely to occur - no suitable habitat.
<i>Danaus plexippus</i>	Monarch	d-Special Concern	d-Special Concern	Likely to occur on neighbouring lots.
<i>Juglans cinerea</i>	Butternut	b-Endangered	b-Endangered	Unlikely to occur - verification recommended.

**Appendix 2:** Standard text regarding protection of migratory birds from the Canadian Wildlife Service.

Migratory birds protected by the MBCA include all seabirds except cormorants and pelicans, all waterfowl, all shorebirds, and most landbirds (birds with principally terrestrial life cycles).

Under Section 6 of the *Migratory Birds Regulations* (MBR), no person shall disturb, destroy or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the current MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities. Furthermore, Section 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds:

“5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

(2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area — that is harmful to migratory birds.”

It is the responsibility of the proponent to ensure that activities comply with the MBCA and regulations. In fulfilling its responsibility for MBCA compliance, the proponent should take the following points into consideration:

- Information regarding regional nesting periods can be found at <http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=4F39A78F-1> . Some species protected under the MBCA may nest outside these timeframes
- Most migratory bird species construct nests in trees (sometimes in tree cavities) and shrubs, but several species nest at ground level (e.g., Common Nighthawk, Killdeer, sandpipers), in hay fields, pastures or in burrows. Some bird species may nest on cliffs or in stockpiles of overburden material from mines or the banks of quarries. Some migratory birds (including certain waterfowl species) may nest in head ponds created by beaver dams. Some migratory birds (e.g., Barn Swallow, Cliff Swallow, Eastern Phoebe) may build their nests on structures such as bridges, ledges or gutters.
- One method frequently used to minimize the risk of destroying bird nests consists of avoiding certain activities, such as clearing, during the regional nesting period for migratory birds.
- Risk of impacting active nests or birds caring for pre-fledged chicks, discovered during project activities outside the regional nesting period, can be minimized by measures such as the establishment of vegetated buffer zones around nests, and minimization of activities in the immediate area until nesting is complete and chicks have naturally migrated from the area. It is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA.

Further information can be found at <http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=C51C415F-1>

## 1 General

### 1.1 SECTION INCLUDES

- .1 Project security requirements.

### 1.2 OVERVIEW

- .1 Due to the nature of the work and client operations on the site, security regulations pertaining to the site and existing operations will apply to all work carried out AFTER Substantial Performance of the contract is achieved and the building is occupied by Departmental Representatives. These regulations include:
  - .1 Control and limit of movement of construction workers at the site.
  - .2 Escort and continuous supervision of workers by security personnel.
  - .3 Workers must undergo a security clearance process.
  - .4 Specific rules and regulations as specified in this section and as directed by the Departmental Representative to be stringently followed.
- .2 It is the Contractor's responsibility to:
  - .1 Submit necessary documentation required and obtain security clearances for all workers;
    - .1 Contractor must submit security applications for all required individuals within two (2) weeks following contract award.
  - .2 Become familiar with and abide by security rules and regulations;
  - .3 Brief all workers and subcontractors in respect of the security regulations and ensure that they abide by all rules and directives.
- .3 The Departmental Representative will coordinate a pre-construction meeting between Contractor and Security Personnel who will provide details and directives on control and movement on site.
- .4 Any infraction of site security regulations on the part of the Contractor, members of work force or any Subcontractor in his employ, could result in:
  - .1 Financial penalties in the form of progress payment reduction or holdback assessments being levied against the Contractor and;
  - .2 Demand immediate removal of offending party from the site.

### 1.3 SECURITY PERSONNEL

- .1 Obtain and pay for the services of security personnel, employed by the Canadian Corps of Commissionaires to provide escort and security supervision of all workers during the work of this contract.
- .2 Commissionaires employed on this project must have a current Enhanced Security Clearance status issued by the Department.
- .3 Provide minimum of 1 Commissionaire to be on site at all times when work is carried out, having the following responsibilities:
  - .1 Limit movement of workers to within the boundaries established by the Departmental Representative;
  - .2 Maintain security control list of workers authorized to be on site as determined by Contractor and the Departmental Representative;
  - .3 Manage the distribution and control of worker ID tags;

- .4 Escort workers who need to circulate on site beyond the established boundaries of work, including entry into and work inside existing building.
- .5 Escort and supervise short term visitors who need access to the work site such as for material deliveries or to conduct inspections.
- .4 Provide additional commissionaires when required to perform supervision or escort function as may be needed due to Contractor's work operations such that no worker is left unsupervised if work is required to take place inside restricted building(s) on site.
- .5 Ensure Commissionaire(s) are present on site for entire work shift including work breaks and time period after work shifts until all workers have left site.
- .6 Commissionaire must stay within the actual construction area and provide surveillance of all workers ensuring that security rules and requirements are obeyed and to limit movement beyond approved work areas of site.
- .7 Commissionaire must also escort workers from approved entry locations and work area(s).
- .8 Escort and supervision of workers by Commissionaire, when required by the Work, will be provided at all times when work of the Contract is being performed regardless of whether this is during regular business hours or beyond.
- .9 Commissionaire shall report directly to the Departmental Representative and ensure that site security directives are obeyed by all workers.
  - .1 Empower Commissionaire with authority to remove any worker deemed non-compliant with security directives.
- .10 Ensure Commissionaire is fitted and wears approved safety hard hat, safety footwear and other personnel protective equipment appropriate to work in accordance with applicable Occupational Health and Safety requirements specified.

#### 1.4 SECURITY CLEARANCE REQUIREMENTS

- .1 All persons employed by Contractor or by subcontractors who will be working on site must undergo the following check:
  - .1 Personnel security clearance screening and obtain a clearance ranging from a Facility Access up to Reliability Status. This will vary as to the Contractor involvement and access requirements during and after construction.
- .2 Persons who do not have security clearance, as specified above, will not be allowed to circulate freely in restricted areas of site and must be under constant escort and surveillance by security personnel.
  - .1 Restricted area defined as: areas of site beyond designated Construction area and work yard, and where required areas within other existing building(s) on site.
- .3 Departmental Representative will advise when worker security clearance has been received and whether escort and supervision is still needed for any worker.
- .4 Escort and supervision functions specified herein is still required on the project after workers having obtained security clearance.

## 1.5 SECURITY CLEARANCE APPLICATION

- .1 Within one week following notification of acceptance of bid, submit application form for all workers who require security clearance.
  - .1 Make application for all workers as one submission to facilitate processing and minimize delays.
- .2 To obtain Reliability Status clearance, the following information is required for each applicant:
  - .1 "Personnel Screening, Consent and Authorization Form" (Form No. TBS/SCT #330-23E (Rev. 2006/02) completed by each worker.
  - .2 Contractor Declaration to Public Works & Government Services Canada completed by Contractor attesting to having conducted an assessment of reliability for each worker applicant verifying employment and other reference data.
  - .3 Proof of applicant's identity consisting of a picture ID such as a Canadian Motor Vehicle Driver's License or other similar official ID card. Provide copy of front and back of Drivers Licence or Governmental ID.
  - .4 Proof of applicant's Canadian citizenship consisting of a provincial issued birth certificate, baptismal certificate, citizenship certificate or passport.
  - .5 Include both forms along with a clear legible photocopy of the citizenship and identity documents submitted as one complete package for each applicant.
- .3 A sample of the above mentioned forms are included, for reference purposes, as Section 01 35 54.01 - Site Security Requirements - Appendix 'B'.
  - .1 Information on filling out form TBS/SCT # 330-23E are as follows:
    - .1 Part A: by Departmental Representative Project Manager;
    - .2 Part B: by applicant. Provide full name, including middle name (not simply and initial). Ensure addresses listed represent last five (5) years of residence and each address is fully completed including postal code. Print data in clear, legible manner.
    - .3 Part C: only boxes 1, 2, 3 and 5 need to be completed, requiring applicant's initials. Name of official requested here can be Departmental Representative Project Manager or Regional Security Agent provided that Contractor submits the Security Form "A" specified above.
- .4 Fingerprinting may be required depending on level of security requirements and if previous criminal conviction exists.
- .5 Departmental Representative will provide details as to what procedures, location and time where workers must go should fingerprints are required.
- .6 Processing Time:
  - .1 The Departmental processing time to obtain all security clearances is estimated to be 4 weeks from date of receipt of required documentation.
  - .2 To avoid delays, prepare worker documentation as soon as possible, however submit documentation for each applicant as one package and send information for entire workforce as one submission. Ensure forms are fully completed, signed and that all information and photo identification is clear and legible.
  - .3 Be aware that processing time for applicants with criminal convictions may take longer and could extend to 6 months duration.
    - .1 An interview with such applicant may also be required as part of the security clearance process.

- .7 Facilitate workers security clearance process as follows:
  - .1 Prepare comprehensive list of workers who will require security clearance throughout project, including those of subcontractors.
  - .2 Provide copy of list to Departmental Representative.
  - .3 Coordinate and expedite submission of various subcontractors.
  - .4 Brief and assist applicants in preparing and submitting documentation.
  - .5 Review documentation of each applicant for completeness before submission.
  - .6 Have each worker keep a copy of their completed application form in case the initial submission gets lost.
  - .7 Submit documentation in an organized manner with transmittal letter clearly identifying project for which worker clearance is required.
- .8 Send submission(s) directly to Departmental Representative or to the approved mailing address as directed by Departmental Representative.
- .9 Persons who have not been successful in obtaining security clearance, upon documentation review by Departmental Representative, will not be allowed further access on site and cannot work on project any longer.

#### 1.6 SECURITY PASSES

- .1 All personnel, visitors or workers requiring access on site and/or inside the existing building(s) on site beyond the public lobby require a HRMIS number issued by Departmental Representative. It is the responsibility of the Contractor and all personnel, visitors and workers to know their HRMIS number.

#### 1.7 SECURITY CONTROL LIST

- .1 Provide a list of employee names from workforce and from subcontractors who will be present at site during the course of work.
- .2 List to include each person's name, address and telephone number.
- .3 Submit copy of list to Departmental Representative and to Security Commissionaire for control of workers.
- .4 Update list as work progresses.
- .5 Ensure that each worker can provide proof of identity upon demand, when requested by Security Personnel or Departmental Representative.

#### 1.8 BUILDING ACCESS

- .1 Keys necessary for access to restricted areas may be issued at the discretion of the Departmental Representative. Follow all instructions in regards to use, care and disposition of all keys so issued.
- .2 Keys given to the Commissionaire for his sole possession, as determined by Departmental Representative, shall not under any circumstances be given to any worker or subcontractor.
- .3 Do not, under any circumstances, make or allow workers to make duplicates of keys issued.
- .4 At end of project, return to Departmental Representative all keys issued. Departmental Representative will deduct from final contract payment, \$25.00 for each item not returned, regardless of the reason.

- .5 Immediately report to Departmental Representative any lost, stolen or destroyed keys.

#### 1.9 SITE SECURITY

- .1 When work must be carried out during hours beyond the work hours previously agreed upon at start of work, provide notice within 48 hours beforehand to minimize impact on security and other operations on site.

END OF SECTION

Personnel Screening, Consent and Authorization Form





**PERSONNEL SCREENING,  
CONSENT AND AUTHORIZATION FORM**

OFFICE USE ONLY		
Reference number	Department/Organization number	File number

NOTE: For Privacy Act Statement refer to Section C of this form and for completion instructions refer to attached instructions.  
Please typewrite or print in block letters.

**A ADMINISTRATIVE INFORMATION (To be completed by the Authorized Departmental/Agency/Organizational Official)**

<input type="checkbox"/> New	<input type="checkbox"/> Update	<input type="checkbox"/> Upgrade	<input type="checkbox"/> Transfer	<input type="checkbox"/> Supplemental	<input type="checkbox"/> Re-activation
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The requested level of reliability/security check(s)

☐ Reliability Status    ☐ Level I (CONFIDENTIAL)    ☐ Level II (SECRET)    ☐ Level III (TOP SECRET)

☐ Other \_\_\_\_\_

**PARTICULARS OF APPOINTMENT/ASSIGNMENT/CONTRACT**

☐ Indeterminate    ☐ Term    ☐ Contract    ☐ Industry    ☐ Other (specify secondment, assignment, etc.) \_\_\_\_\_

Justification for security screening requirement \_\_\_\_\_

Position/Competition/Contract number	Title	Group/Level (Rank if applicable) EG-06	
Employee ID number/PRI/Rank and Service number (if applicable)	If term or contract, indicate duration period    ▶	From	To
Name and address of department / organization / agency	Name of official	Telephone number (     )	Facsimile number (     )

**B BIOGRAPHICAL INFORMATION (To be completed by the applicant)**

Surname (Last name)		Full given names (no initials) underline or circle usual name used			Family name at birth	
All other names used (i.e. Nickname)		Sex <input type="checkbox"/> Male <input type="checkbox"/> Female	Date of birth Y    M    D		Country of birth	Date of entry into Canada if born outside Canada Y    M    D
RESIDENCE (provide addresses for the last five years, starting with the most current) Home address			Daytime telephone number (     )		E-mail address	
1	Apartment number	Street number	Street name		Civic number (if applicable)	From Y    M    To present
	City		Province or state	Postal code	Country	Telephone number (     )
2	Apartment number	Street number	Street name		Civic number (if applicable)	From Y    M    To Y    M
	City		Province or state	Postal code	Country	Telephone number (     )
Have you previously completed a Government of Canada security screening form? <input type="checkbox"/> Yes <input type="checkbox"/> No			If yes, give name of employer, level and year of screening.    Y			
<b>CRIMINAL CONVICTIONS IN AND OUTSIDE OF CANADA (see instructions)</b>						
Have you ever been convicted of a criminal offence for which you have not been granted a pardon? <input type="checkbox"/> Yes <input type="checkbox"/> No			If yes, give details. (charge(s), name of police force, city, province/state, country and date of conviction)    ▼			
Charge(s)		Name of police force			City	
Province/State		Country			Date of conviction    ▶    Y    M    D	

Surname and full given names	Date of birth <div> <div>Y</div> <div>M</div> <div>D</div> </div>
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**C**
**CONSENT AND VERIFICATION (To be completed by the applicant and authorized Departmental/Agency/Organizational Official)**

Checks Required (See Instructions)	Applicant's initials	Name of official (print)	Official's initials	Official's Telephone number
1. <input type="checkbox"/> Date of birth, address, education, professional qualifications, employment history, personal character references				(     )
2. <input type="checkbox"/> Criminal record check				(     )
3. <input type="checkbox"/> Credit check (financial assessment, including credit records check)				(     )
4. <input type="checkbox"/> Loyalty (security assessment only)				
5. <input type="checkbox"/> Other (specify, see instructions) <i>Law Enforcement Records Checks</i>				(     )

**The Privacy Act Statement**  
The information on this form is required for the purpose of providing a security screening assessment. It is collected under the authority of subsection 7(1) of the *Financial Administration Act* and the Government Security Policy (GSP) of the Government of Canada, and is protected by the provisions of the *Privacy Act* in institutions that are covered by the *Privacy Act*. Its collection is mandatory. A refusal to provide information will lead to a review of whether the person is eligible to hold the position or perform the contract that is associated with this Personnel Screening Request. Depending on the level of security screening required, the information collected by the government institution may be disclosed to the Royal Canadian Mounted Police (RCMP) and the Canadian Security Intelligence Service (CSIS), which conduct the requisite checks and/or investigation in accordance with the GSP and to entities outside the federal government (e.g. credit bureaus). It is used to support decisions on individuals working or applying to work through appointment, assignment or contract, transfers or promotions. It may also be used in the context of updating, or reviewing for cause, the reliability status, security clearance or site access, all of which may lead to a re-assessment of the applicable type of security screening. Information collected by the government institution, and information gathered from the requisite checks and/or investigation, may be used to support decisions, which may lead to discipline and/or termination of employment or contractual agreements. The personal information collected is described in Standard PIB PSU 917 (Personnel Security Screening) which is used by all government agencies, except the Department of National Defence PIB DND/PPE 834 (Personnel Security Investigation File), RCMP PIB CMP PPU 065 (Security/Reliability Screening Records), CSIS PIB SIS PPE 815 (Employee Security), and PWGSC PIB PWGSC PPU 015 (Personnel Clearance and Reliability Records) used for Canadian Industry Personnel. Personal information related to security assessments is also described in the CSIS PIB SIS PPU 005 (Security Assessments/Advice).

I, the undersigned, do consent to the disclosure of the preceding information including my photograph for its subsequent verification and/or use in an investigation for the purpose of providing a security screening assessment. By consenting to the above, I acknowledge that the verification and/or use in an investigation of the preceding information may also occur when the reliability status, security clearance or site access are updated or otherwise reviewed for cause under the Government Security Policy. My consent will remain valid until I no longer require a reliability status, a security clearance or a site access clearance, my employment or contract is terminated, or until I otherwise revoke my consent, in writing, to the authorized security official.

Signature

Date (Y/M/D)

**D**
**REVIEW (To be completed by the authorized Departmental/Agency/Organizational Official responsible for ensuring the completion of sections A, B and C)**

Name and title	Telephone number
Address	Facsimile number

**E**
**APPROVAL (To be completed by authorized Departmental/Agency/Organizational Security Official only)**

I, the undersigned, as the authorized security official, do hereby approve the following level of screening.

Reliability Status <input type="checkbox"/> Approved Reliability Status <input type="checkbox"/> Not approved	<div> <div> <div>PHOTO</div> <div>(for Level III T.S., and/or upon request - see instructions)</div> </div> </div>
<div> <div>Name and title</div> <div>Signature</div> <div>Date (Y/M/D)</div> </div>	
Security Clearance (if applicable) <input type="checkbox"/> Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Not recommended	
<div> <div>Name and title</div> <div>Signature</div> <div>Date (Y/M/D)</div> </div>	
Comments	



## INSTRUCTIONS FOR PERSONNEL SCREENING CONSENT AND AUTHORIZATION FORM TBS/SCT 330-23E (Rev. 2002/02)

Once completed, this form shall be safeguarded and handled at the level of Protected A.

### General:

If space allotted in any portion is insufficient please use separate sheet using same format.

### 1. Section A (Administrative Information) Authorized Departmental/Agency/Organizational Official

The Official, based on instructions issued by the Departmental Security Officer, may be responsible for determining, based on five year background history, what constitutes sufficient verification of personal data, educational and professional qualifications, and employment history. References are to be limited to those provided on the application for employment or equivalent forms.

### SUPPLEMENTAL INFORMATION REQUIREMENTS

Persons who presently hold a SECURITY CLEARANCE and subsequently marry, remarry or commence a common-law partnership, in addition to having to update sections of the *Security Clearance Form (TBS/SCT 330-60)*, are required to submit an original *Personnel Screening, Consent and Authorization Form*, with the following parts completed:

Part A - As set forth in each question

Part B - As set forth in each question, excluding CRIMINAL CONVICTIONS IN AND OUTSIDE OF CANADA.

Part C - Applicant's signature and date only are required

"Other". This should be used to identify if the security screening is for Site Access, NATO, SIGINT etc.

### 2. Section B (Biographical Information)

To be completed by the **applicant**. If more space is required use a separate sheet of paper. Each sheet must be signed.

**Country of Birth - For "NEW" requests, if born abroad of Canadian parents, please provide a copy of your Certificate of Registration of Birth Abroad. If you arrived in Canada less than five years ago, provide a copy of the Immigration Visa, Record of Landing document or a copy of passport.**

- List only criminal convictions for which a pardon has NOT been granted. Include on a separate attached sheet of paper, if more than one conviction. Applicant must include those convictions outside Canada.
- Offences under the *National Defence Act* are to be included as well as convictions by courts-martial are to be recorded.

### 3. Section C (Consent and Verification)

A copy of Section "C" may be released to institutions to provide acknowledgement of consent.

Criminal record checks (fingerprints may be required) and credit checks are to be arranged through the Departmental Security Office or the delegated Officer.

Consent: may be given only by an applicant who has reached the age of majority, otherwise, the signature of a parent or guardian is mandatory.

The age of majority is:

19 years in Nfld., N.S., N.B., B.C., Yukon, Northwest Territories and Nunavut;

18 years in P.E.I., Que., Ont., Man., Sask. and Alta.

The applicant will provide initials in the "applicant's initials box".

The official who carried out the verification of the information will print their name, insert their initials and telephone number in the required space.

- Reliability Screening (for all types of screening identified within Section A): complete numbers 1 and 2 and 3 if applicable.
- Security Clearance (for all types of screening identified within Section A): complete numbers 1 to 4 and 5 where applicable.
- Other: number 5 is used only where prior Treasury Board of Canada Secretariat approval has been obtained.

### 4. Section D (Review)

To be completed by authorized Departmental/Agency/Organizational Official who is responsible for ensuring the completion of sections A to C as requested.

### 5. Section E (Approval)

**Authorized Departmental/Agency/Organizational Security Official** refers to the individuals as determined by departments, agencies, and organizations that may verify reliability information and/or approve/not approve reliability status and/or security clearances. Approved Reliability Status and Level I, II and III, as well as the signature of the authorized security official or manager are added for Government of Canada use only. Applicants are to be briefed, acknowledge, and be provided with a copy of the "Security Screening Certificate and Briefing Form (TBS/SCT 330-47)".

**Note:** Private sector organizations do not have the authority to approve any level of security screening.

**Photographs:** Departments/Agencies/Organizations are responsible for ensuring that three colour photographs of passport size are attached to the form for the investigating agency. Maximum dimensions are 50mm x 70mm and minimum are 43mm x 54mm. The face length from chin to crown of head must be between 25mm x 35mm. The photographs must be signed by the applicant and an authorized security official. The photographs must have been taken within the last six months. It is required for new or upgrade Level III security clearances for identification of the applicant during the security screening investigation by the investigating agency. The investigating agency may in specific incidents request a photograph for a Level I or II clearances when an investigation is required.

## 1 General

### 1.1 REFERENCES

- .1 American National Standard Institute (ANSI)/American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
  - .1 ANSI/ASHRAE 52.2-12, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particulate Size (ANSI approved).
- .2 Carpet and Rug Institute (CRI)
  - .1 Green Label Program.
  - .2 Green Label Plus Program.
- .3 Green Seal Environmental Standards (GS)
  - .1 GS-03-97, Environmental Criteria for Anti-Corrosive Paints.
  - .2 GS-11-11, Standard for Paints and Coatings.
- .4 National Air Duct Cleaners Association (NADCA).
  - .1 NADCA ACR-2013, Assessment Cleaning and Restoration.
- .5 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
  - .1 SCAQMD Rule 1113-A2011, Architectural Coatings.
  - .2 SCAQMD Rule 1168-A2005, Adhesives and Sealants Applications.
- .6 Scientific Certification Systems (SCS)
  - .1 FloorScore Program 2012.

### 1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit two (2) copies of WHMIS MSDS. Indicate VOC emissions, prior to installation or use:
  - .1 Adhesives.
  - .2 Caulking compounds.
  - .3 Sealants.
  - .4 Insulating materials.
  - .5 Fireproofing or fire stopping materials.
  - .6 Paints.
  - .7 Carpets.
  - .8 Floor and wall patching or levelling materials.
  - .9 Lubricants.
  - .10 Clear finishes for wood surfaces.
- .2 IAQ Management Plan:
  - .1 Submit Indoor Air Quality (IAQ) Management Plan for construction and preoccupancy phases of building.

### 1.3 INDOOR AIR QUALITY

- .1 Construction IAQ Management Plan
  - .1 Develop and implement Indoor Air Quality (IAQ) Management Plan for construction and preoccupancy phases of building as follows:
    - .1 During construction: meet or exceed minimum requirements of SMACNA IAQ Guideline for Occupied Buildings under Construction.
    - .2 Protect stored on-site or installed absorptive materials from moisture damage.

- .3 Replace filtration media immediately prior to occupancy.
            - .1 Filtration media: in accordance with ASHRAE 52.2, Minimum Efficiency Reporting Value (MERV) of 13.
          - .4 Conduct minimum 2 week building flush-out with new filtration media at 100% outside air after construction ends and prior to occupancy.
            - .1 Test contaminant levels in building.
          - .5 Adopt IAQ management plan during construction procedures, including:
            - .1 Protection of HVAC system during construction to control pollutant sources, and interrupt pathways for contamination.
            - .2 Sequence installation of materials to allow dissipation of high emissions from finishes that off-gas high quantities of emissions during curing to avoid contamination of absorptive materials.
            - .3 Permanent HVAC system may be used as approved in writing by Departmental Representative to move both supply and return air during construction process. Meet following conditions:
              - .1 Install and maintain filters with efficiency rating of MERV 8.
              - .2 Do not use permanent diffusers.
              - .3 Do not use plenum type return air system.
              - .4 Seal HVAC duct system to prevent spread of airborne particulate and other contaminants.
              - .5 Vacuum dust systems following building flush out.
                - .1 Use portable HEPA vacuums, certified clean in accordance with NADCA specifications.
  - .2 Environmental Tobacco Smoke (ETS) Control
    - .1 Smoking will not be permitted at site during construction.
- 1.4 GENERAL CONSTRUCTION MATERIALS/PRACTICES
  - .1 Materials and Resources
    - .1 Use products and services that meet criteria of EcoLogo guidelines.
    - .2 Provide list of non-endorsed products and services, provided the green labelled product or services are capable of meeting specified performance requirements.
- 1.5 CONSTRUCTION WASTE MANAGEMENT
  - .1 Waste Reduction Workplan (WRW)
    - .1 Prepare and submit WRW at least ten 10 days prior to project start-up. WRW should include but not be limited to:
      - .1 Methods to collect, separate, and reduce generated wastes.
      - .2 Location of waste bins on-site.
      - .3 Security of on-site stock piles and waste bins.
      - .4 Protection of personnel, sub-contractors.
      - .5 Clear labelling of storage areas.
      - .6 Training plan for contractor and sub-contractors.
  - .2 Waste Source Separation Program (WSSP)
    - .1 Provide sufficient on-site facilities and containers for collection, handling, and storage of anticipated quantities of reusable and recyclable materials.
    - .2 Locate containers to facilitate deposit of materials without hindering daily operations.
    - .3 Provide training for sub-contractors in handling and separation of materials for reuse and/or recycling.

- .4 Locate separated materials in areas which minimizes material damage.
- .5 Clearly and securely label containers to identify types/conditions of materials accepted and assist workers in separating materials accordingly.
- .3 Submit prior to final payment the following:
  - .1 Waste Management Final Report, indicating final quantities by material types salvaged for reuse, recycling or disposal in landfill.

#### 1.6 RECYCLED CONTENT

- .1 List of products requiring recycled content.
  - .1 Items listed below may constitute either the whole or a component of a product.
    - .1 Concrete (Portland cement reduction via supplementary cementitious materials).
    - .2 Concrete block.
    - .3 Steel products.
    - .4 MDF, particleboard.
    - .5 Mineral fibre insulation.
    - .6 Acoustic ceiling panels.
    - .7 Flooring.

#### 1.7 LOCAL/REGIONAL MATERIALS

- .1 List of products required to be locally sourced (within a radius of 800 km of the project site).
  - .1 Concrete.
  - .2 Masonry units.
  - .3 Lumber and wood panel products (plywood, MDF, particleboard).
  - .4 Granular and sand fill.
  - .5 Asphalt paving materials.
  - .6 Landscaping materials.

#### 1.8 WOOD

- .1 Materials made from composite wood materials or agricultural products shall not contain added urea-formaldehyde resins.

#### 1.9 PAINTS, STAINS, VARNISHES, AND COATINGS

- .1 Use paints and coatings with VOC limits to SCAQMD Rule 1113.

#### 1.10 SEALANTS, ADHESIVES AND COMPOUNDS

- .1 Adhesives, when applied on site and within building envelope, shall have VOC limits in accordance with SCAQMD Rule 1168.
- .2 Sealant products, when applied on site and within building envelope, shall have VOC limits in accordance with SCAQMD Rule 1168.

#### 1.11 FLOORING

- .1 Carpet systems: in compliance with Carpet and Rug Institute Green Label Indoor or Indoor Plus Air Quality Test Program.
- .2 Resilient flooring: in compliance with FloorScore and manufactured with recycled content.

1.12 EXTERIOR SITE

- .1 Take measures to prevent soil erosion before, during, and after construction by controlling storm-water runoff and wind erosion.

2 Products

2.1 NOT USED

- .1 Not Used.

3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

## General

### 1.1 RELATED DOCUMENTS

- .1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- .2 OPR and BoD documentation are included by reference for information only.

### 1.2 SUMMARY

- .1 Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.
- .2 The following systems/equipment will be commissioned:
  - .1 Architectural Systems – Building Envelope and interior spaces assemblies that are environmental separators
  - .2 Plumbing Systems – Plumbing Fixtures, Domestic Water Heater Domestic Hot Water Recirculating Pump
  - .3 HVAC Systems – Variable Refrigerant Flow Terminal Units, Heat Recovery Units, Exhaust Fans, Condensing Units, Radiant Heat Ceiling Panels, Infloor Heat.
  - .4 Building Automation System (BAS) – Sequence of Operation, alarms, graphics
  - .5 Electrical Systems – Panel Boards, Lighting Controls, Switchgear, Transfer Switches, Uninterrupted Power Supply (UPS), Emergency Generator, Generator Fuel Supply Including all safety and level monitoring devices
  - .6 Life Safety Systems – F/A Devices, F/S Dampers
  - .7 Low Voltage Systems – Security, Access Control, CCTV Systems, Voice/Data Infrastructure and Public Address System
- .3 Related Sections:
  - .1 Division 01 Section "Exterior Enclosure Commissioning" for commissioning process activities for building exterior enclosure, roof, and foundation systems, assemblies, equipment, and components.
  - .2 Division 21 Section "Fire Suppression" for commissioning process activities for fire-suppression systems, assemblies, equipment, and components.
  - .3 Division 22 Section "Plumbing" for commissioning process activities for plumbing systems, assemblies, equipment, and components.
  - .4 Division 23 Section "Heating Ventilation and Air Conditioning (HVAC)" for commissioning process activities for HVAC&R systems, assemblies, equipment, and components.
  - .5 Division 25 Section "Integrated Automation" for commissioning process activities for integrated automation systems, assemblies, equipment, and components.
  - .6 Division 26 Section "Electrical" for commissioning process activities for electrical systems, assemblies, equipment, and components.
  - .7 Division 27 Section "Communications" for commissioning process activities for communications systems, assemblies, equipment, and components.
  - .8 Division 28 Section "Electronic Safety and Security" for commissioning process activities for electronic safety and security systems, assemblies, equipment, and components.



- .4 The commissioning process does not take away from or reduce the responsibility of the Contractor to provide a finished and fully functioning project. Commissioning is essentially a quality management process of observing and documenting that the equipment and systems operate and perform as designed.
- .5 The commissioning testing shall be based upon the following reference standards: Building Commissioning Association ([www.bcxa.org](http://www.bcxa.org)); ASHRAE Guideline 0-2005, The Commissioning Process and CSA Z320-11 Building Commissioning.

### 1.3 DEFINITIONS

- .1 Abbreviations: The following are common abbreviations:
  - .1 A/E – Architect and design engineers
  - .2 OPR – Owner’s Project Requirements
  - .3 BoD – Basis of Design
  - .4 Cx – Commissioning
  - .5 CxA – Commissioning Authority
  - .6 Cx Plan – Commissioning Plan document
  - .7 EQC – Equipment Checklist
  - .8 FPT – Functional-Performance Test
  - .9 GC – General Contractor
  - .10 HVAC – Heating, Ventilation, and Air Conditioning
  - .11 NETA – InterNational Electrical Testing Association
  - .12 TAB – Test, Adjust, and Balance
- .2 BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- .3 Cx Book: Binder assembled by the CxA that includes all pertinent documentation used in the Cx process. Cx Book will be tabbed for sections including, but not limited to the following: Cx Plan, Test Manager Matrix, Cx and other applicable project specifications, Equipment Specific Cx Procedures, Equipment Checklists, Start-up Checklists, Functional-Performance Tests, Control Drawings and Sequences, Cx Field Reports, Issues Log, and Final Cx Report. The Cx Book will be turned over to the Departmental Representative upon completion of the Cx Process.
- .4 Cx Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- .5 CxA: Person(s) that directs and coordinates the commissioning activities.
- .6 EQC: Informational checklist used by the construction team to manage quality and monitor construction progress of equipment installation.
- .7 FPT: Test that verifies the proper operation of equipment or system. The Functional portion tests the individual components to make sure that the wiring, setpoints, and location are acceptable and components operate as intended using manual (direct observation) or monitoring methods. The Performance section tests the system or equipment under a full range of operation (e.g., Refrigerant DX valve and electric duct/baseboard heater modulate in unison to maintain room air temperature) to verify all individual components function properly and the performance requirements of the equipment or system are achieved. Systems are tested under various modes, such as during low cool-

ing or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, fire alarm, power failure, etc. The systems are run through all the control system's sequences of operation and components are verified to be responding as the sequences state.

- .8 In-Warranty Review: Review of the building operation prior to expiration of equipment warranties (typically 8-10 months after substantial completion). Deficiencies identified in this post-occupancy review shall be documented and corrected under manufacturer or Contract warranties. Should any piece of equipment require repair or replacement during the warranty period, the warranty period shall restart at the date of correction. The GC will be responsible to notify the CxA in writing when correction of the equipment has taken place so all warranties can be tracked for the Departmental Representative.
- .9 Integrated System Testing (IST): Testing the interaction between individual systems that are dependent upon each other. IST is sometimes incorporated as part of Functional-Performance testing.
- .10 OPR: Owner's (Departmental Representative) Project Requirements. A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- .11 Seasonal Tests: Tests that are deferred until the system(s) will experience outdoor weather conditions closer to their design conditions.
- .12 Start-up Checklists: Documentation of inspections and procedures necessary to take a piece of equipment from a static state into an operating state (e.g. belt tension, oil levels, labels affixed, gauges in place, sensors calibrated, etc.). These checklist forms are typically provided by the manufacturer of the piece of equipment and are completed by the contractor/vendor/ manufacturer responsible for performing start-up. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.
- .13 Systems Energy and Management Manual: Manual assembled by the CxA with assistance from the A/E and construction team. Manual will include as-built sequences of operations for all equipment as provided by the design professionals and contractors, including time of day sequences and schedule frequency, and detailed point listings with ranges and initial set points, ongoing operating instructions for all energy- and water-saving features and strategies, functional performance tests results (benchmarks), blank test forms, and recommended schedule for ongoing benchmarking, seasonal operational guidelines, recommendation for recalibration frequency of sensors and actuators by type and use, single line diagrams of each commissioned system, troubleshooting table for ongoing achievement of the facilities project requirements and guideline for continuous maintenance of the facilities project requirements operational requirements and basis of design (basis of operation). This document is separate from the O&M Manuals provided by the Contractor.
- .14 Test Manager Matrix: Document created by the CxA used to track progress by both Contractor and CxA during the Cx process. A sample is provided at the end of this Section.

#### 1.4 SUBMITTALS

- .1 Equipment Checklists: If Contractor prefers to use forms/checklists used previously on similar projects/equipment or forms/checklists provided by an equipment manufacturer, such documentation shall be submitted to CxA for review upon approval of equipment submittals.
- .2 Start-up Checklists: Submit proposed checklists to CxA for approval.
- .3 Completed Equipment Checklists: Submit completed forms for review by CxA and inclusion in the Cx Book.
- .4 Completed Start-up Checklists: Submit completed forms for review by CxA and inclusion in the Cx Book.
- .5 Cx Test Request Form: Submit form indicating equipment/system is ready to be field-witnessed by the CxA while undergoing its specific Functional-Performance Test. A sample form is included at the end of this Section.
- .6 Completed Functional-Performance Tests: Prior to CxA witnessing FPT's, submit completed forms for review by CxA and inclusion in the Cx Book.
- .7 Equipment Submittals: The CxA will indicate what equipment submittals will need to be reviewed. The Contractor shall provide the requested submittals to the CxA for review concurrent with the A/E review. CxA will review submittals based on compliance with the OPR and BoD, maintainability, and ability to be functionally and performance tested.
- .8 Training Plans: Contractors required to perform training on commissioned equipment shall submit a Training Plan and/or schedule outlining the trade or discipline, company/person leading the session, topic(s) of discussion, location, and time allotted for each session.

#### 1.5 COMMISSIONING AUTHORITY

- .1 The Commissioning Authority shall be the Departmental Representative.
- .2 The contractor and sub-contractors are responsible to execute the commissioning process according to this Section.

#### 1.6 COMMISSIONING TEAM

- .1 Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to, representatives of each Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.
- .2 Members Appointed by the Departmental Representative:
  - .1 CxA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process.
  - .2 Representatives of the facility user and operation and maintenance personnel.
  - .3 Architect and engineering design professionals.

## 1.7 RESPONSIBILITY MATRIX

- .1 The following responsibility matrix outlines the major tasks of the commissioning process and the parties responsible to carry out the tasks. The shaded cells in the following table reflect the major effort for each task/action.

Task / Action	Responsibility				
	Cx Authority	Departmental Representative	CM / GC	MEP/TAB Contractor	BAS Contr.
Cx Kickoff Meeting. Early to mid construction phase.	Schedule/ Lead	Attend	Attend	Attend	Attend
Write FUNCTIONAL-PERFORMANCE tests after shop drawings and submittals have been reviewed.	Write		Assist	Assist	Assist
Review and refine tests.	Refine	Review	Review	Review	Review
Cx Authority site visit to review construction progress, equipment checklists, and start-up checklists	Observe	Review	Discuss/ Correct	Discuss/ Correct	Discuss/ Correct
System and Equipment START-UP Submit Documentation for Record	Observe/ Review	Review	Schedule	Execute	Execute
FUNCTIONAL-PERFORMANCE TESTS	Observe, Document	Observe	Schedule	Execute	Execute
SEASONAL Tests	Observe, Document	Observe	Verify Completion	Execute	Execute
ISSUES LOG (Deficiency List)	Write	Review	Verify Completion	Correct	Correct
Training	Observe		Schedule/ Execute	Execute	Execute
Cx Report	Write	Review			
Systems Manual	Write/assemble	Review			
In-Warranty Review	Lead/Document	Attend	Attend		

## 1.8 DEPARTMENTAL REPRESENTATIVE 'S RESPONSIBILITIES

- .1 Provide the OPR documentation to the CxA and Contractor for information and use.
- .2 Assign operation and maintenance personnel and schedule them to participate in commissioning team activities as needed.
- .3 Provide the BoD documentation, prepared by Architect and approved by Departmental Representative, to the CxA and Contractor for use in developing the Cx Plan and operation and maintenance training plan.

### 1.9 A/E RESPONSIBILITIES

- .1 Attend selected commissioning team meetings when requested.
- .2 Perform standard submittal review, construction observation, as-built drawing review, O&M manual review, etc. as contracted.
- .3 Coordinate resolution of system deficiencies identified during commissioning according to the Contract Documents.

### 1.10 CONTRACTOR'S RESPONSIBILITIES

- .1 Contractor shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:
  - .1 Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
  - .2 Cooperate with the CxA for resolution of issues recorded in the Issues Log.
  - .3 Attend commissioning team meetings typically held each day the CxA is on-site (either prior to or immediately following the day's tests).
  - .4 Integrate and coordinate commissioning process activities with construction schedule.
  - .5 Assist CxA with development of Equipment Checklists and approve final version provided by the CxA.
  - .6 Complete Equipment Checklists as Work is completed and provide documentation to the Commissioning Authority.
  - .7 Prepare Start up Checklists and submit to CxA for review, comment and acceptance.
  - .8 Review commissioning process Functional-Performance Test procedures provided by the Commissioning Authority. Provide Functional-Performance Test procedures written with contractor's letter head using the Commissioning Authorities forms as a guide.
  - .9 Complete Functional-Performance Test procedures.
  - .10 Assist CxA as requested with updating the Test Manager Matrix by filling in dates requested and submit.
  - .11 Assist CxA with obtaining documentation such as installation and operation manuals, additional submittal information, RFIs, etc.

### 1.11 SUBCONTRACTORS' RESPONSIBILITIES

- .1 Subcontractors shall assign representatives with expertise and authority to act on their behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:
  - .1 Include scope to complete commissioning requirements for mechanical, plumbing, electrical and exterior enclosure systems in the Contract price.
  - .2 Attend commissioning scheduling and coordination meetings as requested.
  - .3 Prepare schedule for mechanical, plumbing, electrical and exterior enclosure system commissioning related activities. Include time in the project schedule for completion of equipment and start-up checklists and Functional-Performance tests. Include time for resolution of deficiencies found during Functional-Performance tests.

- .4 Coordinate the use of the equipment checklists and start-up checklists. Turn over to CxA when completed.
- .5 Ensure cooperation and participation of specialty subcontractors.
- .6 Provide to CxA a completed Cx Test Request Form certifying that for all systems and equipment to be commissioned that all systems, subsystems, equipment and associated controls are ready for testing, including any TAB work. A sample Cx Test Request Forms is included at the end of this section.
- .7 Ensure participation of major equipment manufacturers in appropriate training and testing activities.
- .8 Prepare a Training Plan and submit to CxA for review.
- .9 Execute the Functional-Performance tests while the CxA witnesses and documents.
- .10 Division 23 contractor shall provide access (upon CxA arrival) to all fire/smoke dampers.
- .2 Building Enclosure Contractors
  - .1 Per Section 01 91 15 Enclosure Commissioning, include scope of commissioning requirements in the contract price.
  - .2 Provide mock-ups outlined in each Specification section and demonstrate to the CxA and Departmental Representative materials and assembly meets the BoD requirements.
- .3 Building Automation System (BAS) Contractor
  - .1 Include scope for commissioning requirements in the contract price. The BAS Contractor will execute most of the HVAC Functional-Performance testing.
  - .2 Review the Functional-Performance Tests developed by the CxA to ensure that control system points are in place to execute the tests. Recommend test revisions to streamline or improve the test procedures
  - .3 Execute Functional-Performance Tests as part of normal checkout procedure. Submit completed tests to CxA for review as evidence that equipment / systems are ready for Functional-Performance witness testing by CxA and Departmental Representative.
  - .4 Demonstrate BAS system performance to Commissioning Authority during witnessing of the Functional-Performance Tests including all modes of system operation. CxA will expect to observe the same results as those indicated in the Contractor-completed test forms.
  - .5 Provide controls system technician intimately familiar with the system for use during witnessing of the Functional-Performance testing.
- .4 Test, Adjust, and Balance Contractor
  - .1 Provide TAB technician intimately familiar with the project for use during verification of TAB.
  - .2 Submit Engineer-approved TAB report to CxA in advance of TAB verification by CxA. If an approved report is not available, provide preliminary report.
  - .3 Take measurements requested by the CxA during TAB verification with the same instruments used during original TAB Work. CxA will expect to observe the same measurements as those indicated in TAB Report (+/- testing equipment accuracies).
- .5 Division 21 Contractor

- .1 Include scope for commissioning requirements in the contract price. The Division 21 contractor will execute tests for fire pump, pre-action sprinklers, and clean agent suppression systems. Fire protection commissioning testing is in addition to Departmental Representative required testing. However, it is acceptable to schedule concurrent Departmental Representative and CxA witnessing of tests if more practical. All completed Departmental Representative forms relating to pressure and flow testing shall be reviewed by the CxA (similar to equipment and/or start-up checklists) upon completion.
- .2 Review the tests. Tests will verify installed systems maintain flow and pressure and react to specified F/A input device(s).
- .3 Provide technician, vendor, and/or manufacturer representative intimately familiar with the installed system(s) to perform the procedures outlined in the tests.
- .4 Contractor shall take all precautions necessary to prevent the discharge of suppressing agent into the space (i.e. closing of isolation valve) but shall allow for as much as possible the demonstration of the equipment to perform as intended (i.e. all pre-action steps are satisfied).
- .5 Contractor shall provide one (1) Departmental Representative -approved and/or as-built set of half-size plans for use during testing.
- .6 Division 22 Contractor
  - .1 Include scope for commissioning requirements in the contract price. The Division 22 contractor will execute tests for all domestic and non-potable water heating systems, water quality and water supply systems.
  - .2 Review the tests. Tests will verify installed system maintains setpoint.
  - .3 Provide technician, vendor, and/or manufacturer representative intimately familiar with the installed system(s) to perform the procedures outlined in the tests.
- .7 Division 26 Contractor
  - .1 Include scope for commissioning requirements in the contract price. The Division 26 Contractor and/or their appointed electrical testing agency will execute tests for all provided power systems. This includes but is not limited to NETA testing outlined in the project specifications. Electrical commissioning testing is in addition to these requirements. All completed NETA forms shall be reviewed by the CxA (similar to equipment and/or start-up checklists).
  - .2 Review the tests. Recommend test revisions to streamline or improve the test procedures. Tests will verify installed power system provides the specified redundancy, quality, protection, and reliability.
  - .3 Confirm date/time to perform testing with Departmental Representative and Construction team. Coordinate outages well in advance.
  - .4 Provide technicians intimately familiar with the system(s) and appropriately licensed for the procedures outlined in the tests.
  - .5 Provide temporary use of transfer pump and storage tank to verify fuel levels and corresponding alarms.
  - .6 Provide infrared camera images to verify panel hot-spots do not exist, typical for all panels from main building entrance to main distribution panels.
  - .7 Provide power quality monitoring/meters at critical end-use devices (such as power distribution units for servers).
  - .8 Include scope for commissioning requirements in the contract price. The Division 26 contractor along with the manufacturer's certified testing representatives will execute tests for the generator / transfer systems. All completed Depart-

mental Representative and certified manufacturer's forms relating to the generator / transfer switch testing shall be reviewed by the CxA (similar to equipment and/or start-up checklists) upon completion.

- .8 Division 27 Contractor
  - .1 Include scope for commissioning requirements in the contract price. The Division 27 Contractor along with the manufacturer's certified testing representative will execute testing relating to the structure cabling communication system.
  - .2 Review the tests. Recommend test revisions to streamline or improve the test procedures. Ensure the listed input and output devices are available to execute the tests.
- .9 Division 28 Contractor / Fire Alarm (F/A) Contractor
  - .1 Include scope for commissioning reviews and system certification in the contract price. The Division 28 Contractor will execute testing relating to the fire alarm system.
  - .2 Review the tests. Ensure the listed input and output devices are available to execute the tests.
  - .3 The fire alarm is a certified building system and is reviewed and accepted with the Departmental Representative. The certifying contractor report and certification will represent the commissioning for this completed system.

#### 1.12 CxA'S RESPONSIBILITIES

- .1 Organize and lead the commissioning team.
- .2 Provide Cx Plan.
- .3 Convene commissioning team meetings.
- .4 Provide Project-specific Equipment Checklists with input from contractors.
- .5 Provide Project-specific and Equipment Specific Functional-Performance Test Procedures.
- .6 Verify the execution of commissioning process activities using random sampling. The sampling rate may vary from 10 to 100 percent. Verification will include, but is not limited to, equipment submittals, Equipment Checklists, Start-up Checklists, training, operating and maintenance data, Functional-Performance Tests, and test reports to verify compliance with the OPR. When a random sample does not meet the requirement, the CxA will report the failure in the Issues Log.
- .7 Prepare and maintain the Issues Log.
- .8 Prepare and maintain Test Manager Matrix.
- .9 Witness systems, assemblies, equipment, and component start-up using random sampling.
- .10 Write a Cx Field Report for each on-site commissioning visit.
- .11 Compile test data, inspection reports, and certificates provided by others; include them in the Cx Book to be turned over to the Departmental Representative upon completion.
- .12 Prepare a Final Cx Report at the end of the Project.
- .13 Lead In-warranty Review meeting.



- .14 Assemble Systems Final Operating and maintenance Procedures in an Excel spreadsheet for Departmental Representative's staff.
- .15 Provide a matrix showing the integration of all equipment and systems indicating what expectations should result under all possible conditions (ie normal power, emergency power, fire alarm etc.) as well as the actual results.

## 2 Products

### 2.1 NOT USED.

- .1 Not Used.

## 3 Execution

### 3.1 EQUIPMENT CHECKLISTS

- .1 CxA will indicate the equipment required to have an Equipment Checklist completed in the Test Manager Matrix spreadsheet.
- .2 The Division 1 Contractor will determine which subcontractor(s) is/are responsible for the Equipment Checklist process for each specific piece of equipment.
- .3 Contractor shall provide assistance to CxA with preparing Equipment Checklists for all equipment scheduled to be commissioned. The format of the Equipment Checklist is a model verification section and a pre-functional section. Contractor shall approve final version of Equipment Checklist.
- .4 The CxA shall provide the Division 1 Contractor and the installing subcontractors with the final approved Equipment Checklists. The Division 1 Contractor shall provide clear plastic sleeves for each Equipment Checklist and secure them to each piece of equipment with a chain or wire.
- .5 The installing individual is responsible to sign-off on certain sections of the Equipment Checklist that pertain to their area of responsibility as the Work is executed. If multiple trades or individuals share responsibility then the checklist should have sign-off from more than one person.
- .6 The Division 1 Contractor shall monitor and record the completion progression of the Equipment Checklists via the Test Manager Matrix (TMM) spreadsheet provided by the CxA. The Division 1 Contractor shall submit the spreadsheet to the CxA as requested for review.
- .7 The Division 1 Contractor shall submit to the CxA all completed Equipment Checklists for inclusion in the Cx Book.

### 3.2 START-UP CHECKLISTS

- .1 CxA will indicate the equipment required to have a Start-up Checklist completed in the Test Manager Matrix spreadsheet.
- .2 The Division 1 Contractor will determine which subcontractor(s) is/are responsible for the start-up checklist process for each specific piece of equipment.
- .3 The responsible subcontractor will prepare the start-up checklist using the manufacturer's recommended start-up procedures and modifying it as necessary to meet the specif-

ic project requirements. The Division 1 Contractor shall submit the start-up checklist to CxA for review prior to utilizing.

- .4 Start-up checklists shall have a space provided for sign-off at each individual step in the process as well as a sign off at the bottom stating that all steps have been completed.
- .5 The start-up process for a piece of equipment shall not be executed until the Equipment Checklist for that piece of equipment has been completed and submitted to the CxA.
- .6 The Division 1 Contractor shall monitor and record the completion progression of the start-up checklists via the Test Manager Matrix (TMM) provided by the CxA. The Division 1 Contractor shall submit the spreadsheet to the CxA as requested for review.
- .7 The Division 1 Contractor shall submit to the CxA all completed start-up checklists for inclusion in the Cx Book.

### 3.3 FUNCTIONAL-PERFORMANCE TESTING

- .1 CxA will indicate the equipment required to have a Functional-Performance Test completed in the Test Manager Matrix spreadsheet.
- .2 The Division 1 Contractor will determine which subcontractor(s) is/are responsible for the Functional-Performance Test execution for each specific piece of equipment.
- .3 The Division 1 Contractor shall have the responsible subcontractor review and approve Functional-Performance Tests prepared by CxA to ensure they are applicable to the project, can be performed, and will not damage equipment.
- .4 The Functional-Performance test for a specific piece of equipment shall not be executed until the start-up process for that piece of equipment has been completed and the start-up checklist form submitted to the CxA.
- .5 The Division 1 Contractor shall monitor and record the completion progression of the Functional-Performance testing via the Test Manager Matrix (TMM) provided by the CxA. The Division 1 Contractor shall submit the spreadsheet to the CxA as requested for review.
- .6 The Division 1 Contractor shall submit to the CxA all completed Functional-Performance Tests for inclusion in the Cx Book.
- .7 The CxA will schedule through the Division 1 Contractor the Functional-Performance Test witnessing of selected pieces of equipment / systems.
- .8 The following is a summary of the systems that are intended to be Functional-Performance Tested as part of this project:
- .9 HVAC Systems (Division 23)

System or Equipment	Equipment or Component Tested	General Description of Modes and Functions to Test	Test Strategy	Seasonal Test
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System or Equipment	Equipment or Component Tested	General Description of Modes and Functions to Test	Test Strategy	Seasonal Test
Heating System	Wall-mounted electric base-board heaters, electric duct heaters and electric cabinet heaters	All sequences of heating systems (startup, shutdown, load changes, resets, lead lag, alarms, lockouts), emergency power, capacities.	Test all.	Winter or summer if at least 50% loading is possible.
Air Conditioning	Condensing unit, compressor, DX coil	All sequences of cooling and related resets, alarms, lockouts, emergency power, capacity and efficiency	Test all.	Summer or winter if at least 50% loading is possible.
Air Handling System, Exhaust Air Handling Units	AHU, supply, return, exhaust fans, coils, , dampers, VFDs, controls.	All sequences of fans and related components (startup, shutdown, unoccupied mode, load changes, resets, alarms, lockouts), VFD control, operation of all dampers in all modes, coil capacity, outside air control.	Test all air handling units.	Anytime
Fans	Supply, general exhaust, fume hood exhaust, etc.	All sequences, occupied, unoccupied, local control, overrides, schedules, control sequences.	Test all.	Anytime.
Building Automation System	Schedules, sequences, lockouts, alarms, interlocks, control strategies, trending, graphics	All sequences of controls for mechanical equipment.	Test all controlled equipment.	Anytime.
Test & Balance	Air	Verify air handling unit flow measuring stations.	All air handling units, test min. 25% terminal units	Anytime.

System or Equipment	Equipment or Component Tested	General Description of Modes and Functions to Test	Test Strategy	Seasonal Test
Water Heating	Water heaters, storage tanks, mixing valves	All sequences of control, temperatures, recirculation pumps, lockouts, safeties.	Test all.	Anytime
Domestic Hot Water Recirculation	Recirculation Pumps	Verify flow is maintained and balanced	Test all.	Anytime

.11 Electrical Systems (Division 26, 27 and 28)

System or Equipment	Equipment or Component Tested	General Description of Modes and Functions to Test	Test Strategy	Seasonal Test
Lighting Controls	Occupancy sensors	Occupied, unoccupied, overrides.	Test All	Anytime.
Power Distribution	Panelboards, Power Distribution Units	Verify redundant sources, functionality of main and tie breakers, PDU redundant sources, static switch functionality, overcurrent protection in accordance with coordination study	Test All	Anytime
Life Safety / Fire Alarm	Fire Alarm input and output devices	Verify input devices cause the appropriate output and in accordance with Departmental Representative approval, verify correct location, verify correct sound and light levels`. Since this is a Certified System documentation of certification to be forwarded to CxA.	Test All	Anytime
Access Control	Interior and exterior door control	Test to confirm that granting or denying access to controlled access locations is in compliance with the plans and specifications.	Test All	Anytime
Public Address Systems	Public address system	Tests to confirm that the components parts are functioning at a known and acceptable level in compliance with the Statement of work and the conceptual design.	Test All	Anytime
Voice/Data	Voice and data	Verify that the product specified	Review and	Anytime

System or Equipment	Equipment or Component Tested	General Description of Modes and Functions to Test	Test Strategy	Seasonal Test
Communications	backbone (Cat6 cables)	and installed meet the Statement of Work and complies with the conceptual design.	retest 10% of the Contractors Installation Tests	

#### .12 Fire Protection Systems (Division 21)

System or Equipment	Equipment or Component Tested	General Description of Modes and Functions to Test	Test Strategy	Seasonal Test
Life Safety / Fire Protection	Pre-action Systems, Clean Agent Suppression Systems	Flow and pressure maintained, all sequences of control and safeties verified. Since this is a Certified System documentation of certification to be forwarded to CxA.	2 clean-agent rooms/systems, 2 pre-action systems	Anytime

### 3.4 NON-CONFORMANCE AND RETESTING

#### .1 Non-Conformance.

- .1 The CxA will record the results of the testing. All deficiencies, non-conformance issues, or test failures shall be noted and reported to the Contractors in the Issues Log, maintained by the CxA in a punch-list format.
- .2 Corrections of minor deficiencies identified may be made during the tests at the discretion of the CxA. In such cases the deficiency and resolution will be documented on the procedure form.
- .3 Every effort will be made to expedite the testing process and minimize unnecessary delays, while not compromising the integrity of the procedures; however, the CxA will not be pressured into overlooking deficient Work or loosening acceptance criteria to satisfy scheduling or cost issues, unless there is an overriding reason to do so at the request of the Departmental Representative.

#### .2 Re-testing.

- .1 The Contractor shall retest the equipment until all deficiencies have been resolved and provide signatures where applicable on the Functional-Performance Test form indicating that the deficiency has been corrected. The final copy of the FPT shall be submitted to the CxA for inclusion in the Cx Book. The CxA will witness retesting at their discretion based on the criticality of the deficiency and time available on site.
- .2 The time/cost for the CxA to perform any re-testing required because a specific item was overlooked in the equipment start-up procedures, reported to have been successfully completed, but determined during Functional-Performance testing to be faulty, will be back-charged to the Division 1 Contractor, who may choose to recover costs from the party responsible for executing the faulty test.

- .3 Any required re-testing by any Contractor shall not be considered a justified reason for a claim of delay or for a time extension by the Division 1 Contractor. The Contractors will be provided with the commissioning test forms in advance to perform the tests as part of their checkout procedures.

### 3.5 DEFERRED TESTING

- .1 Unforeseen Deferred Tests. If any Test cannot be completed due to the building structure, required occupancy condition or other deficiency, execution of Testing may be delayed upon approval of the Departmental Representative. These tests will be conducted in the same manner as the seasonal tests as soon as possible. Services of necessary parties due to unforeseen deferred testing will be negotiated.
- .2 Seasonal Testing. During the warranty period, seasonal testing (tests delayed until weather conditions are closer to the system's design) shall be completed as part of this Contract at no additional cost. The Contractors shall coordinate this activity. Tests will be executed, documented and deficiencies corrected by the Contractor, with facilities staff and the CxA witnessing.

### 3.6 TRAINING REQUIREMENTS

- .1 This training requirement section shall be a supplement to other specified training requirements.
- .2 In efforts to enhance the Departmental Representative's knowledge of the new facility's equipment and systems, the CxA will review the training schedule for compliance with Departmental Representative's Project Requirements and communicated needs of the Departmental Representative's maintenance staff. The Contractor shall submit to the CxA the proposed Training Plan and/or Schedule to be used at the end of the project, inclusive of trade, company/person leading the session, topic of discussion, location, and time allotted for each session.

### 3.7 COMMISSIONING O&M DOCUMENT REQUIREMENTS

- .1 This O&M document requirement section shall be a supplement to other specified O&M document requirements.
- .2 In efforts to enhance the installing subcontractor's and the Departmental Representative's knowledge of the installation and operating information related to the equipment and systems, one set of O&M documents shall be delivered to the CM/GC's on-site office 45 days after approved equipment submittals. The purpose of on-site O&M documentation is to have reference material available to the A/E, Departmental Representative, CM/GC, and installing sub-Contractors for the purposes of ensuring that the equipment and systems are installed in accordance with the manufacturer's recommendations.
- .3 The Departmental Representative may make this submission requirement a prerequisite for 50% payment.

### 3.8 COMMISSIONING WARRANTY REQUIREMENTS

- .1 This warranty requirement section shall be a supplement to other specified warranty document requirements.

- .2 The CM/GC shall prepare and manage a warranty matrix (by Division) that includes the warranty information for all of the equipment and systems in the project. The purpose of the warranty matrix is so the Departmental Representative has a single reference document which provides basic information on warranties.

- .3 The format of the general warranty matrix shall be as follows:

Product	Warranty Duration / Start date	Coverage	Limit/exclusion	'Owner' of Warranty
Pella Window	Duration: 20 years after date of sale. Start: Sale date was 2/2/02.	Thru-vision failure of glass, or seal. Material replacement only cost, no labor.	Limitation: Faulty installation, modification, salt air conditions, high humidity (condensation and frost), wood rot, problems due to water leakage. Exclusion: no film can be applied.	Bob's General Contracting.
Lutron light fixture.	Duration: 1 year from date of shipment. Start: 1/5/02.	Free from manufacturers defects.	Limit: Must be properly installed. Lutron shall not remove or install defective fixtures. Must notify Lutron within 1 yr. Exclusions: no repair can be performed on fixture without written consent.	Bill's Electrical Contracting.

### 3.9 IN-WARRANTY REVIEW

- .1 Contractor shall participate in an in-warranty review meeting to take place approximately 10 months into the warranty period lead by the Departmental Representative / CxA to discuss any unresolved warranty issues.

### 3.10 SAMPLE TEST MANAGER MATRIX

- .1 See attached. Document will be provided by CxA to the Contractor electronically.

Project Name / Number:	Sample Job / 2011000							
Date Updated:	6/16							
Updated By:	exp - TBD							

**Purpose:**

The purpose of this document is to track the progress of submissions, approvals, executions and verifications of Cx forms and tests.

**Directions for use:**

The CxA lists each piece of equipment to be commissioned under "Equipment Tag/Type" column.

For listed equipment, the CxA creates document ID#'s for applicable Pre-Functional Checklists, Start-up Reports, and Functional-Performance Tests.

The CxA attempts to assign a person responsible (sub-contractor) for each document. Ultimately, this is the Division 1 contractor's decision.

Either CxA or Division 1 contractor can update the "Status" columns as the project progresses with each issue, using the abbreviations below.

Abbrev. for Person Responsible (PR) Column		Abbrev. for Status Column	
BAS	Controls Contractor	ACCF	Awaiting Contractor Completed Form
Ven	Vendor	ACPF	Awaiting Contractor Proposed Form
CxA	Commissioning Authority (X-nth)	CC-A	Contractor Completed form Approved by CxA
EC	Electrical Contractor	CC-IFA	Contractor Completed form Issued for Approval to CxA
GC	General Contractor	CC-NA	Contractor Completed form Not Approved, re-test/resubmit
MC	Mechanical Contractor	IFA	Preliminary form Issued for Approval to CxA
None	No Team Member Responsibility	NR	Not Required
PC	Plumbing Contractor	Pend	Pending, not received from CxA
TAB	Test, Adjust & Balance Contractor	RR	Returned for re-issue
FPC	Fire Protection Contractor	VER - P	CxA Verified - Pass
		VER - PP	CxA Verified - Partial Pass
		VER - F	CxA Verified - Fail

No.	Equipment Tag/Type	Pre-Functional Checklist			Start-up Report			Controls Complete	TAB Complete	Functional-Performance Test		
		Doc. ID	PR	Status	Doc. ID	PR	Status			Doc. ID	PR	Status
1	CRAC-1	PFC CRAC-1	MC	ACCF	SUR CRAC-1	MC	Pend			FPT CRAC-1	BAS	Pend
2	P1A/B	PFC P1AB	MC	ACCF								
3	DC-1	PFC DC-1	MC	ACCF								
4	CRAC-2	PFC CRAC-2	MC	ACCF	SUR CRAC-2	MC	Pend			FPT CRAC-2	BAS	Pend
5	P2A/B	PFC P2AB	MC	ACCF								
6	DC-2	PFC DC-2	MC	ACCF								
7	CRAC-4	PFC CRAC-4	MC	CC-A	SUR CRAC-4	MC	CC-A			FPT CRAC-4	BAS	Pend
8	P4A/B	PFC P4AB	MC	ACCF								
9	DC-4	PFC DC-4	MC	ACCF								
10	CRAC-5	PFC CRAC-5	MC	CC-A	SUR CRAC-5	MC	CC-A			FPT CRAC-5	BAS	Pend
11	P5A/B	PFC P5AB	MC	ACCF								
12	DC-5	PFC DC-5	MC	ACCF								
13	(e) CRAC-3		None	NR		None	NR			FPT CRAC-3	BAS	Pend
14	(e) P3A/B		None	NR		None	NR					
15	(e) DC-3		None	NR		None	NR					
16	RTU-1	PFC RTU-1	MC	CC-A	SUR RTU-1	MC	Pend			FPT RTU-1	BAS	Pend
17	RTU-2	PFC RTU-2	MC	CC-A	SUR RTU-2	MC	Pend			FPT RTU-2	BAS	Pend
18	EF-1	PFC EF-1	MC	CC-A	SUR EF-1	MC	Pend			FPT GEFs	BAS	Pend
19	EF-6	PFC EF-6	MC	CC-A	SUR EF-6	MC	Pend			FPT PEFs	BAS	Pend
20	EF-2	PFC EF-2	MC	NR	SUR EF-2	MC	Pend					
23	(e) EF-7		None	NR		None	NR					
21	EF-3	PFC EF-3	MC	CC-A	SUR EF-3	MC	Pend			FPT HEFs	BAS	Pend
22	EF-5	PFC EF-5	MC	CC-A	SUR EF-5	MC	Pend					
24	UH-5	PFC UH-5	MC	Pend	SUR UH-5	MC	Pend			FPT UH-5	BAS	Pend
25	FCU-1	PFC FCU-1	MC	CC-A	SUR FCU-1	MC	Pend			FPT FCU-1	BAS	Pend
26	CU-1	PFC CU-1	MC	ACCF	SUR CU-1	MC	Pend					
27	EDH-1	PFC EDH-1	MC	Pend	SUR EDH-1	MC	Pend					
28	EDH-2	PFC EDH-2	MC	Pend	SUR EDH-2	MC	Pend					
29	VAV-1	PFC VAVs	MC	CC-A		None	NR					
30	VAV-2					None	NR					
31	VAV-3					None	NR					
32	VAV-4					None	NR					
33	VAV-5					None	NR					
34	VAV-6					None	NR					
35	VAV-7					None	NR					
36	TAB (note 1)		None	NR		None	NR			FPT TAB (note 1)	BAS	Pend
37	VESDA system	PFC VESDA	EC	Pend		None	NR			(note 2)	None	NR
1 - TAB verification includes sampling air and water values obtained with TAB contractor and comparing to values in TAB Report.												
2 - VESDA verification will be incorporated into the integrated systems testing of HVAC and Fire Alarm Systems.												



## 3.11 SAMPLE Cx TEST REQUEST FORM

- .1 Document will be provided by CxA to the Contractor electronically.



## Commissioning - Test Request Form

<b>Project Name:</b>	G.O.C.B. – Saint-Léonard, NB	<b>Date:</b>	
<b>To:</b>	<b>Exp.</b> – Robert McNamara	<b>FAX:</b>	506.459.3954
<b>From:</b>	Construction Manager	<b>E-Mail</b>	Robert.McNamara@exp.com
<b>Subject:</b>	On-Site Commissioning Test Request Form		

Contractor shall fax this form to **exp** to schedule the commissioning authority to visit the site to execute the Functional-Performance Tests. A prerequisite for Functional-Performance Testing is that the systems are started-up and operating according to the parameters listed in the Functional-Performance Tests provided to the contractors during the Commissioning Kickoff Meeting.

The contractors are encouraged to self-perform the Functional-Performance Tests **prior** to field verification by the Commissioning Authority. The contractor may be liable for the Commissioning Authority's labor and material costs if the Functional-Performance Tests cannot be performed due to contractor's uncompleted work.

The Contractor is to fill in the following information and fax to **exp** to authorize travel to the site for the purpose of Functional-Performance Testing.

Equipment has been started up by the manufacturers on date: \_\_\_\_\_

TAB was/will be completed on date: \_\_\_\_\_

Controls were/will be completed on date: \_\_\_\_\_

Request Commissioning Authority on-site starting date: \_\_\_\_\_  
(Requires mechanical and controls sub-contractor on-site)

**Statement of Readiness:** \_\_\_\_\_  
(Name)

\_\_\_\_\_  
(Company)

\_\_\_\_\_  
(Date)

END OF SECTION

## 1 General

### 1.1 RELATED DOCUMENTS

- .1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this section.
- .2 Owner's Project Requirements (OPR) and Basis of Design (BOD) documentation are included for information only.

### 1.2 SUMMARY

- .1 This Section includes exterior enclosure commissioning procedures, including substructure, superstructure, exterior enclosure and roofing construction that protects climate-controlled spaces from unconditioned spaces and the exterior environment as follows:
  - .1 Below-grade construction including foundations and slab-on- grade that functions as part of the exterior enclosure system but excluding structural systems, components and existing foundation.
  - .2 Superstructure floor and roof construction that functions as part of the new exterior enclosure and where a new roofing superstructure system has been installed
  - .3 New exterior enclosure construction, above grade, including exterior opaque walls, windows and doors including sheathing and framing, and interior finish materials attached to the new exterior wall.
  - .4 New roofing, including roofing system, roofing insulation, hatches and other roof openings.
  - .5 New interior partitions or walls within the building surrounding areas with different ambient conditions than the rest of the interior space.

### 1.3 RELATED SECTIONS

- .1 Division 01 Section 01 91 13 - General Commissioning Requirements for general requirements for commissioning including definitions, commissioning team membership, Owner's responsibilities, Contractor's responsibilities and Commissioning Authority's responsibilities.
- .2 Division 03 through 14 Sections for facility exterior enclosure commissioning requirements specific to Work of each section.

### 1.4 COMMISSIONING TEAM

- .1 Departmental Representative
- .2 General Contractor
- .3 Commissioning Authority
- .4 Exterior enclosure sub-contractor and their sub-contractors
- .5 Specialty sub-contractors

## 1.5 COMMISSIONING AUTHORITY

- .1 The Commissioning Authority shall have, experience in the practices that encompass exterior enclosure commissioning including understanding systems design intent, performing architectural and shop drawing peer reviews, evaluating submittal compliance, administering pre-construction meetings, performing/supervising field performance testing, fulfilling field construction administration responsibilities, evaluating component/assembly compliance and performing forensic evaluations as relating to Divisions 03 through 12 Sections for facility enclosure commissioning requirements specific to Work of each Section.
- .2 The Commissioning Authority cannot be financially associated with any of the Division 01 through 12 contractors or vendors prior to engaging this contract.

## 1.6 CONTRACTOR'S RESPONSIBILITIES

- .1 Attend pre-construction and construction phase building enclosure coordination meetings
- .2 Provide schedule and perform field quality control tests and inspections required by the Contract Documents to Commissioning Authority.
- .3 Update Biweekly (or more frequently if required) throughout the construction period.
- .4 Submit field quality control testing and inspection reports on exterior enclosure construction to the Commissioning Authority
- .5 Submit operation and maintenance data for systems, subsystems and components to the Commissioning Authority.
- .6 Provide cut sheets and shop drawing submittals of commissioned systems to the commissioning authority.
- .7 Provide input for final commissioning documentation to the Commissioning Authority.
- .8 Participate in testing/inspection procedures meetings
- .9 Provide complete set of Coordination Drawings showing the complete coordination and integration of all Work of commissioned systems to the commissioning authority.
- .10 Permit Commissioning Authority to access locations of installed systems, subsystems and component for testing and inspection
- .11 Reimburse Owner for non-compliant tests and inspections as outlined in Division 01 through Division 12
- .12 Provide test data, letters of incompatibility and certificates to Commissioning Authority
- .13 Participate in maintenance orientation and inspection
- .14 Participate in operation and maintenance training sessions
- .15 Address current Departmental Representative punch list items
- .16 Participate in final review at acceptance meeting

## 1.7 DEPARTMENTAL REPRESENTATIVE RESPONSIBILITIES

- .1 Provide electronic copies of project drawings and specifications to the Commissioning Authority
- .2 Provide written responses to design review comments from the Commissioning Authority or other parties requested

- .3 Attend design, pre-construction and construction-phase coordination meetings
- .4 Participate in testing procedures meetings
- .5 Provide resolution for items for which the Commissioning Authority and Contractor may be in disagreement

#### 1.8 COMMISSIONING AUTHORITY'S RESPONSIBILITIES

- .1 Provide project-specific construction checklists and commissioning process test procedures
- .2 Witness systems, assemblies, equipment and component startup
- .3 Compile test data, inspection reports and certificates and include them in the systems manual and commissioning process report.
- .4 Review project drawings and specifications at completion for constructability, durability performance and exterior enclosure conformance
- .5 Review coordination drawings
- .6 Attend design, pre-construction and construction phase meetings
- .7 Perform or facilitate mock-up performance testing
- .8 Document construction of commissioned components at the completion of mock-up testing
- .9 Review proposals and requests for substitutions and changes for compliance with Contract Documents, and for compatibility with Work of other sub- contractors
- .10 Review exterior enclosure work for compliance with Contract Documents
  - .1 Maintain list of observed deficiencies and discrepancies
  - .2 Develop protocols for functional performance testing
  - .3 Perform or facilitate functional performance testing
- .11 Issue letter of compliance, assuming all non-complaint items are addressed.

#### 1.9 COMMISSIONING DOCUMENTATION

- .1 Provide the following information to Commissioning Authority for inclusion in the Commissioning Plan
  - .1 Submittals, information for system manuals and other required documents and reports.
  - .2 Identification of installed exterior enclosure components, assemblies, systems and equipment, including design changes that occurred during the construction phase.
  - .3 Certificate of completion, certifying that exterior enclosure assemblies, systems, equipment and associated controls are complete and ready for testing
  - .4 Test and inspection reports and certificates
  - .5 Corrective action documents
- .2 The Commissioning Authority will provide regular reports to the Departmental Representative and distribute to other parties as requested by the Departmental Representative, as construction and commissioning progresses

- .3 A final summary report (including backup documentation) and a letter of compliance will be provided by the Commissioning Authority to the Departmental Representative upon completion of exterior envelope construction and resolution of unaddressed non-compliant items. All acquired documentation, logs, minutes, reports, deficiency lists, communications, findings, unresolved issues, etc. will be compiled in appendices and provided with the summary report.

#### 1.10 COMMISSIONING SUBMITTALS

- .1 Submit commissioning submittals to Commissioning Authority. Submittals requiring Departmental Representative's action will be returned to Commissioning Authority through Departmental Representative.

#### 1.11 QUALITY ASSURANCE

- .1 Quality Assurance and Control: Specific commissioning and control requirements for individual construction activities are specified in the Sections that specify those activities. Specified commissioning tests, inspections and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
- .2 Preconstruction Commissioning Conference: Commissioning Authority will schedule a pre-construction commissioning conference before construction of the exterior enclosure starts, at a time convenient to the Departmental Representative, General Contractor and their applicable sub-trades. Allow for the conference to be held at the Project site or another convenient location. The Commissioning Authority will conduct the meeting to review commissioning responsibilities and personnel assignments.
  - .1 Attendees: Departmental Representative, Commissioning Authority, Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to commissioning.
  - .2 Agenda: Discuss items of significance that could affect progress including the following:
    - .1 Commissioning plan and related specifications
    - .2 Tentative construction schedule outlining per Contractor
    - .3 Phasing
    - .4 Critical work sequencing and long lead times per Contractor
    - .5 Designation of key personnel and their duties
    - .6 Mock-up construction and testing if required
    - .7 Procedures for testing and inspecting
    - .8 Submittal procedures
    - .9 Preparation of record documents
    - .10 Occupancy requirements
    - .11 Security

## 1.12 FUNCTIONAL PERFORMANCE TESTING

- .1 Objectives and Scope: The objective of functional performance testing is to demonstrate that each exterior enclosure assembly/system is functioning according to the documented design intent of the Contract Documents and in accordance with the OPR. Functional testing facilities bringing the material assembly from a state of substantial completion to full operation. Additionally, during the testing process, areas of non-compliant performance are identified and corrected, improving the operation and functioning of the building envelope/assemblies.
- .2 Development of Test Procedures: Before specific test protocols and procedures are developed, the Commissioning Authority will request all documentation and a current list of change orders affecting the exterior enclosure/assemblies, including an updated points lists and parameters. The Commissioning Authority shall develop specific test protocols and procedures to verify and document proper operation of each piece of exterior enclosure/assemblies.
- .3 Functional Performance Testing: All functional performance testing of building envelope/assemblies shall be performed by the Commissioning Authority, unless otherwise specified by the Commissioning Authority. Any subcontractor or vendor responsible to execute a test shall provide assistance to the Commissioning Authority in developing the procedures review (answering questions about assemblies and sequences, etc.). Prior to execution, the Commissioning Authority will provide a copy of the test procedures to the General Contractor and subcontractor(s) who will review the tests for feasibility, building enclosure/assemblies and warranty protection.
- .4 Test Methods:
  - .1 A mock-up test for each system will be included to verify component and assembly performance prior to commencing with construction.
  - .2 Functional performance testing and verification may be achieved by manual testing (persons manipulating equipment and observing performance). The Commissioning Authority may substitute specified methods or require additional methods to be executed other than what was specified. The Commissioning Authority will determine which method is most appropriate for tests that do not have a method specified.
  - .3 Simulated Conditions: Simulating conditions shall be allowed, though timing the testing to experience actual conditions is encouraged wherever practical.
- .5 Sampling: Multiple identical pieces of assemblies may be functionally tested using a sampling strategy. Significant application differences and significant sequence or functional differences in otherwise identical materials or assemblies invalidates their common identity. A small size or capacity difference alone does not constitute a difference. It is noted that no sampling by contractors and their subcontractors is allowed in pre-functional checklist execution.
- .6 The Contractors and their subcontractors shall provide sufficient notice to the Commissioning Authority regarding their completion schedule for the assemblies or exterior enclosure systems. The Commissioning Authority will schedule functional tests through the General Contractor.
- .7 The Commissioning Authority shall perform/administer and document the results of all functional performance tests.

- .8 The Commissioning Authority may recommend solutions to problems found; however the burden of responsibility to solve, correct and re-test problems is with the General Contractor, subcontractors, Vendor and the Designer.

#### 1.13 NON-CONFORMANCE

- .1 All deficiencies or non-conformance issues shall be noted and reported by the Commissioning Authority to the General Contractor and Departmental Representative
- .2 Corrections of minor deficiencies identified during functional performance testing or inspections may be made at the time of testing/inspection at the discretion of the Commissioning Authority. In such cases, the deficiency and resolution will be documented.
- .3 Failure Due to Manufacturer Defect: If two of identical pieces (size alone does not constitute a difference) of materials or assemblies fail to perform to the Contract Documents (physically or substantively) due to manufacturing defect, not allowing it to meet its submitted performance spec, all identical units must be considered unacceptable by the General Contractor, subcontractor, sub-subcontractor, Commissioning Authority and Departmental Representative

#### 2 Products

##### 2.1 NOT USED

- .1 Not Used

#### 3 Execution

##### 3.1 GENERAL

- .1 Commissioning Authority shall issue a written report certifying that building exterior enclosure systems, subsystems and construction have been completed according to the Contract Documents and comply with BOD and OPR
- .2 Building Envelope Protection System Manufacturer shall issue a minimum 5 year warranty covering design, material and installation of Building Envelope Protection System.
- .3 Commissioning Authority shall perform or facilitate and document field quality control tests and inspections.
- .4 Commissioning Authority shall confirm that field quality control testing of exterior enclosure has been completed and approved, that discrepancies have been corrected, and corrective work approved.

END OF SECTION