Department of Fisheries and Oceans Canada

Building F Repairs
Canadian Coast Guard Base
401 King Street West, Prescott, Ontario

Specifications and Contract Documents

September 2020

20-2403

Dillon Consulting Limited

Part 1 **General**

1.1 **NOT USED**

.1 Not Used

Part 2 **Products**

2.1 **NOT USED**

.1 Not Used

Part 3 **Execution**

3.1 **NOT USED**

.1 Not Used

END OF SECTION

LIST OF DRAWINGS

LIST OF APPENDICES

END OF SECTION

Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

.1 Work of this Contract generally comprises the following, as it relates to Building F at the Canadian Coast Guard (CCG) Base in Prescott, Ontario:

- .1 Hazardous materials abatement (asbestos, lead-based paint);
- .2 Selective demolition;
- .3 Subgrade restoration;
- .4 Concrete slab-on-grade repairs;
- .5 Installation of metal roofing and siding;
- .6 Sheet metal flashing and trim;
- .7 Sealants;
- .8 Painting; and
- .9 Lighting and Electrical.

1.2 CONTRACT METHOD

.1 Construct Work under a fixed price contract.

1.3 CONTRACTOR USE OF PREMISES

.1 Unrestricted use of site until Substantial Performance.

.2 Co-ordinate use of premises under direction of Departmental Representative.

.3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

.4 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

.5 While the buildings are currently vacant, the proximity of adjacent properties and structures must be considered before beginning demolition execution.

1.4 EXISTING SERVICES

.1 Notify Departmental Representative and coordinate utility companies of intended disconnection/connection of services and obtain required permissions.

.2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours' notice for necessary interruption of electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to vehicular traffic and pedestrians.

.3 Provide alternative routes for personnel and vehicular traffic as required.

.4 Submit schedule to Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

.5 Provide temporary services as necessary to facilitate the work.

.6 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.

.7 Protect, relocate or maintain existing active services.

.8 Record locations of maintained, re-routed and abandoned service lines.

.9 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.5 DOCUMENTS REQUIRED

.1 Maintain at job site, one copy of each document as follows:

.1 Contract Drawings.
.2 Specifications.
.3 Addenda.
.4 Change Orders.
.5 Other Modifications to Contract.
.6 Field Test Reports.
.7 Copy of Approved Work Schedule.
.8 Health and Safety Plan and Other Safety Related Documents.
.9 Previous site reports.
.10 Copy of approved Work Schedule.
.11 Material and Safety Data Sheets.
.12 Up-to-date record drawings.
.13 All applicable Provincial permits and licenses.
.14 All applicable Federal permits and licenses.
.15 All applicable municipal permits and licenses
.16 Other documents as specified.

1.6 BACKGROUND INFORMATION

.1 XGC Consulting Limited (XGC) conducted a Designated Substances and Hazardous Materials Surveys of the buildings in 2020. This report is attached to and forms part of these specifications, as Appendix B.

.2 The results of the survey identified potential hazards on site which include, but are not limited to, the following:

.1 Hazardous materials (e.g., asbestos-containing materials, lead-containing paints, potential for polychlorinated biphenyls (PCBs).

1.7 DESCRIPTION OF WORK

.1 Work for this Contract comprises the following:

- .1 Mobilization and demobilization of personnel, equipment, support facilities and materials required to complete the Work as often as required.
- .2 Upgrading and Maintenance of on-site access routes and laydown areas, as required, to facilitate construction activities and temporary storage.
- .3 Hazardous materials abatement (asbestos, lead-based paint).
- .4 Selective demolition.
- .5 Subgrade restoration.
- .6 Concrete slab-on-grade repairs.
- .7 Installation of metal roofing and siding.
- .8 Sheet metal flashing and trim.
- .9 Application of sealants.
- .10 Painting.
- .11 Lighting and Electrical.
- .12 Transportation and disposal of Hazardous Materials to the Contractor's Designated permitted Off-Site Disposal Facility.
- .13 Transportation and disposal of non-hazardous materials to the Contractor's Designated permitted Off-Site Disposal Facility.
- .14 Provision of the following site support services:
  - .1 Safety, fire protection, and medical services.

1.8 SUBMITTALS

.1 All submittals in accordance with Section 01 33 00 - Submittal Procedures and as specified.

1.9 WORK SCHEDULE

.1 Provide and maintain Work Schedule in accordance with instructions of Section 01 32 16.19 Construction Progress Schedules - Bar (GANTT) Chart.

.2 Keep the Departmental Representative advised of planned Work activities in accordance with the instructions of Section 01 33 00 – Submittal Procedures.

1.10 CONTRACTOR USE OF SITE

.1 Use of site is unrestricted until substantial performance.

.2 Coordinate use of premises under direction of Departmental Representative.

.3 Smoking is not allowed on site.

1.11 EXAMINATION OF SITE

.1 Prior to mobilization of equipment and supplies, check the field conditions including buried and above ground utilities, to ensure that the correct equipment, and supplies are being mobilized to site for the execution of the Work, and notify Departmental Representative in writing, of all matters which could prejudice proper execution of the Work. Provide a minimum of three (3) days' notice to Departmental Representative prior to examining the site.

.2 Commencement of mobilization constitutes acceptance of existing conditions, and verification of dimensions.

1.12 PERMITS AND LICENSES

.1 Be responsible for obtaining and paying for permits, licenses and approvals associated with the site work.

.2 Register, obtain and pay for all required licenses and permits for individual tradesmen employed for Work as referenced in the various Sections of the Contract Specifications for the duration of employment.

.3 Obtain and pay for any other licenses or permits required to perform the activities required on site.

.4 Provide supplemental information to the regulators for any necessary license amendments or reporting requirements.

.5 Pay all costs associated with complying with the requirements for the permits and licenses noted in the above clauses.

1.13 SITE SUPERVISION

.1 Designate Contractor's Site Superintendent to be on site at all times during construction, to have full authority to make decisions for Contractor, to be knowledgeable of the requirements of the contract, and to act upon Departmental Representative's instructions.

1.14 CONTRACTOR SPECIAL REQUIREMENTS: COVID-19

.1 The Contractor shall submit the following to the Departmental Representative for review and approval prior to accessing the project site:

.1 Schedule for completing the work and 5 days advance notice of arrival.

.2 Corporate health and safety policy, must also address COVID-19 protocols.

.3 All site personnel shall complete and submit the CCGC 13-2020 COVID-19 Health Screening Questionnaire daily prior to accessing the site.

.4 The Contractor shall adhere to the most up to date COVID-19 Health and Safety recommendations of the Eastern Ontario Health Unit.

.5 The wearing of protective safety coverings (i.e. face masks) while on site is mandatory unless otherwise advised by the Departmental Representative.

Part 2 Products

2.1 NOT USED

.1 Not Used

Part 3 Execution

3.1 NOT USED

.1 Not Used

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 35 29.06 – Health and Safety Requirements.

.2 Section 01 56 00 – Temporary Barriers and Enclosures.

1.2 ACCESS AND EGRESS

.1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, as required, independent of finished surfaces and in accordance with relevant regulations and procedures.

1.3 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.

.2 Where security is reduced by work provide temporary means to maintain security.

.3 Due to the current health pandemic, sanitary facilities for use by Contractor’s personnel will not be provided by the Departmental Representative. Contractor to provide portable facilities for exclusive use by the Contractor. Keep facilities clean.

.4 Accept liability for damage, safety of equipment and overloading of existing equipment and/or infrastructure.

.5 Closures: protect work temporarily until permanent enclosures are completed.

1.4 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

.1 Execute work with least possible interference or disturbance to normal use of premises and surrounding buildings. Arrange with Departmental Representative to facilitate execution of work.

1.5 EXISTING SERVICES

.1 Notify, Departmental Representative and utility companies of intended disconnection/reinstatement of services and obtain required permissions.

.2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum.

.3 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.6 SPECIAL REQUIREMENTS

.1 Submit schedule in accordance with Section 01 32 16.19 - Construction Progress Schedule - Bar (GANTT) Chart.

.2 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.

.3 Keep within limits of work and avenues of ingress and egress.

.4 Deliver materials outside of peak traffic hours 8:00 to 10:00 and 15:00 to 17:00 unless otherwise approved by Departmental Representative.

1.7 SECURITY

.1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.

.2 Security clearances:

.1 Personnel employed on this project will be subject to security check. Obtain clearance, as instructed, for each individual who will require to enter premises.

.2 Obtain requisite clearance, as instructed, for each individual required to enter premises.

.3 Personnel will be checked daily at start of work shift and provided with pass which must be worn at all times. Pass must be returned at end of work shift and personnel checked out.

1.8 BUILDING SMOKING ENVIRONMENT

.1 Comply with smoking restrictions. Smoking is not permitted.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 This Section clarifies Contractor's responsibilities and obligations to review the information provided in the "Designated Substances and Hazardous Materials Survey", pertaining to Building F at the Prescott Canadian Coast Guard Base, prepared by XCG Consulting Limited, March 2020.

.2 This Section is to be read in conjunction with the aforementioned report.

.1 Copies of the report are attached to the contract documents and form part of bid documents as Appendix B.

.3 It is the Contractor’s responsibility to be satisfied to the quantity and nature of hazardous materials and designated substances present at the site.

1.2 REFERENCE STANDARDS

.1 Refer to laws, by laws, ordinances, rules, regulations and orders of authority having jurisdictions, and other legally enforceable requirements applicable to Work at that area; or become in force during Work performance.

.2 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.

.1 Canadian Environmental Protection Act, 1999 (CEPA 1999)

.2 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations

.3 Province of Ontario

.1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. 1990, c.0.1, as amended and O. Reg. 213/91 as amended - Updated 2016.

.2 O. Reg. 278/05: Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations.

.3 O. Reg. 490/09: Designated Substances.

.4 O. Reg. 347: Waste Management.

.5 O. Reg. 406/19: On-site and Excess Soil Management

1.3 ABBREVIATIONS AND ACRONYMS

.1 As defined in the corresponding report.

1.4 DEFINITIONS

.1 Designated Substances: Are those substances designated as hazardous by the Ministry of Labour under the Occupational Health and Safety Act. The following substances have been identified as designated substances:

- .1 Asbestos
- .2 CFC's and Halocarbons (potentially present)
- .3 Lead
- .4 Mercury (potentially present)
- .5 Polychlorinated Biphenyls (PCBS) (potentially present)
- .6 Silica

.2 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities, and hazardous products, including but not limited to: corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors.

.3 Polychlorinated Biphenyls (PCBs): includes chlorobiphenyls referred to in Column I of item 1 of the List of Toxic Substances in Schedule I of Canadian Environmental Protection Act (CEPA).

.4 Toxic: substance is considered toxic if it is listed on Toxic Substances List found in Schedule 1 of CEPA.

.5 List of Toxic Substances: found in Schedule 1 of CEPA, lists substances that have been assessed as toxic. Federal Government can make regulations with respect to a substance specified on List of Toxic Substances. Column II of this list identifies type of regulation applicable to each substance.

1.5 RELATED REQUIREMENTS

.1 Section 02 81 00 – Hazardous Materials.

.2 Section 02 82 00.01 – Asbestos Abatement – Minimum Precautions.

.3 Section 02 83 10 – Lead-Based Paint Abatement – Minimum Precautions.

.4 Section 02 84 00 – Polychlorinated Biphenyl Remediation.

1.6 ADMINISTRATIVE REQUIREMENTS

.1 Before start of Work arrange for Site visit with Departmental Representative to examine existing Site conditions.

1.7 RESPONSIBILITY

.1 Contractor shall be responsible for reading and evaluating the information provided for the Site.

.2 Contractor shall incorporate any recommendations as they pertain to the health and safety of workers on Site, in accordance with Section 01 35 29.06 – Health and Safety Requirements, and in compliance with authority having jurisdictions for that area.

.3 Contractor shall ask Departmental Representative should they have any questions related to the Site reports.

.4 Contractor shall exercise every reasonable precaution for the protection of each worker on Site.

1.8 REGULATORY REQUIREMENTS

.1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.9 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit Site-specific Health and Safety Plan, within 7 days after date of Notice to proceed and before mobilization to Site. List relevant hazardous or contaminated materials or substances required by the authority having jurisdiction which need to be included in the Contractor's Health and Safety Plan.

Part 2 Products

2.1 NOT USED

.1 NOT USED

Part 3 Execution

3.1 NOT USED

.1 NOT USED

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.1 CCDC 2-1994, Stipulated Price Contract.

1.2 APPLICATIONS FOR PROGRESS PAYMENT

.1 Refer to CCDC 2.

.2 Make applications for payment on account monthly as Work progresses.

.3 Date applications for payment last day of agreed monthly payment period and ensure amount claimed is for value, proportionate to amount of Contract, of Work performed and Products delivered to Place of Work at that date.

.4 Submit to Departmental Representative.

1.3 SCHEDULE OF VALUES

.1 Refer to CCDC 2.

.2 Provide schedule of values supported by evidence as Departmental Representative may reasonably direct and when accepted by Departmental Representative, be used as basis for applications for payment.

.3 Include statement based on schedule of values with each application for payment.

1.4 PREPARING SCHEDULE OF UNIT PRICE TABLE ITEMS

.1 Submit separate schedule of unit price items of Work requested in Bid form.

.2 Make form of submittal parallel to Schedule of Values, with each line item identified same as line item in Schedule of Values.

.3 Ensure unit prices multiplied by quantities given equal material cost of that item in Schedule of Values.

1.5 PROGRESS PAYMENT

.1 Refer to CCDC 2.

.2 Consultant will issue to Departmental Representative, no later than 10 days after receipt of an application for payment, certificate for payment in amount applied for or in such other amount as Consultant determines to be due. If Consultant amends application, Consultant will give notification in writing giving reasons for amendment.

1.6 SUBSTANTIAL PERFORMANCE OF WORK

.1 Refer to CCDC 2.

.2 Prepare and submit to Departmental Representative comprehensive list of items to be completed or corrected and apply for a review by Departmental Representative to establish Substantial Performance of Work when Work is substantially performed. Failure to include items on list does not alter responsibility to complete Contract.

.3 No later than 10 days after receipt of list and application, Departmental Representative will review Work to verify validity of application, and no later than 5 days after completing review, will notify Contractor if Work or designated portion of Work is substantially performed.

.4 Immediately following issuance of certificate of Substantial Performance of Work, in consultation with Departmental Representative, establish reasonable date for finishing Work.

1.7 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF WORK

.1 Refer to CCDC 2.

.2 After issuance of certificate of Substantial Performance of Work:

.1 Submit application for payment of holdback amount.

.2 Submit sworn statement that accounts for labour, subcontracts, products, construction machinery and equipment, and other indebtedness which may have been incurred in Substantial Performance of Work and for which Departmental Representative might be held responsible have been paid in full, except for amounts properly retained as holdback or as identified amount in dispute.

.3 After receipt of application for payment and sworn statement, Consultant will issue certificate for payment of holdback amount.

.4 Amount authorized by certificate for payment of holdback amount is due and payable on day following expiration of holdback period stipulated in lien legislation applicable to Place of Work. Where lien legislation does not exist or apply, holdback amount is due and payable in accordance with other legislation, industry practice, or provisions which may be agreed to between parties. Departmental Representative may retain out of holdback amount sums required by law to satisfy liens against Work or, if permitted by lien legislation applicable to Place of Work, other third party monetary claims against Contractor which are enforceable against Departmental Representative.

1.8 FINAL PAYMENT

.1 Refer to CCDC 2, GC 5.7.

.2 Submit application for when Work is completed.

.3 Departmental Representative will, no later than 10 days after receipt of application for final payment, review Work to verify validity of application. Departmental Representative will give notification that application is valid or give reasons why it is not valid, no later than 5 days after reviewing Work.

.4 Consultant will issue final certificate for payment when application for final payment is found valid.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 ADMINISTRATIVE

.1 Schedule and administer project meetings throughout the progress of the work at the call of Departmental Representative.

.2 Prepare agenda for meetings.

.3 Distribute written notice of each meeting four days in advance of meeting date to Departmental Representative.

.4 Provide physical space and make arrangements for meetings if required.

.5 Preside at meetings.

.6 Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.

.7 Reproduce and distribute copies of minutes within three days after meetings and transmit to meeting participants affected parties not in attendance Departmental Representative.

.8 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.2 PRE-CONSTRUCTION MEETING

.1 Within fifteen (15) days after award of Contract request a teleconference meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

.2 Departmental Representative, Consultant, Contractor, major Sub-Contractors, and supervisors will be in attendance.

.3 Establish time of meeting and notify parties concerned minimum five (5) days before meeting.

.4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.

.5 Agenda to include:

.1 Appointment of official representative of participants in the Work.

.2 Schedule of Work: in accordance with Section 01 32 16.07 - Construction Progress Schedules - Bar (GANTT) Chart.

.3 Submittal requirements in accordance with Section 01 33 00 – Submittal Procedures, and Section 01 78 00 – Closeout Submittals.

.4 Site security in accordance with Section 01 56 00- Temporary Barriers and Enclosures.

.5 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.

.6 Record drawings in accordance with Section 01 33 00- Submittal Procedures.

.7 Monthly progress claims, administrative procedures, photographs, hold backs.

.8 Appointment of inspection and testing agencies or firms.

.9 Insurances, transcript of policies.

.10 Appointment of inspection and testing agencies or firms.

.11 Regulatory Issues.

.12 Any other business.

1.3 PROGRESS MEETINGS

.1 During course of Work.

.1 It is anticipated that a kick-off meeting and a substantial completion meeting will be held.

.2 Progress meetings to be held every two weeks during construction.

.2 Contractor, major Subcontractors involved in Work, and Departmental Representative are to be in attendance.

.3 Notify parties minimum five (5) days in advance, if possible.

.4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within two (2) days of the meeting.

.5 Agenda to include the following:

.1 Review, approval of minutes of previous meeting.

.2 Review of Work progress since previous meeting.

.3 Field observations, problems, conflicts.

.4 Problems which impede construction schedule.

.5 Corrective measures and procedures to regain projected schedule.

.6 Revision to construction schedule.

.7 Progress schedule, during succeeding work period.

.8 Review submittal schedules: expedite as required.

.9 Maintenance of quality standards.

.10 Review proposed changes for effect on construction schedule and on completion date.

.11 Other business.

1.4 TAILGATE MEETINGS

.1 Contractor to preside over daily tailgate meetings, with focus on health and safety issues, and the schedule of the upcoming day, with all construction staff and document minutes with daily reporting requirements or change of task.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 DEFINITIONS

.1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.

.2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally, Bar Chart should be derived from commercially available computerized project management system.

.3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.

.4 Construction Work Week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.

.5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.

.6 Milestone: significant event in project, usually completion of major deliverable.

.7 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

1.2 REQUIREMENTS

.1 Ensure Detailed Schedule is practical and remains within specified Contract duration.

.2 Plan to complete Work in accordance with prescribed milestones and time frame.

.3 Limit activity durations to maximum of approximately ten (10) working days, to allow for progress reporting.

.4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00- Submittal Procedures.

.2 Submit Project Schedule to Departmental Representative within five (5) working days of award of contract.

1.4 PROJECT MILESTONES

.1 Project milestones form interim targets for Project Schedule.

.1 Hazardous material abatement.

.2 Itemized Repairs.

.3 Site cleanup.

1.5 PROJECT SCHEDULE

.1 Develop detailed Project Schedule.

.2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:

.1 Award.

.2 Permits.

.3 Mobilization.

.4 Site activities (expand as required to suit project milestones and task activities).

.5 Substantial Completion.

.6 Demobilization.

.7 Closeout submittals.

.8 Final Certificate of Completion.

1.6 PROJECT SCHEDULE REPORTING

.1 Update Project Schedule on bi-weekly basis reflecting activity changes and completions, as well as activities in progress.

.2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.7 PROJECT MEETINGS

.1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

.1 Not Applicable

1.2 ADMINISTRATIVE

.1 Submit to Departmental Representative submittals listed for review. Submittal List (Table 1) is bound into specification section and is for information only. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Do not proceed with Work affected by submittal until review is complete.

.3 Where items or information is not produced in SI Metric units, converted values are acceptable.

.4 Review submittals prior to submission to Departmental Representative. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.

.5 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.6 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.

.7 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative review.

.8 Keep one reviewed copy of each submission on site.

1.3 PHOTOGRAPHIC DOCUMENTATION

.1 Submit electronic copy of colour digital photography in jpg or PDF format, fine resolution monthly with progress statement.

.2 Project identification: name and number of project and date of exposure indicated.

.3 Number of viewpoints: four locations.

.4 Frequency of photographic documentation: minimum daily or as required to chart progress of the Work or as directed by Departmental Representative.

.5 Progress and Final Photographs to be submitted in PDF or equivalent format deemed acceptable by the Departmental Representative.

Table 1
Submittal List

Specification Section	Description	Date
01 11 00	WSIB Letter of Good Standing	Within five (5) days of Award
01 11 00	Notice of Project	Prior to Work Activities
01 11 00	Fall Arrest Training Records	Prior to Work Activities
01 32 16.19	Project Schedule – Baseline	Within five (5) days of Award
01 32 16.19	Project Schedule – Update	With monthly Progress Claim Request
01 33 00	Photographic Documentation	As Required
01 35 29.13	Site Specific Health and Safety Plan	Within fifteen (15) days of Award
01 35 29.13	Emergency Response Plan	As Part of the Health and Safety Plan
01 35 29.13	Spill Contingency Plan	As Part of the Health and Safety Plan
01 35 29.13	Fire Safety Plan	As Part of the Health and Safety Plan
01 35 29.13	Proof of PPE Certification	Prior to Work Activities
01 35 29.13	Report Accidents/Spills	Within 24 hours
01 77 00	Certification of Completed Work	As Work is Completed
01 78 00	Project Records	As Required
02 81 00	WHMIS Safety Data Sheets	Before Bringing Materials to Site
02 82 00	Asbestos Worker Training Documentation	Prior to Work Activities
Drawings	Design of Temporary Works	Prior to Work Activities
Drawings	Shop Drawings & Concrete Mix Design	As Required, prior to Work Activities
Drawings	Testing Reports (Concrete, Geotechnical)	Prior to Payment

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 02 81 00 – Hazardous Materials.

.2 Section 02 82 00.01 – Asbestos Abatement.

1.2 REFERENCE STANDARDS

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations

.2 Province of Ontario

.1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. 1990, c.0.1, as amended and O. Reg. 213/91 as amended - Updated 2005.

.2 O. Reg 278/05: Designated Substances – Asbestos on Construction Projects and in Buildings and Repair Operations.

.3 O. Reg. 490-09: Designated Substances.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit site-specific Health and Safety Plan prior to commencement of Work. Health and Safety Plan must include:

.1 Results of site specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and work activities.

.3 Submit a copy, electronically, of Contractor's authorized representative's work site health and safety inspection reports weekly to Departmental Representative.

.4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

.5 Submit copies of incident and accident reports.

.6 Submit WHMIS Safety Data Sheets (SDS) in accordance with Section 02 81 00 - Hazardous Materials.

.7 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative prior to work activities.

.8 Departmental Representative’s review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

.9 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of

Work, and submit additional certifications for any new site personnel to Departmental Representative.

1.4 FILING OF NOTICE

.1 File Notice of Project with Provincial authorities prior to beginning of Work.

1.5 SAFETY ASSESSMENT

.1 Perform site specific safety hazard assessment related to project.

1.6 MEETINGS

.1 Schedule and administer Health and Safety meetings prior to commencement of Work each day.

1.7 REGULATORY REQUIREMENTS

.1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.8 PROJECT/SITE CONDITIONS

.1 Work at site will involve contact with:

.1 Asbestos.

.2 Lead.

1.9 GENERAL REQUIREMENTS

.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

.2 Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.10 RESPONSIBILITY

.1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

.2 Contractor will be responsible and assume the role Constructor as described in the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.

.3 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.11 COMPLIANCE REQUIREMENTS

.1 Comply with Ontario Occupational Health and Safety Act, R.S.O. 1990, c. 0.1 and Ontario Regulations for Construction Projects, O. Reg. 213/91.

.2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.12 UNFORSEEN HAZARDS

.1 When unforeseen or peculiar safety-related factor, 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 Authority having jurisdiction and advise Departmental Representative verbally and in writing.

1.13 HEALTH AND SAFETY CO-ORDINATOR

.1 Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:

.1 Have working knowledge of occupational safety and health regulations.

.2 Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.

.3 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

.4 Be on site during execution of Work.

1.14 POSTING OF DOCUMENTS

.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Authority having jurisdiction, and in consultation with Departmental Representative.

1.15 CORRECTION OF NON-COMPLIANCE

.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or 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 may stop Work if non-compliance of health and safety regulations is not corrected.

1.16 BLASTING

.1 Blasting or other use of explosives is not permitted without prior receipt of written instruction by Departmental Representative.

1.17 POWDER ACTUATED DEVICES

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

1.18 WORK STOPPAGE

.1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 35 13.43 - Special Project Procedures for Contaminated Sites

.2 Section 01 35 29.06 – Health and Safety Requirements

.3 Section 01 41 00 - Regulatory Requirements

1.2 REFERENCE STANDARDS

.1 Canadian Construction Documents Committee (CCDC)

.2 U.S. Environmental Protection Agency (EPA)/Office of Water

.1 EPA 832/R-92-005-92, Storm Water Management for Construction Activities, Chapter 3.

.2 EPA General Construction Permit (GCP) 2012.

1.3 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 humans; or degrade environment aesthetically, culturally and/or historically.

.2 Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00- Submittal Procedures.

.2 Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Consultant and Departmental Representative.

.3 Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.

.4 Address topics at level of detail commensurate with environmental issue and required construction tasks.

.5 Include in Environmental Protection Plan:

.1 Name[s] of person[s] responsible for ensuring adherence to Environmental Protection Plan.

.2 Name[s] and qualifications of person[s] responsible for manifesting hazardous waste to be removed from site.

.3 Name[s] and qualifications of person[s] responsible for training site personnel.

.4 Descriptions of environmental protection personnel training program.

.5 Erosion and sediment control plan identifying type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.

.6 Drawings indicating locations of proposed temporary material storage areas, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.

.7 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.

.1 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.

.8 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.

.9 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.

.10 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.

.11 Contaminant Prevention Plan identifying 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.

1.5 FIRES

.1 Fires and burning of rubbish on site is not permitted.

1.6 DRAINAGE

.1 Develop and submit Erosion and Sediment Control Plan (ESC) identifying type and location of erosion and sediment controls provided. Plan to include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations

.2 Provide temporary drainage and pumping required to keep excavations and site free from water.

.3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.7 SITE CLEARING AND PLANT PROTECTION

.1 Not applicable.

1.8 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under this Contract.

.2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.

.3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.

1.9 HISTORICAL/ARCHAEOLOGICAL CONTROL

.1 Not applicable.

1.10 NOTIFICATION

.1 Contractor will be notified in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.

.2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.

.1 Take action only after receipt of written approval by Departmental Representative.

.3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.

.4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

.1 Leave Work Area clean at end of each day.

.2 Ensure waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.

.3 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

END OF SECTION

Part 1 General

1.1 SUMMARY

.1 This Section references to laws, by laws, ordinances, rules, regulations, codes, orders of Authority Having Jurisdiction, and other legally enforceable requirements applicable to Work and that are; or become, in force during performance of Work.

1.2 RELATED REQUIREMENTS

.1 Section 02 81 00 – Hazardous Materials

.2 Section 02 82 00.01 – Asbestos Abatement – Minimum Precautions.

1.3 REFERENCES TO REGULATORY REQUIREMENTS

.1 Perform Work in accordance with National Building Code of Canada (NBC) 2015 including all amendments and other codes of Provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.

.2 Specific design and performance requirements listed in specifications or indicated on Drawings may exceed minimum requirements established by referenced Building Code; these requirements will govern over the minimum requirements listed in Building Code

.1 Meet or exceed requirements of:

.1 Contract documents.

.2 Specified standards, codes and referenced documents.

.3 Federal

.1 Meet or exceed the most recent amendments or revisions to the governing codes, standards and guidelines, and regulations applicable to Work and issued under the authority of the Government of Canada including, but not limited to:

.1 Canada Labour Code Part II-Occupational Health and Safety (R.S.1985,c.L-2).

.2 Canada Occupational Health and Safety Regulations (SOR/86-304).

.3 Canadian Environmental Protection Act, (S.C. 1999, c.33).

.4 Controlled Products Regulations (SOR/88-66).

.5 Interprovincial Movement of Hazardous Waste Regulations (SOR/2002-301).

.6 Department of Justice Canada (Jus)/CEPA, 1999 Federal PCB Regulations, (SOR/2008-273).

.7 National Construction, Renovation and Demolition Non-hazardous Solid Waste Management Protocol, PWGSC 2002.

.8 National Fire Code of Canada, 2015.

.9 National Building Code of Canada, 2015.

.10 Ozone Depleting Substances Regulations, 1998 (SOR/99-7).

.11 Halocarbon Regulations, 2003 (SOR/2003-289, SOR/2009-221)

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

.13 Transportation of Dangerous Goods Regulations (SOR/2001-286).

.14 Fisheries Act (R.S., 1985, c. F-14).

.15 Health Canada Guidelines for Canadian Drinking Water Quality, May 2008.

.2 Provincial

.1 Province of Ontario

.1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. 1990, c.0.1, as amended and O. Reg. 213/91 as amended - Updated 2016.

.2 O. Reg. 278/05: Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations.

.3 O. Reg. 490-09: Designated Substances.

.4 O. Reg. 40619: On-site and Excess Soil Management

1.4 PERMITS AND LICENSES

.1 Any deviations from the current abatement plan may require Permit amendments or field authorizations. Notify Owner of any proposed deviations.

.2 Respond to all regulatory inquiries in order to get permits and licenses and provide Owner with a copy of each response.

1.5 QUALITY ASSURANCE

.1 Regulatory Requirements: Except as otherwise specified, Contractor shall apply for, obtain, and pay fees associated with, permits, licenses, certificates, and approvals required by regulatory requirements and Contract Documents, based on General Conditions of Contract and the following:

.1 Regulatory requirements and fees in force on date of Bid submission.

.2 A change in regulatory requirements or fees scheduled to become effective after date of tender submission and of which public notice has been given before date of tender submission.

1.6 WHMIS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of material safety data sheets acceptable to Labour Canada, HRSDC and Health Canada.

.2 Deliver copies of WHMIS data sheets to Departmental Representative.

1.7 SUBMITTALS

.1 All submittals in accordance with Section 01 33 00 - Submittal Procedures.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 INSPECTION

.1 Allow Departmental Representative access to Work.

.2 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Departmental Representative instructions, or law of Place of Work.

.3 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

.4 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction. If such Work is found in accordance with Contract Documents, Departmental Representative shall pay cost of examination and replacement.

1.2 INDEPENDENT INSPECTION AGENCIES

.1 Independent Inspection/Testing Agencies may be engaged by Departmental Representative for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by Departmental Representative.

.2 Provide equipment required for executing inspection and testing by appointed agencies.

.3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.

.4 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Departmental Representative at no cost to Departmental Representative. Pay costs for retesting and re-inspection.

1.3 ACCESS TO WORK

.1 Allow inspection/testing agencies access to Work.

.2 Co-operate to provide reasonable facilities for such access.

1.4 PROCEDURES

.1 Notify appropriate agency Departmental Representative in advance of requirement for tests, in order that attendance arrangements can be made.

1.5 REJECTED WORK

.1 Remove defective Work, whether result of poor workmanship, use of defective products or damage and whether incorporated in Work or not, which has been rejected by

Departmental Representative as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

.2 If, in opinion of Departmental Representative, it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Departmental Representative will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Departmental Representative.

1.6 REPORTS

.1 All submittals in accordance with Section 01 33 00 - Submittal Procedures.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 52 00 – Construction Facilities.

.2 Section 01 56 00 – Temporary Barriers and Enclosures.

1.2 REFERENCE STANDARDS

.1 United States Environmental Protection Agency (EPA)/Office of Water

.1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.4 INSTALLATION AND REMOVAL

.1 Provide temporary utilities controls in order to execute work expeditiously.

.2 Remove from site all such work after use.

1.5 DEWATERING

.1 Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.

1.6 WATER SUPPLY

.1 Provide Temporary water supply as required.

.2 Provide supply of potable and/or non-potable water as required for work activities.

1.7 TEMPORARY HEATING AND VENTILATION

.1 Provide temporary heating and ventilation as required.

1.8 TEMPORARY POWER AND LIGHT

.1 Provide temporary power and light as required.

.2 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal, as required, during work activities.

.3 Provide and maintain temporary lighting as required. Ensure level of illumination on all floors and stairs is not less than 162 lx.

1.9 TEMPORARY COMMUNICATION FACILITIES

.1 Not applicable.

1.10 FIRE PROTECTION

.1 Provide and maintain temporary fire protection equipment during performance of Work required by governing codes, regulations and bylaws.

.2 Burning rubbish and construction waste materials is not permitted.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control plan, specific to site, that complies with EPA 832/R-92-005 and the requirements of authorities having jurisdiction, whichever is more stringent.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction as required.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 51 00 – Temporary Utilities.

.2 Section 01 56 00 – Temporary Barriers and Enclosures.

1.2 REFERENCE STANDARDS

.1 CSA Group (CSA)

.1 CAN/CSA-S269.2-M1987 (R2003), Access Scaffolding for Construction Purposes.

.2 CAN/CSA-Z321-96 (R2001), Signs and Symbols for the Occupational Environment.

.2 Public Works Government Services Canada (PWGSC) Standard Acquisition Clauses and Conditions (SACC)-ID: R0202D, Title: General Conditions 'C', In Effect as of: May 14, 2004.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.4 INSTALLATION AND REMOVAL

.1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.

.2 Identify areas which have to be gravelled to prevent tracking of mud.

.3 Indicate use of supplemental or other staging area.

.4 Provide construction facilities in order to execute work expeditiously.

.5 Remove from site all such work after use.

1.5 SCAFFOLDING

.1 Scaffolding in accordance with CAN/CSA-S269.2.

.2 Provide and maintain ladders, swing staging, temporary stairs, scaffolding, ramps or platforms as required during the works.

1.6 HOISTING

.1 Provide, operate and maintain hoists required for moving of workers, materials and equipment as required.

.2 Hoists, if used, must be operated by qualified operators.

1.7 ELEVATORS

.1 Not applicable.

1.8 SITE STORAGE/LOADING

.1 Refer to CCDC 2, GC 3.12.

.2 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.

.3 Do not load or permit to load any part of Work with weight or force that will endanger Work.

1.9 CONSTRUCTION PARKING

.1 Parking will be permitted on site, provided it does not disrupt performance of Work or continuing CCG Base operations.

.2 Provide and maintain adequate access to project site.

.3 Clean runways and taxi areas where used by Contractor's equipment.

1.10 SECURITY

.1 Site access to comply with CCG Base security procedures.

1.11 OFFICES

.1 Provide office trailer if required.

1.12 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.

.2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.

1.13 SANITARY FACILITIES

.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.

.2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.

1.14 CONSTRUCTION SIGNAGE

.1 No other signs or advertisements, other than warning signs, are permitted on site.

.2 Maintain approved signs and notices in good condition for duration of project, and dispose of off-site on completion of project or earlier if directed by Departmental Representative.

1.15 PROTECTION AND MAINTENANCE OF TRAFFIC

.1 Provide access as necessary to maintain traffic.

.2 Provide measures for protection and diversion of traffic, including provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs as required.

.3 Protect travelling personnel from damage to person and property.

.4 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.

.5 Verify adequacy of existing roads and allowable load limit on these roads. Contractor: responsible for repair of damage to roads caused by construction operations.

.6 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.

.7 Dust control: adequate to ensure safe operation at all times.

.8 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.

.9 Provide snow removal during period of Work as necessary.

1.16 CLEAN-UP

.1 Remove construction debris, waste materials, packaging material from work site daily.

.2 Clean dirt or mud tracked onto paved or surfaced roadways.

.3 Store materials resulting from demolition activities that are salvageable.

.4 Stack stored new or salvaged material not in construction facilities.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and

waterways, according to sediment and erosion control plan, specific to site, that complies with EPA 832/R-92-005 and requirements of authorities having jurisdiction, whichever is more stringent.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction as required.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 51 00 – Temporary Utilities.

.2 Section 01 52 00 – Construction Facilities.

1.2 INSTALLATION AND REMOVAL

.1 Provide temporary controls in order to execute Work expeditiously.

.2 Remove from site all such work after use.

1.3 HOARDING

.1 Erect temporary site enclosure using 2.0 m high (minimum height) welded wire fabric (11 minimum gauge wire) attached to steel fence posts spaced at 2.4 m on centre. Provide one lockable truck gate. Maintain fence in good repair.

.2 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

1.4 GUARD RAILS AND BARRICADES

.1 Provide secure, rigid guard rails and barricades around deep excavations.

.2 Provide as indicated and as required by governing authorities.

1.5 ACCESS TO SITE

.1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.6 PUBLIC TRAFFIC FLOW

.1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public and premise users.

1.7 FIRE ROUTES

.1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.8 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

.1 Protect surrounding private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

1.9 PROTECTION OF BUILDING FINISHES

.1 Provide protection for equipment during performance of Work.

.2 Provide necessary screens, covers, and hoardings.

.3 Confirm with Departmental Representative locations and installation schedule of temporary barriers and enclosures three (3) days minimum prior to installation.

.4 Be responsible for damage incurred due to lack of or improper protection.

.5 Repair and restore damage as required.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 01 45 00 – Quality Control.

.2 Section 01 74 19 – Waste Management and Disposal

1.2 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Departmental Representative or other Contractors.

.2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials.

.3 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.4 Dispose of waste materials and debris.

.5 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

.6 Provide adequate ventilation during use of volatile or noxious substances.

.7 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.8 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.3 FINAL CLEANING

.1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.3 Prior to final review remove surplus products, tools, construction machinery and equipment.

.4 Remove waste products and debris including other than that caused by Departmental Representative or other Contractors.

.5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative. Do not burn waste materials.

.6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.7 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.

.8 Sweep and wash clean paved areas.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 SUMMARY

.1 This Section includes requirements for management of construction waste and disposal, which forms the Contractor's commitment to reduce and divert waste materials from landfill.

.2 This project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors from Contractor.

1.2 RELATED REQUIREMENTS

.1 Section 01 41 00 – Regulatory Requirements

.2 Section 01 51 00 - Temporary Utilities

.3 Section 01 52 00 - Construction Facilities

1.3 REFERENCE STANDARDS

.1 ASTM International (ASTM)

.1 ASTM E1609 01, Standard Guide for Development and Implementation of a Pollution Prevention Program

.2 Recycling Certification Institute (RCI):

.1 RCI Certification Construction and Demolition Materials Recycling

1.4 DEFINITIONS

.1 Clean Waste: Untreated and unpainted; not contaminated with oils, solvents, sealants or similar materials.

.2 Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, operations, repair and demolition.

.3 Hazardous: Exhibiting the characteristics of hazardous substances including properties such as ignitability, corrosiveness, toxicity or reactivity.

.4 Non hazardous: Exhibiting none of the characteristics of hazardous substances, including properties such as ignitability, corrosiveness, toxicity, or reactivity.

.5 Non toxic: Not poisonous to humans either immediately or after a long period of exposure.

.6 Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

.7 Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

.8 Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form; recycling does not include burning, incinerating, or thermally destroying waste.

.9 Return: To give back reusable items or unused products to vendors for credit.

.10 Reuse: To reuse a construction waste material in some manner on the project site.

.11 Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

.12 Sediment: Soil and other debris that has been eroded and transported by storm or well production run off water.

.13 Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

.14 Toxic: Poisonous to humans either immediately or after a long period of exposure.

.15 Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

.16 Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products over time through outgassing:

.1 Solvents in paints and other coatings;

.2 Wood preservatives; strippers and household cleaners;

.3 Adhesives in particleboard, fiberboard, and some plywood; and foam insulation.

.4 When released, VOC's can contribute to the formation of smog and can cause respiratory tract problems, headaches, eye irritations, nausea, damage to the liver, kidneys, and central nervous system, and possibly cancer.

.17 Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.5 ADMINISTRATIVE REQUIREMENTS

.1 Coordination: Coordinate waste management requirements with all Divisions of the Work for the project, and ensure that requirements of authority having jurisdiction are met.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide required information in accordance with Section 01 33 00 - Submittal Procedures.

1.7 DELIVERY, STORAGE AND HANDLING

.1 Storage Requirements: Implement a recycling/reuse program that includes separate collection of waste materials as appropriate to the project waste and the available recycling and reuse programs in the project area.

.2 Handling Requirements: Clean materials that are contaminated before placing in collection containers and ensure that waste destined for landfill does not get mixed in with recycled materials:

.1 Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling process.

.2 Arrange for collection by or delivery to the appropriate recycling or reuse facility.

.3 Hazardous Waste and Hazardous Materials: Handle in accordance with applicable regulations.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

.1 Not applicable.

1.2 ADMINISTRATIVE REQUIREMENTS

.1 Acceptance of Work Procedures:

.1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.

.1 Notify Departmental Representative in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.

.2 Request Departmental Representative inspection.

.2 Departmental Representative Inspection:

.1 Departmental Representative and Contractor to inspect Work and identify defects and deficiencies.

.2 Contractor to correct Work as directed.

.3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:

.1 Work: completed and inspected for compliance with Contract Documents.

.2 Defects: corrected and deficiencies completed.

.3 Work: complete and ready for final inspection.

.4 Final Inspection:

.1 When completion tasks are done, request final inspection of Work by Departmental Representative, and Contractor.

.2 When Work incomplete according to Departmental Representative, complete outstanding items and request re-inspection.

.5 Declaration of Substantial Performance: when Departmental Representative considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.

.6 Final Payment:

.1 When Departmental Representative considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.

1.3 FINAL CLEANING

.1 Clean in accordance with Section 01 74 00 - Cleaning.

.1 Remove surplus materials, excess materials, rubbish, tools and equipment.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

.1 Not applicable.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.3 FORMAT

.1 Organize data in summary report format in electronic form

.2 List title of project and identify subject matter of contents.

.3 Arrange content by sites features under Section numbers and sequence of Table of Contents.

1.4 CONTENTS - PROJECT RECORD DOCUMENTS

.1 Table of Contents: provide title of project:

- .1 Date of submission; names.
- .2 Addresses, and telephone numbers of Contractor with name of responsible parties.
- .3 Summary of Health and Safety issues, Environmental issues and performance indicators.
- .4 Summary table showing amounts of each type of waste.
- .5 Waste acceptance certificates (hazardous and non-hazardous).
- .6 All Submittals.
- .7 Photographs as per Section 01 33 00 – Submittal Procedures.

1.5 AS -BUILT DOCUMENTS AND SAMPLES

.1 Maintain, in addition to requirements in General Conditions at site for Departmental Representative one record copy of:

- .1 Contract Drawings.
- .2 Specifications.
- .3 Addenda.
- .4 Change Orders and other modifications to Contract.
- .5 Reviewed shop drawings, product data, and samples.
- .6 Field test records.
- .7 Inspection certificates.

.2 Store record documents and samples in field office apart from documents used for construction.

.3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual.

.1 Label each document "PROJECT RECORD" in neat, large, printed letters.

.4 Maintain record documents in clean, dry and legible condition.

.1 Do not use record documents for construction purposes.

1.6 RECORDING INFORMATION ON PROJECT RECORD DOCUMENTS

.1 Record information on set of black line opaque drawings, and in copy of Project Manual.

.2 Use felt tip marking pens, maintaining separate colours for each major system, for recording information.

.3 Record information concurrently with construction progress.

.1 Do not conceal Work until required information is recorded.

.4 Contract Drawings and shop drawings: mark each item to record actual construction, including:

.1 Field changes of dimension and detail.

.2 Changes made by change orders.

.3 Details not on original Contract Drawings.

.5 Other Documents: maintain field test records required by individual specifications sections.

.6 Provide digital photos for site records, as per Section 01 33 00 Submittal Procedures.

1.7 RECORD DRAWINGS

.1 Departmental Representative will provide to Contractor, one set of white prints for record drawing purposes.

.2 Maintain Project record drawings and record accurately deviations from Contract documents on one set of prints.

.3 Record changes in red.

.4 At completion of Project and prior to final inspection, neatly transfer record notations to second set of drawings and submit both sets to Departmental Representative. Forward information on completed areas at the end of the construction season.

1.8 OTHER RECORDS

.1 Prior to completion of Project, submit the following to the Departmental Representative:

.1 Copies of all documents and permits obtained by the Contractor.

.2 Results of all testing carried out by the Contractor.

.3 Any other pertinent information.

.4 Copies of all shipping documents identifying the shipper, the receiver and all carriers involved in the transport of materials.

.5 Information as required by the authority having jurisdiction.

.6 Information as required by other applicable permits.

.2 Consolidate the above information in one document and submit to the Departmental Representative.

Part 2 Products

2.1 NOT USED

.1 Not Used.

Part 3 Execution

3.1 NOT USED

.1 Not Used.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 02 82 00.01 – Asbestos Abatement – Minimum Precautions

.2 Section 02 83 10 – Lead Based Paint Abatement – Minimum Precautions

.3 Section 02 84 00 – Polychlorinated Biphenyl Remediation

1.2 REFERENCE STANDARDS

.1 Canadian Environmental Protection Act, 1999 (CEPA 1999).

.1 Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2005-149).

.2 Department of Justice Canada (Jus).

.1 Transportation of Dangerous Goods Act, 1992 (TDG Act) 1992, (c. 34).

.2 Transportation of Dangerous Goods Regulations (T-19.01-SOR/2001-286).

.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)/Globally Harmonized System (GHS).

.1 Safety Data Sheets (SDS).

.4 National Research Council Canada (NRC).

.1 National Fire Code of Canada 2015 (NFC).

.5 National Building Code of Canada (NBC), Part 8 - Safety Measures at Construction and Demolition Sites (2015).

.6 Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations, SOR/2005-149.

1.3 DEFINITIONS

.1 Dangerous Goods: product, substance, or organism specifically listed or meets hazard criteria established in Transportation of Dangerous Goods Regulations.

.2 Hazardous Material: product, substance, or organism used for its original purpose; and is either dangerous goods or material that will cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into environment.

.3 Hazardous Waste: hazardous material no longer used for its original purpose and must be intended for recycling, treatment or disposal.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for hazardous materials and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit two copies of WHMIS MSDS to Departmental Representative for each hazardous material required prior to bringing hazardous material on site.

.3 Submit hazardous materials management plan to Departmental Representative that identifies hazardous materials, usage, location, personal protective equipment requirements, and disposal arrangements.

.4 Hazardous waste classification: identify waste codes applicable to each hazardous waste material based on applicable federal and provincial acts, regulations, and guidelines. Waste profiles, analyses, and classification submitted to contract offices for review and approval.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Transport hazardous materials and wastes in accordance with Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and Ontario regulations.

.4 Storage and Handling Requirements:

.1 Co-ordinate storage of hazardous materials with Departmental Representative and abide by internal requirements for labelling and storage of materials and wastes.

.2 Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.

.3 Store and handle flammable and combustible materials in accordance with National Fire Code of Canada (NFC) requirements.

.4 Keep no more than 45 litres of flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use.

.1 Store flammable and combustible liquids in approved safety cans bearing the Underwriters' Laboratory of Canada or Factory Mutual seal of approval.

.2 Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Departmental Representative.

.5 Transfer of flammable and combustible liquids is prohibited within buildings.

.6 Transfer flammable and combustible liquids away from open flames or heat-producing devices.

.7 Solvents or cleaning agents shall be non-flammable or have flash point above 38 degrees C.

.8 Store flammable and combustible waste liquids for disposal in approved containers located in safe, ventilated area. Keep quantities to minimum.

.9 Smoking is prohibited onsite.

.10 Storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 litres for liquids:

.1 Store hazardous materials and wastes in closed and sealed containers.

.2 Label containers of hazardous materials and wastes in accordance with WHMIS.

.3 Store hazardous materials and wastes in containers compatible with that material or waste.

.4 Segregate incompatible materials and wastes.

.5 Ensure that different hazardous materials or hazardous wastes are stored in separate containers.

.6 Store hazardous materials and wastes in secure storage area with controlled access.

.7 Maintain clear egress from storage area.

.8 Store hazardous materials and wastes in location that will prevent them from spilling into environment.

.9 Have appropriate emergency spill response equipment available near storage area, including personal protective equipment.

.10 Maintain inventory of hazardous materials and wastes, including product name, quantity, and date when storage began.

.11 When hazardous waste is generated on site:

.1 Co-ordinate transportation and disposal with Departmental Representative.

.2 Comply with applicable federal, provincial and municipal laws and regulations for generators of hazardous waste.

.3 Use licensed carrier authorized by provincial authorities to accept subject material.

.4 Before shipping material obtain written notice from intended hazardous waste treatment or disposal facility it will accept material and it is licensed to accept this material.

.5 Label containers with legible, visible safety marks as prescribed by federal and territorial/provincial regulations.

.6 Only trained personnel, certification to be provided, and handle, offer for transport, or transport dangerous goods, provide training certification.

.7 Provide photocopy of shipping documents and waste manifests to Departmental Representative with application for progress payment.

.8 Track receipt of completed manifest from consignee after shipping dangerous goods. Provide photocopy of completed manifest to Departmental Representative during project close-out.

.9 Report discharge, emission, or escape of hazardous materials immediately to Departmental Representative and appropriate provincial authority. Take reasonable measures to control release.

.11 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements.

.12 Report spills or accidents immediately to Departmental Representative. Submit a written spill report to Departmental Representative within 24 hours of incident.

Part 2 Products

2.1 MATERIALS

.1 Description:

.1 Bring on site only quantities hazardous material required to perform Work.

.2 Maintain MSDS and WHMIS and Emergency Spill Response Plan, in proximity to where materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

.3 Spill Response Materials: provide spill response materials which can be used for absorbing/shoveling and containing hazardous materials.

.4 Provide personal protective equipment.

Part 3 Execution

3.1 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 11- Cleaning.

.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11- Cleaning.

.3 Waste Management:

.1 Dispose of hazardous waste materials in accordance with applicable federal and provincial acts, regulations, and guidelines.

.2 Recycle hazardous wastes for which there is approved, cost effective recycling process available.

.3 Send hazardous wastes to authorized hazardous waste disposal or treatment facilities.

.4 Burning, diluting, or mixing hazardous wastes for purpose of disposal is prohibited.

.5 Disposal of hazardous materials in waterways, storm or sanitary sewers, or in municipal solid waste landfills is prohibited.

.6 Dispose of hazardous wastes in timely fashion in accordance with applicable provincial regulations.

.7 Minimize generation of hazardous waste to maximum extent practicable. Take necessary precautions to avoid mixing clean and contaminated wastes.

END OF SECTION

Part 1 General

1.1 SUMMARY

.1 Requirements and procedures for asbestos abatement on non-friable asbestos-containing materials.

.2 Comply with requirements of this Section when performing following work:

.1 Break, cut, grind, drill, scrape, vibrate or abrade non-friable asbestos containing materials using non-powered hand-held tools, and the material is wetted to control the spread of dust or fibres.

1.2 RELATED REQUIREMENTS

.1 Section 01 74 19 – Waste Management and Disposal.

1.3 REFERENCE STANDARDS

.1 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-1.205-94, Sealer for Application to Asbestos-Fibre-Releasing Materials.

.2 CSA Group (CSA)

.3 Department of Justice Canada.

.1 Canadian Environmental Protection Act (CEPA), 1999.

.4 Government of Ontario

.1 Ministry of Labour (MOL), Designated Substances, O. Reg. 490/09

.2 Ministry of Labour (MOL), Designated Substances – Asbestos on Construction Projects and in Buildings and Repair Operations, O. Reg. 278/05

.3 Occupational Health and Safety Act, R.S.O., 190 c. 0.1.

.5 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Material Safety Data Sheets (MSDS).

.6 Transport Canada (TC).

.1 Transportation of Dangerous Goods Act, 1992 (TDGA).

.7 Underwriters' Laboratories of Canada (ULC).

1.4 DEFINITIONS

.1 Amended Water: water with a non-ionic surfactant wetting agent added to reduce water tension to allow wetting of fibres.

.2 Asbestos Containing Materials (ACMs): materials that contain provincially regulated amount 0.5 per cent or more asbestos by dry weight and are identified under Existing

Conditions including fallen materials and settled dust. Material identified by an appropriate laboratory analytical method (e.g., EPA 600/R-93/116, NIOSH 9000 or NIOSH 9002) to contain at least 0.5 per cent of any type of asbestos that is identified to contain any amount of asbestos using EPA method 600/R-04/004 if other analytical methods do not identify the presence of asbestos.

.3 Asbestos Work Areas: area where work takes place which will, or may disturb ACMs.

.4 Authorized Visitors: Departmental Representative, and representatives of regulatory agencies.

.5 Competent worker: in relation to specific work, means a worker who:

.1 Is qualified because of knowledge, training and experience to perform the work.

.2 Is familiar with the Provincial and Federal laws and with the provisions of the regulations that apply to the work.

.3 Has knowledge of all potential or actual danger to health or safety in the work.

.6 Fibre:

.1 Means a fibre that is more than five micrometres in length and that has a length-to-width ratio of not less than three to one as viewed in a phase-contrast optical microscope at four to five hundred magnification.

.7 Fibre/cm: Number of fibres observed per cubic centimetre of air.

.8 Friable material: means material that:

.1 When dry, can be crumbled, pulverized or powdered by hand pressure, or is crumbled, pulverized or powdered.

.9 Non-Friable Material: material that when dry cannot be crumbled, pulverized or powdered by hand pressure.

.10 Glove Bag: prefabricated glove bag as follows:

.1 Minimum thickness 0.25 mm (10 mil) polyvinyl-chloride bag.

.2 Integral 0.25 mm (10 mil) thick polyvinyl-chloride gloves and elastic ports.

.3 Equipped with reversible double pull double throw zipper on top and at approximately mid-section of the bag.

.4 Straps for sealing ends around pipe.

.11 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.

.12 Occupied Area: any area of the building or work site that is outside Asbestos Work Area.

.13 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects, over cuts and tears, and elsewhere as required to provide protection and isolation.

.14 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must have appropriate capacity for work.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submittals in accordance with Section 01 33 00 – Submittal Procedures.

.2 Before beginning work:

.1 Obtain from appropriate agency and submit to Departmental Representative necessary permits for transportation and disposal of asbestos waste at least five (5) days before work commences. Ensure that landfill operator is fully aware of hazardous nature of material being disposed and proper methods of disposal. Submit proof satisfactory to Departmental Representative that suitable arrangements have been made to receive and properly dispose of asbestos waste.

.2 Submit proof satisfactory to Departmental Representative that all asbestos workers have received appropriate training and education by a competent person on hazards of asbestos exposure, good personal hygiene, entry and exit from Asbestos Work Area, aspects of work procedures and protective measures while working in Asbestos Work Areas, and the use, cleaning and disposal of respirators and protective clothing. Submit proof of attendance in form of certificate.

.3 Ensure supervisory personnel have attended asbestos abatement course, of not less than two days duration, documentation to be provided to Departmental Representative. Submit proof of attendance in form of certificate. Minimum of one Supervisor for every ten (10) workers.

.4 Submit proof satisfactory to Departmental Representative that employees have respirator fitting and testing. Workers must be fit tested (irritant smoke test) with respirator that is personally issued.

.5 Submit documentation including test results, fire and flammability data, and Material Safety Data Sheets (MSDS) for chemicals or materials including but not limited to following:

.1 Encapsulants.

.2 Amended water.

.6 Slow drying sealer.

1.6 QUALITY ASSURANCE

.1 Regulatory Requirements: comply with Federal, Provincial, and local requirements pertaining to asbestos, provided that in case of conflict among these requirements or with these specifications, more stringent requirement applies. Comply with regulations in effect at time Work is performed.

.2 Health and Safety:

.1 Do construction occupational health and safety in accordance with Section 01 35 29.06 – Health and Safety Requirements.

.2 Safety Requirements: worker and visitor protection.

.1 Protective equipment and clothing to be worn by workers while in Asbestos Work Area include:

.1 Air purifying half-mask respirator with N-100, R-100 or P-100 particulate filter, personally issued to worker and marked as to efficiency and purpose, suitable for protection against asbestos and acceptable to Provincial Authority having jurisdiction. The respirator to be fitted so that there is an effective seal between the respirator and the worker's face, unless the respirator is equipped with a hood or helmet. The respirator to be cleaned, disinfected and inspected after use on each shift, or more often if necessary, when issued for the exclusive use of one worker, or after each use when used by more than one worker. The respirator to have damaged or deteriorated parts replaced prior to being used by a worker; and, when not in use, to be stored in a convenient, clean and sanitary location. The employer to establish written procedures regarding the selection, use and care of respirators, and a copy of the procedures to be provided to and reviewed with each worker who is required to wear a respirator. A worker not to be assigned to an operation requiring the use of a respirator unless he or she is physically able to perform the operation while using the respirator.

.2 Disposable-type protective clothing that does not readily retain or permit penetration of asbestos fibres. Protective clothing to be provided by the employer and worn by every worker and site visitor who enters the work area, and the protective clothing shall consist of a head covering and full body covering that fits snugly at the ankles, wrists and neck, in order to prevent asbestos fibres from reaching the garments and skin under the protective clothing to include suitable footwear, and to be repaired or replaced if torn.

.2 Eating, drinking, chewing, and smoking are not permitted in Asbestos Work Area.

.3 Before leaving Asbestos Work Area, the worker can decontaminate his or her protective clothing by using a vacuum equipped with a HEPA filter, or by damp wiping, before removing the protective clothing, or, if the protective clothing will not be reused, place it in a container for dust and waste. The container to be dust tight, suitable for asbestos waste, impervious to asbestos, identified as asbestos waste, cleaned with a damp cloth or a vacuum equipped with a HEPA filter immediately before removal from the work area, and removed from the work area frequently and at regular intervals.

.4 Facilities for washing hands and face shall be provided within or close to the Asbestos Work Area.

.5 Contractor responsible for Contractor’s hard hats, safety boots and other protective apparel required by applicable construction safety regulations.

.6 Ensure workers wash hands and face when leaving Asbestos Work Area.

.7 Ensure that no person required to enter an Asbestos Work Area has facial hair that affects seal between respirator and face.

1.7 WASTE MANAGEMENT AND DISPOSAL

.1 Waste asbestos cannot be reused or recycled. All waste asbestos generated through this abatement project shall be disposed of at a licensed landfill. Non-friable waste asbestos will most likely become friable material once disturbed during the abatement process.

.2 Collect and separate for disposal paper, packaging materials, steel, aluminum, plastic, and corrugated cardboard packaging material in appropriate on-site bins for recycling.

.3 Place materials defined as hazardous in designated containers.

.4 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Provincial, and Municipal regulations.

.5 Disposal of asbestos waste generated by removal activities must comply with Federal, Provincial and Municipal regulations. Dispose of asbestos waste in sealed double thickness 6 ml bags or leak proof drums. Label containers with appropriate warning labels.

.6 Provide manifests describing and listing waste created. Transport containers by approved means to licensed landfill for burial.

.7 Asbestos waste must be stored, transported and disposed of in sealed containers that are impervious to asbestos and asbestos waste and acceptable by the Transportation of Dangerous Goods Act. The classification, packaging, labeling and placarding of this waste must conform to the federal and territorial Transportation of Dangerous Goods Act and Regulations.

.8 Removal is a necessary pre-requisite for demolition of a building containing asbestos-containing materials (ACM). Obtain written approval from the Departmental Representative following abatement and removal of ACM and prior to the initiation of demolition.

1.8 EXISTING CONDITIONS

.1 Results of tests of asbestos containing materials to be handled, removed, or otherwise disturbed and disposed of during this Project are summarized in the Designated Substances Survey, found bound to these specifications as Appendix B.

.2 Notify Departmental Representative of suspect asbestos containing material discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material until instructed by Departmental Representative.

.3 In the event that a suspect regulated building material is encountered, Contractor to contact the Departmental Representative immediately. Sampling of a suspected regulated building material is to be completed by a qualified third party at the direction of the Departmental Representative.

.4 General locations and descriptions of non-friable asbestos containing materials are as follows:

.1 Grey transite board in storage building, 20% chrysotile asbestos (approximately 8 m^2)

1.9 SCHEDULING

.1 Not later than seven (7) days before beginning Work on this Project notify following in writing:

.1 Authorities having Jurisdiction.

.2 Ontario Ministry of Labour

.3 Disposal Authority.

.2 Inform sub-trades of presence of asbestos containing materials identified in Existing Conditions before beginning work.

.3 Submit to Departmental Representative copy of notifications prior to start of Work.

.4 Hours of Work: perform work involving asbestos abatement located at the site during normal working hours.

.5 Notify all agencies involved in asbestos abatement.

1.10 PERSONNEL TRAINING

.1 Before beginning Work, provide to Departmental Representative satisfactory proof that every worker has had instruction and training in hazards of asbestos exposure, in personal hygiene including dress and showers, in entry and exit from Asbestos Work Area, in aspects of work procedures including glove bag procedures, and in use, cleaning, and disposal of respirators and protective clothing.

.2 Instruction and training related to respirators includes, at minimum:

.1 Proper fitting of equipment.

.2 Inspection and maintenance of equipment.

.3 Disinfecting of equipment.

.4 Limitations of equipment.

.3 Instruction and training must be provided by competent, qualified person.

.4 Supervisory personnel to complete required training.

Part 2 Products

2.1 MATERIALS

.1 Drop Sheets:

.1 Polyethylene: 0.15 mm thick.

.2 FR polyethylene: 0.15 mm thick woven fibre reinforced fabric bonded both sides with polyethylene.

.2 Glove bag:

.1 Acceptable materials: Safe-T-Strip products in configuration suitable for Work, or Alternative material approved by addendum during tendering period in accordance with Instructions to Tenderers.

.2 The glove bag to be equipped with:

.1 Sleeves and gloves that are permanently sealed to the body of the bag to allow the worker to access and deal with the insulation and maintain a sealed enclosure throughout the work period.

.2 Valves or openings to allow insertion of a vacuum hose and the nozzle of a water sprayer while maintaining the seal to the pipe, duct or similar structure.

.3 A tool pouch with a drain.

.4 A seamless bottom and a means of sealing off the lower portion of the bag.

.5 A high strength double throw zipper and removable straps, if the bag is to be moved during the removal operation.

.3 Wetting Agent: 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with water in a concentration to provide thorough wetting of asbestos-containing material.

.4 Waste Containers: contain waste in two separate containers.

.1 Inner container: 0.15 mm thick sealable polyethylene waste bag.

.2 Outer container: sealable metal or fibre type where there are sharp objects included in waste material; otherwise outer container may be sealable metal or fibre type or second 0.15 mm thick sealable polyethylene bag.

.3 Labelling requirements: affix pre-printed cautionary asbestos warning in both official languages that is visible when ready for removal to disposal site.

.5 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual asbestos fibres.

.6 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under both dry conditions and wet conditions using amended water.

Part 3 Execution

3.1 PROCEDURES

.1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.2 Before beginning Work, isolate Asbestos Work Area using, minimum, preprinted cautionary asbestos warning signs in both official languages that are visible at access routes to Asbestos Work Area.

.1 Remove visible dust from surfaces in the work area where dust is likely to be disturbed during course of work.

.2 Use HEPA vacuum or damp cloths where damp cleaning does not create a hazard and is otherwise appropriate.

.3 Do not use compressed air to clean up or remove dust from any surface.

.3 Prevent spread of dust from Asbestos Work Area using measures appropriate to work to be done.

.1 Use FR polyethylene drop sheets that absorbs dust in Asbestos Work Area where dust and contamination cannot otherwise be safely contained. Drop sheets are not to be reused.

.4 Wet materials containing asbestos to be cut, ground, abraded, scraped, drilled, or otherwise disturbed unless wetting creates hazard or causes damage.

.1 Use garden reservoir type low - velocity fine - mist sprayer.

.2 Perform Work to reduce dust creation to lowest levels practicable.

.3 Work will be subject to visual inspection and third party air monitoring.

.4 Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas.

.5 Frequently and at regular intervals during Work and immediately on completion of work:

.1 Dust and waste to be cleaned up and removed using a vacuum equipped with a HEPA filter, or by damp mopping or wet sweeping, and placed in a waste container.

.2 Drop sheets to be wetted and placed in a waste container as soon as practicable.

3.2 ASBESTOS REMOVAL

.1 Before removing asbestos:

.1 Prepare site.

.2 Spray asbestos material with water containing specified wetting agent, using airless spray equipment capable of providing "mist" application to prevent release of fibres. Saturate asbestos material sufficiently to wet it to substrate without causing excess dripping. Spray asbestos material repeatedly during work process to maintain saturation and to minimize asbestos fibre dispersion.

.2 Remove saturated asbestos material in small sections. Do not allow saturated asbestos to dry out. As it is being removed pack material in sealable plastic bags 0.15 mm minimum thick and place in labelled containers for transport.

.3 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove from immediate working area to Staging Area. Clean external surfaces thoroughly again by wet sponging before moving containers to decontamination Washroom. Wash containers thoroughly in decontamination Washroom, and store in Holding Room pending removal to Unloading Room and outside. Ensure that containers are removed from Holding Room by workers who have entered from uncontaminated areas dressed in clean coveralls.

.4 After completion of stripping work, wire brushed and wet sponged surfaces from which asbestos has been removed to remove visible material. During this work keep surfaces wet.

.5 Work is subject to visual inspection and air monitoring. Contamination of surrounding areas indicated by visual inspection or air monitoring will require complete enclosure and clean-up of affected areas. Costs for enclosure, clean-up and monitoring to be paid for by the Contractor.

.6 Cleanup:

.1 Place dust and asbestos containing waste in sealed dust-tight waste bags. Treat drop sheets and disposable protective clothing as asbestos waste; wet and fold these items to contain dust, and then place in plastic bags.

.2 Clean exterior of each waste-filled bag using damp cloths or HEPA vacuum and place in second clean waste bag immediately prior to removal from Asbestos Work Area.

.3 Seal waste bags and remove from site. Dispose of in accordance with requirements of Provincial and Federal Authority having jurisdiction. Supervise dumping and ensure that dump operator is fully aware of hazardous nature of material to be dumped and that the appropriate guidelines and regulations for asbestos disposal are followed.

.4 Perform final thorough clean-up of Work areas and adjacent areas affected by Work using HEPA vacuum.

3.3 FINAL CLEANUP

.1 Following cleaning specified in 3.2.6 above proceed with final cleanup.

.2 Remove polyethylene sheets by rolling away to centre of Asbestos Work Area. Vacuum visible asbestos containing particles observed during cleanup, immediately, using HEPA vacuum equipment.

.3 Place polyethylene seals, tape, cleaning material, clothing, and other contaminated waste in plastic bags and sealed labelled waste containers for transport.

.4 Include in clean-up sealed waste containers and equipment used in Work and remove from Asbestos Work Areas, via Container and Equipment Decontamination Enclosure System, at appropriate time in cleaning sequence.

.5 Conduct final check to ensure that no dust or debris remains on surfaces as result of dismantling operations. Repeat cleaning using HEPA vacuum equipment, or wet cleaning methods where feasible, in conjunction with check until levels meet this criteria.

.6 As work progresses, and to prevent exceeding available storage capacity on site, remove sealed and labelled containers containing asbestos waste and dispose of to authorized disposal area in accordance with requirements of disposal authority. Ensure that each shipment of containers transported to licensed disposal facility is accompanied by Contractor's representative to ensure that dumping is done in accordance with governing regulations.

.7 Perform inspection of Asbestos Work Area to confirm compliance with specification and governing authority requirements. Deviation from these requirements that have not been approved in writing by the Department Representative may result in Work stoppage, at no cost to Departmental Representative.

3.4 INSPECTION

.1 The Department Representative will inspect Work for:

.1 Adherence to specific procedures and materials.

.2 Final cleanliness and completion.

.3 No additional costs will be allowed by Contractor for additional labour or materials required to abate specified asbestos containing materials.

.2 When asbestos leakage from Asbestos Work Area has occurred or is likely to occur the Department Representative may order Work shutdown. No additional costs will be allowed by Contractor for additional labour or materials required to provide specified performance level.

.3 The Contractor must immediately stop work and provide written notification to the Departmental Representative and designated Ministry of Labour (MOL) Inspector if additional materials not previously identified are encountered and suspected of being an asbestos-containing material.

END OF SECTION

Part 1 General

1.1 SUMMARY

.1 Comply with requirements of this Section when performing following Work:

.1 Removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap on walls or as indicated on drawings.

.2 Removal of lead-containing coatings or materials using a power tool with an effective dust collection system equipped with a HEPA filter on walls or as indicated on drawings.

.3 Removal of lead-containing coatings or materials with non-powered hand tool, other than manual scraping and sanding on walls or as indicated on drawings.

1.2 RELATED REQUIREMENTS

.1 Section 01 74 19 – Waste Management and Disposal.

1.3 REFERENCE STANDARDS

.1 Department of Justice Canada

.1 Canadian Environmental Protection Act, 1999 (CEPA).

.2 Health Canada

.1 Workplace Hazardous Materials Information System (WHMIS).

.1 Safety Data Sheets (SDS).

.3 Human Resources and Social Development Canada (HRSDC)

.1 Canada Labour Code Part II, - SOR 86-304 - Occupational Health and Safety Regulations.

.4 Transport Canada (TC)

.1 Transportation of Dangerous Goods Act, 1992 (TDGA).

.5 United States Environmental Protection Agency (EPA)

.1 EPA 747-R-95-007-1995, Sampling House Dust for Lead.

.6 U.S. Department of Health and Human Services/Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health (NIOSH)

.1 NIOSH 94-113 - NIOSH Manual of Analytical Methods (NMAM), 4th Edition (1994).

.7 U.S. Department of Labour - Occupational Safety and Health Administration (OSHA) - Toxic and Hazardous Substances

.1 Lead in Construction Regulation - 29 CFR 1926.62-1993.

.8 Underwriters' Laboratories of Canada (ULC)

.9 Province of Ontario

.1 Environment Council of Ontario (EACO)

.1 Lead Guideline for Construction, Renovation, Maintenance or Repair, October 2014.

.2 Ontario Ministry of Labour

.1 Occupational Health and Safety Branch, Guideline Lead On Construction Projects, September 2004, and O. Reg. 490/09 respecting Designated Substances - Lead made under the Occupational Health and Safety Act as amended by O. Reg. 148/12 and O. Reg. 149/12.

1.4 DEFINITIONS

.1 HEPA vacuum: High Efficiency Particulate Air filtered vacuum equipment with a filter system capable of collecting and retaining fibres greater than 0.3 microns in any direction at 99.97% efficiency.

.2 Authorized Visitors: Departmental Representative or designated representative[s].

.3 Polyethylene: polyethylene sheeting or rip-proof polyethylene sheeting with tape along edges, around penetrating objects over cuts and tears, and elsewhere as required to provide protection and isolation. For protection of underlying surfaces from damage and to prevent lead dust entering in clean area.

.4 Sprayer: garden reservoir type sprayer or airless spray equipment capable of producing mist or fine spray. Must be appropriate capacity for scope of work.

.5 Action level: employee exposure, without regard to use of respirators, to airborne concentration of lead of 50 micrograms per cubic metre of air (50 ug/m^3) calculated as 8-hour time-weighted average (TWA). Minimum precautions for lead abatement are based on airborne lead concentrations less than 0.05 milligrams per cubic metre of air for removal of lead based paint by methods noted in paragraph 1.1. Contractor responsible for air monitoring.

.6 Competent person: Individuals capable of identifying existing lead hazards in workplace taking corrective measures to eliminate them.

.7 Lead dust: wipe sampling on vertical surfaces and/or horizontal surfaces, dust and debris is considered to be lead contaminated if it contains more than 40 micrograms of lead in dust per square foot.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Provide proof satisfactory to Departmental Representative that suitable arrangements have been made to dispose of lead based paint waste in accordance with requirements of authority having jurisdiction prior to removing materials from site.

.3 Quality Control:

.1 Provide Departmental Representative necessary permits for transportation and disposal of lead based paint waste and proof that lead based paint waste has been received and properly disposed of.

.2 Provide proof satisfactory to Departmental Representative that employees have had instruction on hazards of lead exposure, respirator use, dress, and aspects of work procedures and protective measures.

1.6 QUALITY ASSURANCE

.1 Regulatory Requirements: comply with Federal, Provincial, and local requirements pertaining to lead paint, provided that in case of conflict among those requirements or with these specifications more stringent requirement applies. Comply with regulations in effect at time work is performed.

.2 Health and Safety:

.1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.2 Safety Requirements: worker and visitor protection.

.1 Protective equipment and clothing to be worn by workers and visitors in work Area include:

.1 Respirator NIOSH approved and equipped with replaceable HEPA filter cartridges with an assigned protection factor of 10, acceptable to Authority having jurisdiction. Suitable for type of lead and level of lead dust exposure. Provide sufficient amount of filters.

.2 Eating, drinking, chewing, and smoking are not permitted in work area.

.3 Ensure workers wash hands and face when leaving work area.

.4 Visitor Protection:

.1 Provide approved respirators to Authorized Visitors to work areas.

.2 Instruct Authorized Visitors on procedures to be followed in entering and exiting work area.

1.7 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for recycling or reuse in accordance with Section 01 74 19 - Waste Management and Disposal.

.2 Handle and dispose of hazardous materials in accordance with CEPA, TDGA, Regional and Municipal regulations.

.3 Disposal of lead waste generated by removal activities must comply with Federal, Provincial, and Municipal regulations. Dispose of lead waste in sealed double thickness 0.15\ mm bags, leak proof drums, or on substrate. Label containers with appropriate warning labels.

.4 Provide manifests describing and listing waste created. Transport waste by approved means to licensed landfill for burial.

1.8 EXISTING CONDITIONS

.1 Notify Departmental Representative of lead based paint discovered during Work and not apparent from drawings, specifications, or report pertaining to Work. Do not disturb such material until instructed by Departmental Representative.

1.9 SCHEDULING

.1 Not later than two days before beginning Work on this Project notify following in writing:

.1 Appropriate Regional or Zone Director of Medical Services Branch, Health Canada.

.2 Provincial Ministry of Labour.

.3 Disposal Authority.

.4 Environment Council of Ontario (EACO).

.2 Inform sub trades of presence of lead-containing materials identified in Existing Conditions.

.3 Provide Departmental Representative copy of notifications prior to start of Work.

.4 Hours of Work: Coordinate with Departmental Representative and CCG Base for hours of work.

1.10 PERSONNEL TRAINING

.1 Provide Departmental Representative satisfactory proof that every worker involved in lead-paint removal has had instruction and training in hazards of lead exposure, in personal hygiene, in aspects of work procedures, and in use, cleaning, and disposal of respirators.

.2 Instruction and training related to respirators includes, at minimum:

.1 Proper fitting of equipment.

.2 Inspection and maintenance of equipment.

.3 Disinfecting of equipment.

.4 Limitations of equipment.

.3 Instruction and training must be provided by competent, qualified person.

.4 Supervisory personnel to complete required training.

Part 2 Products

2.1 MATERIALS

.1 Polyethylene 0.15 mm thick unless otherwise specified; in sheet size to minimize joints.

.2 Tape: fibreglass - reinforced duct tape suitable for sealing polyethylene under dry conditions and wet conditions using amended water.

.3 Slow - drying sealer: non-staining, clear, water - dispersible type that remains tacky on surface for at least 8 hours and designed for purpose of trapping residual lead paint residue.

.4 Lead waste containers: Fibre or metal type acceptable to dump operator with tightly fitting covers and 0.15 mm thickness sealable polyethylene liners.

.1 Label containers with pre-printed bilingual cautionary Warning Lead clearly visible when ready for removal to disposal site.

Part 3 Execution

3.1 SUPERVISION

.1 One Supervisor for every ten workers is required.

.2 Supervisor must remain within work area during disturbance, removal, or handling of lead based paints.

3.2 PREPARATION

.1 Remove and store items to be salvaged or reused.

.1 Protect and wrap items and transport and store in area specified by Departmental Representative.

.2 Work Area:

.1 Pre-clean fixed casework and equipment within work area, using HEPA vacuum and cover and seal with polyethylene sheeting and tape.

.2 Clean work area using HEPA vacuum. If not practicable, use wet cleaning method. Do not raise dust.

.3 Seal off openings with polyethylene sheeting and seal with tape.

.4 Protect floor surfaces covered from wall to wall with polyethylene sheets.

.5 Maintain emergency fire exits or establish alternatives satisfactory to Authority having jurisdiction.

.6 Where water application is required for wetting lead containing materials, provide temporary water supply appropriately sized for application of water as required.

.7 Provide electrical power and shut off for operation of powered tools and equipment. Provide 24 volt safety lighting and ground fault interrupter circuits on power source for electrical tools, in accordance with applicable CSA Standard. Ensure safe installation of electrical cables and equipment.

.3 Do not start work until:

.1 Arrangements have been made for disposal of waste.

.2 Tools, equipment, and materials waste containers are on site.

.3 Notifications have been completed and preparatory steps have been taken.

3.3 LEAD ABATEMENT

.1 Removal of lead-containing coatings with a chemical gel or paste and fibrous laminated cloth wrap; or removal equipped with HEPA filters; or removal with using power tools non-powered hand tool, other than manual scraping and sanding.

.2 Where lead-based paint is flaking, peeling or is otherwise in poor condition, remove lead based paint in small sections and pack as it is being removed in sealable 0.15 mm plastic bags and place in labelled containers for transport. Where lead-based paint is well adhered to substrate, material can be disposed of as lead waste.

.3 Seal filled containers. Clean external surfaces thoroughly by wet sponging. Remove from immediate working area to staging area. Clean external surfaces thoroughly again by wet sponging. Wash containers thoroughly pending removal to outside. Ensure containers are removed by workers who have entered from uncontaminated areas dressed in clean coveralls.

.4 After completion of stripping work, wire brush and wet sponge surface from which lead based paint has been removed to remove visible material. During this work keep surfaces wet.

.5 After wire brushing and wet sponging to remove visible lead based paint, and after encapsulating lead containing material impossible to remove, wet clean entire work area, and equipment used in process. After inspection by Departmental Representative apply continuous coat of slow drying sealer to surfaces of work area. Do not disturb work area for 8 hours no entry, activity, ventilation, or disturbance during this period.

3.4 INSPECTION

.1 Perform inspection to confirm compliance with specification and governing authority requirements. Deviations from these requirements not approved in writing by Departmental Representative will result in work stoppage, at no cost to Departmental Representative.

.2 Departmental Representative will inspect work for:

.1 Adherence to specific procedures and materials.

.2 Final cleanliness and completion.

.3 No additional costs will be allowed by Contractor for additional labour or materials required to provide removal and disposal of identified lead-based paints.

3.5 FINAL CLEANUP

.1 Following cleaning and when lead wipe surfaces sampling are below acceptable concentrations, proceed with final cleanup.

.2 Remove polyethylene sheet by rolling it away from walls to centre of work area. Vacuum visible lead containing particles observed during cleanup, immediately, using HEPA vacuum.

.3 Place polyethylene sheets, tape, cleaning material, clothing, and contaminated waste in plastic bags and sealed labelled waste containers for transport.

.4 Conduct final check to ensure no dust or debris remains on surfaces as result of dismantling operations.

3.6 RE-ESTABLISHMENT OF OBJECTS AND SYSTEMS

.1 Repair or replace objects damaged in course of work to their original state, as directed Departmental Representative at no additional cost.

END OF SECTION

Part 1 General

1.1 SUMMARY

.1 Comply with the requirements of this Section when performing following Work:

.1 Inspection of light ballasts for PCBs.

.2 Removal, transportation and disposal of PCB containing material.

1.2 RELATED REQUIREMENTS

.1 Section 01 41 00 – Regulatory Requirements.

.2 Section 01 35 29.06 – Health and Safety Requirements

1.3 REFERENCE STANDARDS

.1 American Board of Industrial Hygiene (ABIH)

.2 Canadian Council of Ministers of the Environment (CCME)

.1 PN1205-1995, PCB Transformer Decontamination: Standards and Protocols.

.3 Department of Justice Canada (Jus)/CEPA SOR/92-507-SOR/2000-102, Storage of PCB Material Regulations

.1 Canadian Environmental Protection Act, 1999 (CEPA).

.4 Environment Canada

.1 Manual for Spills of Hazardous Materials-1985.

.5 National Research Council Canada (NRC)

.1 National Fire Code of Canada 2015 (NFC).

.6 Transport Canada (TC)

.1 Transportation of Dangerous Goods Act, 1992 (TDGA).

.7 Chlorobiphenyls Regulations (SOR/91-152; Amended SOR/2000-102)

.1 Regulations Respecting Mobile System for the Destruction and Treatment of Chlorobiphenyls that are Operated by or Under Contract with Federal Institutions (SOR/90-5; amended SOR/93-231 and SOR/2000-105).

.2 Regulations Respecting the Storage of Material Containing Chlorobiphenyls (PCBs) SOR/92-507, Amended SOR/2000-102).

.3 Regulations Respecting the Import and Export of Hazardous Wastes (SOR/92-637; Amended 94-459; SOR 94-684; SOR/2000-103).

.4 Waste Management - PCBs, R.R.O. Regulation 362/90.

.5 Mobile PCB Destruction Facilities, R.R.O. Regulation 352/90.

.6 Regulation 347, General Waste Management, as Amended.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Prior to starting work, Contractor performing work of this section to provide:

- .1 Workplace Safety and Insurance Board Clearance Certificate.
- .2 Insurance certificates.
- .3 Company Health and Safety Policy.
- .4 Certificate of Approval for Transportation of PCB Waste and Location of Destruction Facility.
- .5 WHMIS Training Certificates for Personnel.
- .6 Safety Data Sheets for chemicals or material to be used.

.3 Waste location and description including:

- .1 Building in which PCB waste is stored.
- .2 Size of property used for storage site.
- .3 Precise location of PCB waste at storage site.
- .4 Container storage method used.
- .5 Spill containment features in place at storage site.
- .6 Security measures in place at storage site.
- .7 Fire detection systems in place at storage site.

1.5 CONTROL SUBMITTALS

.1 Co-ordinate procedural requirements with Section 01 45 00 - Quality Control.

.2 Record keeping: maintain and make available for review by Departmental Representative.

- .1 Receipt of waste showing:
  - .1 Date of receipt of waste.
  - .2 Description of PCB waste including nameplate description, serial number, PCB registration number and quantity.
  - .3 Condition of PCB waste.
  - .4 Source of PCB waste.
  - .5 Name of carrier of PCB waste.
  - .6 Name of individual who accepted receipt of PCB waste.
- .2 Removal of waste showing:
  - .1 Date of removal of PCB waste.
  - .2 Description of PCB waste including nameplate description, serial number, PCB registration number and quantity.
  - .3 Condition of PCB waste.
  - .4 Name of carrier of PCB waste.

.5 Destination of PCB waste.

.6 Name of individual authorizing transport of PCB waste.

.3 Monthly inspection, repair and replacement reports.

.4 Submit records to Departmental Representative as requested.

1.6 QUALITY ASSURANCE

.1 Co-ordinate with Section 01 45 00 - Quality Control.

.2 Instruct personnel on dangers of PCB exposure, respirator use, decontamination and applicable Federal, Provincial and Municipal Regulations.

.3 Complete work so that at no time do PCB's contaminate site environment.

1.7 SUPERVISION

.1 Provide on site, a supervisor, with authority to oversee health and safety, remediation methods, scheduling, labour and equipment requirements. Supervisor must have minimum of 5 years of experience in abatement/PCB management.

.2 One supervisor for every 10 workers is required.

1.8 DELIVERY, STORAGE AND HANDLING

.1 Place materials defined as hazardous or toxic in designated containers.

.2 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.

.3 Owners or operators of storage sites.

.1 Ensure personnel are familiar with and understand current PCB waste management procedures and use of personal protection equipment and clean-up techniques.

.4 Disposal of PCB waste generated by removal activities must comply with Federal, Provincial, and Municipal regulations.

.1 Dispose of PCB waste in leak proof drums.

.2 Containers must be labelled with appropriate warning labels.

.5 Create manifests describing and listing waste created and transport containers by approved means to licenced facility for storage.

.1 For each bulk load of PCBs: identity PCB waste, earliest date of removal from service for disposal, and weight in kilograms of the PCB waste.

.2 For each PCB Article Container or PCB Container: unique identifying number, type of PCB waste (i.e., soil, debris, small capacitors), earliest date of removal from service for disposal, and weight in kilograms of PCB waste contained.

.3 For each PCB Article not in PCB Container or PCB Article Container: serial number if available, or other identification if there is no serial number, date of

removal from service for disposal, and weight in kilograms of PCB waste in each PCB Article.

Part 2 Product

2.1 STORAGE GENERAL

.1 Storage of PCB materials in accordance with Authority having jurisdiction.

2.2 STORAGE ENCLOSURE

.1 Isolate PCB control area by physical boundaries to prevent unauthorized entry of personnel.

.2 Food, drink and smoking materials are not permitted in areas where PCBs are handled or PCB items are stored.

.3 Room, building or structure with lockable entrance.

.4 Smoking is not permitted.

2.3 STORAGE CONTAINERS

.1 Exterior containers:

.1 Structurally-sound and weather-sealed to hold PCB solids, PCB light ballasts, drained PCB containers or drained PCB equipment.

.2 PCB storage.

.1 Drums and containers:

.1 Designed with sufficient durability and strength to prevent PCBs from being released into environment, affected by weather, or contaminated by external sources.

.2 Drums:

.1 Capacity no greater than 205 litres.

.2 Steel of minimum 1.52 mm for liquids and 1.2 mm for solids.

.3 Drum Liners:

.1 6 mil (0.152 mm) clear polyethylene bag, 914 mm x 1524 mm, with opening at 914 mm end.

2.4 FLOORING AND ACCESSORIES

.1 Constructed of steel.

.2 PCB Absorbing Surfaces:

.1 Floor, curbing, siding, and lid, sealed with durable PCB-resistant coating.

.3 Floor Opening, Floor Drains and Sumps:

.1 Closed and sealed to prevent escape of liquid.

.2 Connected to drainage system suitable for liquid dangerous goods that terminates at location where spilled liquids will be contained and recovered and where spilled liquids will not create fire hazard or risk to public health or safety.

2.5 EMERGENCY RESPONSE EQUIPMENT AND SYSTEMS

.1 Storage site clean-up materials:

.1 Ensure availability at all time of sorbent or solvents, for clean-up of liquid or solids.

.2 Ensure availability at all times of inert absorbent in sufficient quantity to contain minor leakage.

.1 Place in bottom of each container holding PCB equipment or fluorescent lighting ballasts.

.2 Respirators: Certified by the National Institute of Occupational Safety and Health (NIOSH) or other testing agency acceptable to the Ministry of Labour.

.1 Use approved full-face organic vapour cartridge respirator for exposure to PCB.

.2 Vapour concentration less than or equal to 5 mg/m^3.

.1 Supplied-air respirator with full face piece, helmet or hood.

.2 Self-contained breathing apparatus with full face piece.

.3 Vapour concentration greater than 5 mg/m^3or unknown concentrations.

.1 Self-contained breathing apparatus with full face piece operated in positive pressure mode.

.2 Type C supplied-air respirator with full face piece operated in positive pressure of continuous flow mode and auxiliary self-contained breathing apparatus operated in positive pressure mode.

2.6 WARNING SIGNS AND LABELS

.1 Label capacitors containing 0.5 kilogram or more of chlorobiphenyls with black and white serialized label, measuring 76 x 76 mm, as approved by Departmental Representative.

.2 Label container with a capacitor containing 0.5 kg or more of chlorobiphenyls with black and white serialized, "ATTENTION PCB" label, measuring 150 x 150 mm, as approved by Departmental Representative.

Part 3 Execution

3.1 GENERAL

.1 Do construction occupational health and safety in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.2 Store PCB waste materials to CEPA SOR/92-507.

.3 Select PCB removal procedure to minimize contamination of work areas with PCB or other PCB-contaminated debris/waste. Handle PCBs such that no skin contact occurs.

.4 Ensure that work operations or processes involving PCB or PCB-contaminated materials are conducted in accordance with Federal, Provincial and Municipal Regulations and applicable requirements of this Section, including but not limited to:

.1 Notify Departmental Representative prior to beginning operations.

.2 Report leaks and spills to Departmental Representative.

.3 Inspect PCB and PCB-contaminated items and waste containers for leaks.

.4 Maintain spill kit for emergency spills entitled "PCB Spill Kit".

.5 Maintain inspection, inventory and spill records.

3.2 ACCESS TO STORAGE SITE

.1 Keep entrance to site locked or guarded.

.2 Maintain register at site containing name, address, telephone number and place of business of each person who enters, or is authorized to enter site.

.3 Permit only authorized personnel to enter site.

3.3 ACCESS TO STORED MATERIAL

.1 Store materials and equipment to permit easy access for inspection.

3.4 STORAGE PRACTICES

.1 Store PCB material together, and away from other stored materials.

3.5 EMERGENCY RESPONSES

.1 General:

.1 Immediately report to Departmental Representative PCB spills on ground or in water, PCB spills in drip pans, or PCB leaks.

.2 Rope off area around edges of PCB leak or spill and post "PCB Spill Authorized Personnel Only" caution sign. Immediately transfer leaking items to drip pan or other container.

.3 Initiate cleanup of spills as soon as possible, but no later than 48 hours of its discovery. If misting, elevated temperatures or open flames are present, or if spill is situated in confined space, notify Departmental Representative. Mop up liquid with rags or other conventional absorbent. Properly contained and dispose of spent absorbent and contaminated rags as solid PCB waste.

.4 Do not return to site until Departmental Representative and authorities having jurisdiction have declared the area safe for re-entry.

3.6 SANITATION

.1 Promptly wash liquid-contaminated skin with soap or mild detergent and water.

.2 Prohibit eating and smoking in areas where PCB waste is handled, processed or stored.

.3 Wash hands thoroughly with soap or mild detergent and water after handling PCB waste.

3.7 PCB CONTAMINATED MATERIALS

.1 Transportation and Disposal:

.1 Furnish labour, materials, and equipment necessary to store, transport, and dispose of PCB contaminated material in accordance with Federal, Provincial and Municipal requirements.

.2 Prepare and maintain waste shipment records and manifests as required.

.3 Transport PCB contaminated soils in vehicles designed to carry PCB contaminated soils in accordance with Federal, Provincial and Municipal requirements.

.4 Transport PCB contaminated solid material, articles, or equipment in approved containers with removable heads in accordance with TDGA.

.5 Store liquid PCBs in Specification approved containers in accordance with TDGA.

.6 In addition to those requirements:

.1 Inspect and document vehicles and containers for proper operation and covering. Repair or replace damaged containers.

.2 Inspect vehicles and containers for proper markings, manifest documents, and other requirements for waste shipment.

.3 Perform and document decontamination procedures prior to leaving the site and again before leaving disposal site.

.7 Shipping Documentation:

.1 Before transporting PCB waste, sign and date manifest.

.2 Return signed copy to Departmental Representative.

.3 Ensure that manifest accompanies PCB waste at all times.

.4 Ensure transporter provides copy of manifest signed and dated by disposal facility.

.8 Solvent Cleaning:

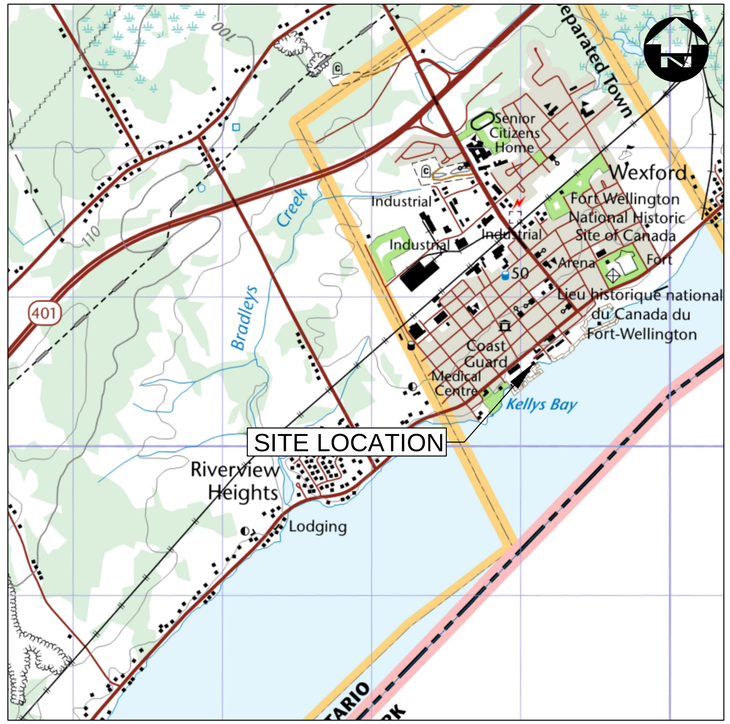
.1 Clean contaminated tools, and containers, after use by rinsing three times with appropriate solvent or by wiping down three times with solvent wetted rag. Suggested solvents are stoddard solvent or hexane.

END OF SECTION

APPENDIX A

Tender Drawings

CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON
RECONDITIONING OF BUILDING 'F'



KEY PLAN

DRAWING INDEX	
Sheet Number	Sheet Title
G1	RECONDITIONING OF BUILDING 'F' EXISTING SITE PLAN
G2	RECONDITIONING OF BUILDING 'F' EXISTING BUILDING CONDITIONS FLOOR PLAN, ELEVATIONS
S1	RECONDITIONING OF BUILDING 'F' GENERAL NOTES, DETAILS REMOVAL - SLAB PLAN, SECTION
S2	RECONDITIONING OF BUILDING 'F' NEW CONSTRUCTION - SLAB PLAN, SECTION
A1	RECONDITIONING OF BUILDING 'F' REMOVALS FLOOR PLAN, ELEVATIONS
A2	RECONDITIONING OF BUILDING 'F' REMOVALS BUILDING CROSS SECTION
A3	RECONDITIONING OF BUILDING 'F' NEW CONSTRUCTION FLOOR PLAN, ELEVATIONS
A4	RECONDITIONING OF BUILDING 'F' REMOVALS BUILDING CROSS SECTION
A5	RECONDITIONING OF BUILDING 'F' OUTLINE SPECIFICATIONS
E1	ELECTRICAL - DEMO, NEW POWER AND LIGHTING
E2	SPECIFICATIONS

ISSUED FOR CONSTRUCTION

DILLON PROJECT: 20-2403

DATE: JUNE 2020

DILLON CONSULTING

SOURCE:
ARCGIS (ESRI), GOOGLE EARTH PRO AND DILLON CONSULTING LIMITED SITE VISIT MARCH 2020.

LEGEND:
APPROXIMATE PROPERTY BOUNDARY

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION	07/29/20	
1	ISSUED FOR CLIENT REVIEW	06/22/20	GCM

DESIGN: SDK	REVIEWED BY:
DRAWN: TLR	CHECKED BY: SDK
DATE: JUNE 2020	
SCALE: 1:400	

CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

EXISTING SITE PLAN

SHEET NO. G1

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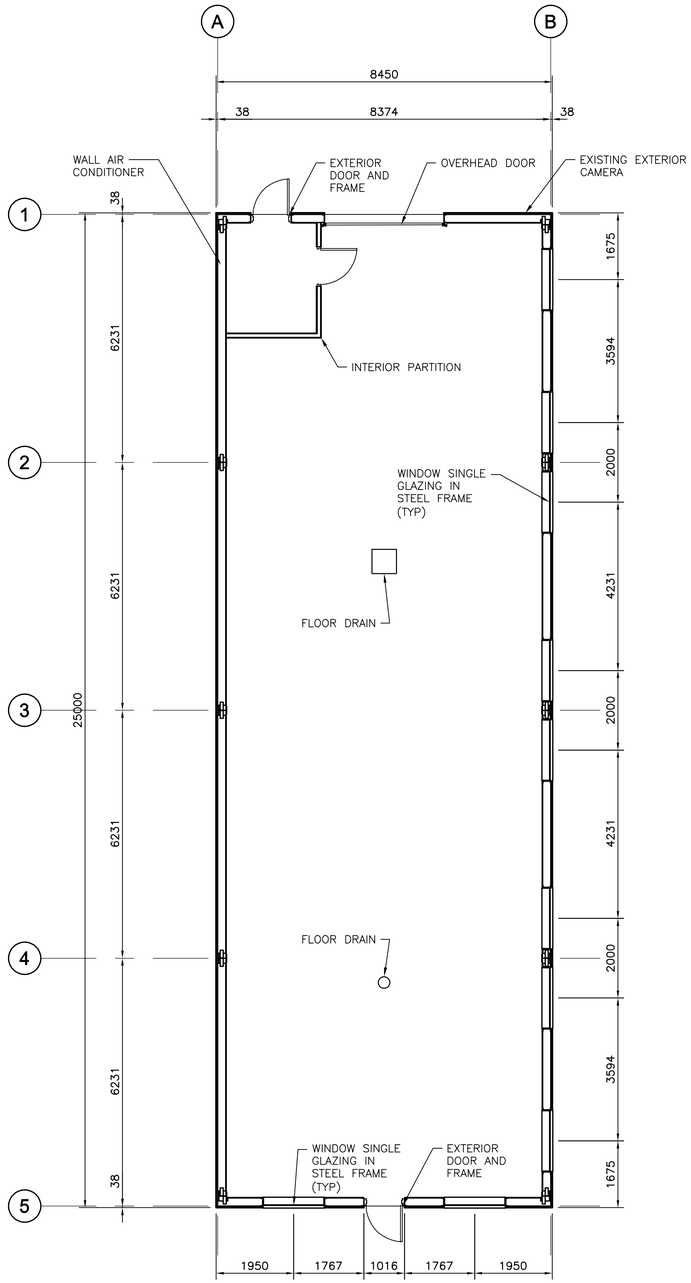
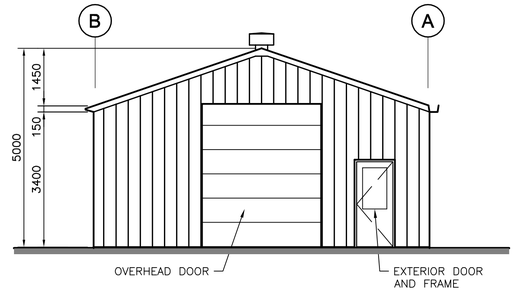


PLAN OF EXISTING BUILDING
1:75



NORTH ELEVATION
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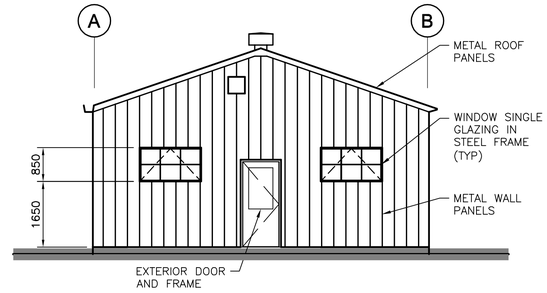

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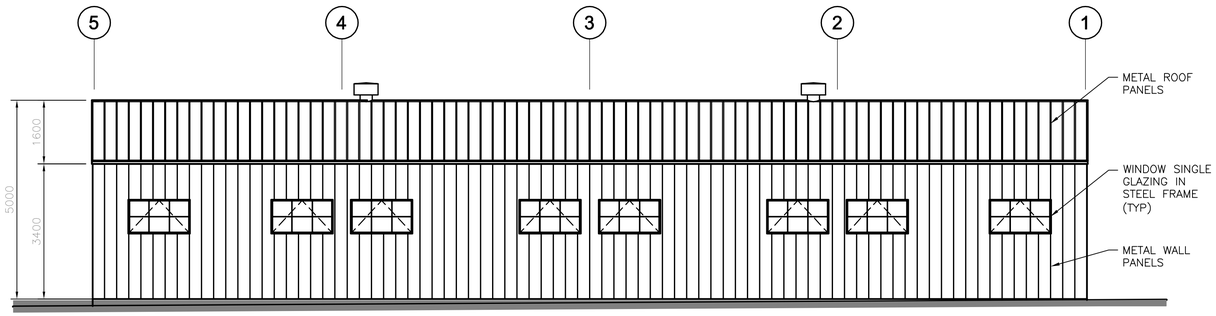

EAST ELEVATION
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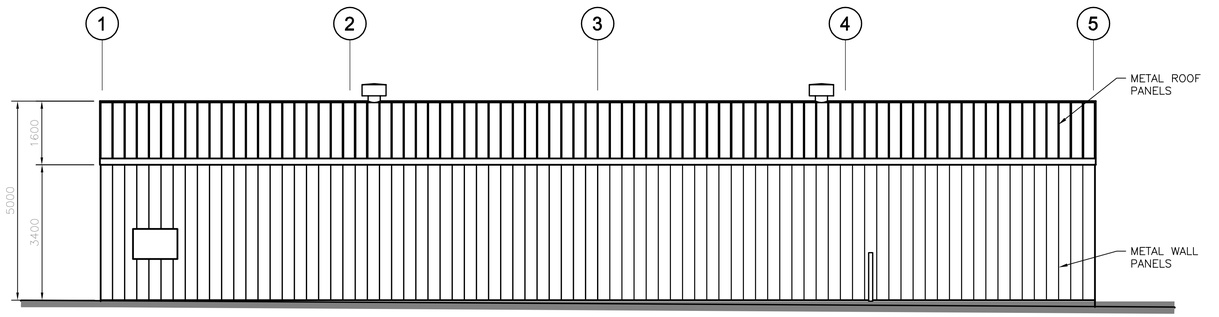

WEST ELEVATION
1:75

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

Do not scale dimensions from drawing.

Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

ONTARIO ASSOCIATION OF ARCHITECTS
NAZLI DELAVIZ
LICENCE
8851
September 17, 2010

DILLON
Building Design Ltd.
Engineers and Architects
130 Dufferin Ave, London, Ontario, N6A 5R2
Phone: (519) 438-6192, Fax (519) 672-8209
E-mail; london@dillon.ca

No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION	07/29/20	ND
1	ISSUED FOR CLIENT REVIEW	06/22/20	ND

DESIGN: ND | REVIEWED BY:
DRAWN: PDR | CHECKED BY:
DATE: MAY 2020
SCALE: NOTED

CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

RECONDITIONING OF BUILDING 'F'
EXISTING BUILDING CONDITIONS
FLOOR PLAN, ELEVATIONS

SHEET NO. G2

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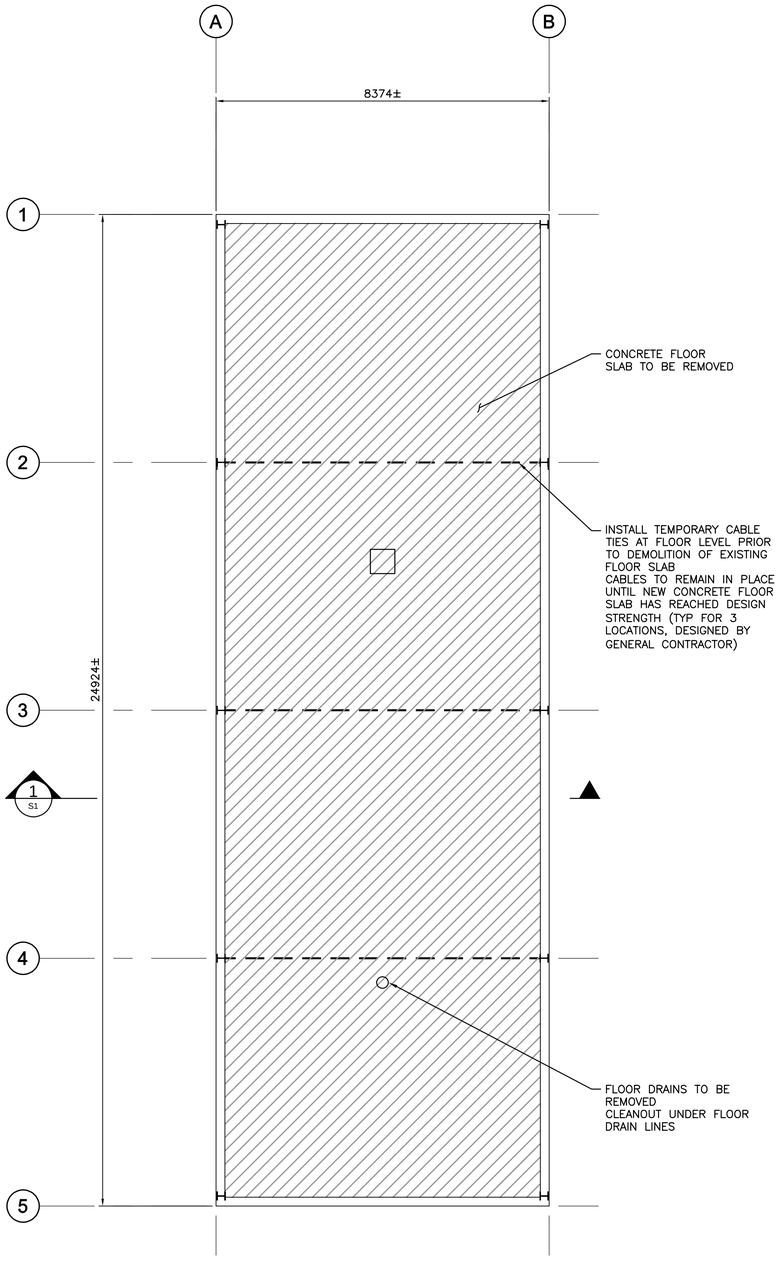

REMOVAL - SLAB PLAN
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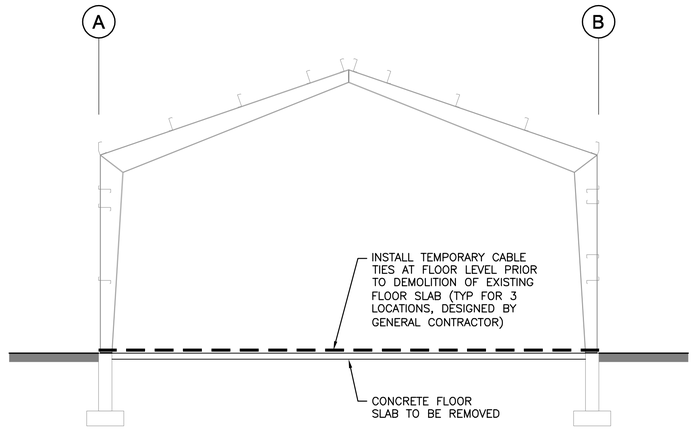
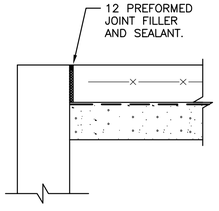
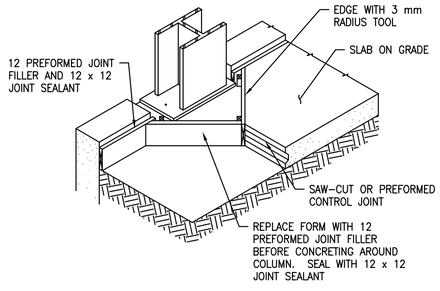


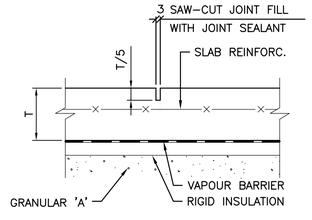
1 / S1 SECTION
1:50



ISOLATION JOINT - SLAB AT WALL
SCALE: NOT TO SCALE



ISOLATION JOINT - EXTERIOR COLUMN
SCALE: NOT TO SCALE



CONTROL JOINTS IN SLAB ON GRADE
SCALE: NOT TO SCALE

GENERAL NOTES

GENERAL

1. ALL WORK SHALL CONFORM TO THE 2015 NATIONAL BUILDING CODE OF CANADA.
2. COMPLETE ALL WORK IN ACCORDANCE WITH ONTARIO REGULATION O.REG. 406/19, ON-SITE AND EXCESS SOIL MANAGEMENT.
3. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE LEGISLATION INCLUDING BUT NOT LIMITED TO OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS.
4. THE CONTRACTOR SHALL AS PART OF HIS WORK CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH CONSTRUCTION.
5. SAFEGUARD AND PROTECT ALL EXISTING STRUCTURES, SERVICES AND UTILITIES WHICH MAY BE AFFECTED BY THE WORK OF THIS CONTRACT.
6. CONTRACTOR TO DESIGN, SUPPLY AND INSTALL TEMPORARY CABLE TIES BETWEEN EXTERIOR COLUMNS AS SHOWN ON DRAWINGS TO RESIST ALL ANTICIPATED DEAD AND LIVE LOADS. SUBMIT SHOP DRAWINGS FOR TEMPORARY CABLE TIES STAMPED BY A PROFESSIONAL ENGINEER, LICENSED IN THE PROVINCE OF ONTARIO. TIES TO REMAIN IN PLACE UNTIL NEW CONCRETE SLAB HAS REACHED DESIGN STRENGTH.

CONCRETE

1. DO CONCRETE WORK IN ACCORDANCE WITH CSA A23.1-14 AND TESTING TO CSA A23.2-14
2. CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES:
   a. COMPRESSIVE STRENGTH (AT 28 DAYS): 35 MPa
   b. CLASS OF CONCRETE: C1
   c. MAXIMUM COARSE AGGREGATE: 20 mm
   d. MAXIMUM W/C RATIO: 0.40
   e. SLUMP: 60-90 MM
   f. MAXIMUM SUPPLIMENTARY CEMENT SUBSTITUTION: 25%
3. PLACE ALL CONCRETE IN THE DRY.
4. FINISH ALL NON-FORMED CONCRETE IN ACCORDANCE WITH CSA A23.1-14
5. CONCRETE FLOOR SLAB SHALL BE MECHANICALLY FLOATED AND STEEL TROWELLED TO A DENSE NON-SLIP FINISH.
6. INSTALL POLYETHYLENE SHEET VAPOUR BARRIER UNDER CONCRETE SLAB-ON-GRADE. LAP 300mm AT JOINTS AND SEAL.
7. INSPECTION AND TESTING OF CONCRETE SHALL BE IN ACCORDANCE WITH CSA A23.1-14 AND A23.2-14. NUMBER AND FREQUENCY OF CYLINDER TESTS SHALL BE AS FOLLOWS: TWO 28-DAY AND ONE 7 -DAY TEST SPECIMEN FOR EACH CLASS OF CONCRETE CAST DAILY.
8. CONTRACTOR TO SUBMIT CONCRETE MIX DESIGN AND TEST RESULTS FOR EACH CLASS OF CONCRETE PRIOR TO PLACING ANY CONCRETE.
9. CLIMATIC DATA (PRESCOTT, ONTARIO):
   a. SNOW:
      i. S_s = 2.2 kPa
      ii. Sr = 0.4 kPa
   b. WIND:
      i. q_{10} = 0.34 kPa
      ii. q_{50} = 0.44 kPa

REINFORCEMENT

1. DO REINFORCEMENT WORK IN ACCORDANCE WITH CSA A23.1-14.
2. REINFORCING STEEL SHALL CONFORM TO CAN/CSA G30.18-09. GRADE 400 R OR W.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064/A1064M-18a. PROVIDE IN FLAT SHEETS ONLY.
4. ALL REINFORCEMENT TO BE SUITABLY SUPPORTED ON CHAIRS TO MAINTAIN DESIRED CONCRETE COVER IN ACCORDANCE WITH CSA A23.1-14.
5. DOWELING REBAR ADHESIVE: HILTI HIT HY200 REBAR ADHESIVE AS MANUFACTURED BY HILTI CANADA LIMITED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. COVER TO REINFORCEMENT:
   a. CAST AGAINST EARTH: 75 mm
   b. ALL OTHER LOCATIONS 50 mm
7. REINFORCING STEEL LAP LENGTHS:
   a. 15M BARS: 700mm
   b. WELDED WIRE FABRIC: 300 mm

LICENSED PROFESSIONAL ENGINEER
G.C. McCLUSKEY
PROVINCE OF ONTARIO

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION	07/29/20	GCM
1	ISSUED FOR CLIENT REVIEW	06/22/20	GCM

DESIGN: GCM | REVIEWED BY:
DRAWN: PDR | CHECKED BY:
DATE: MAY 2020
SCALE: NOTED

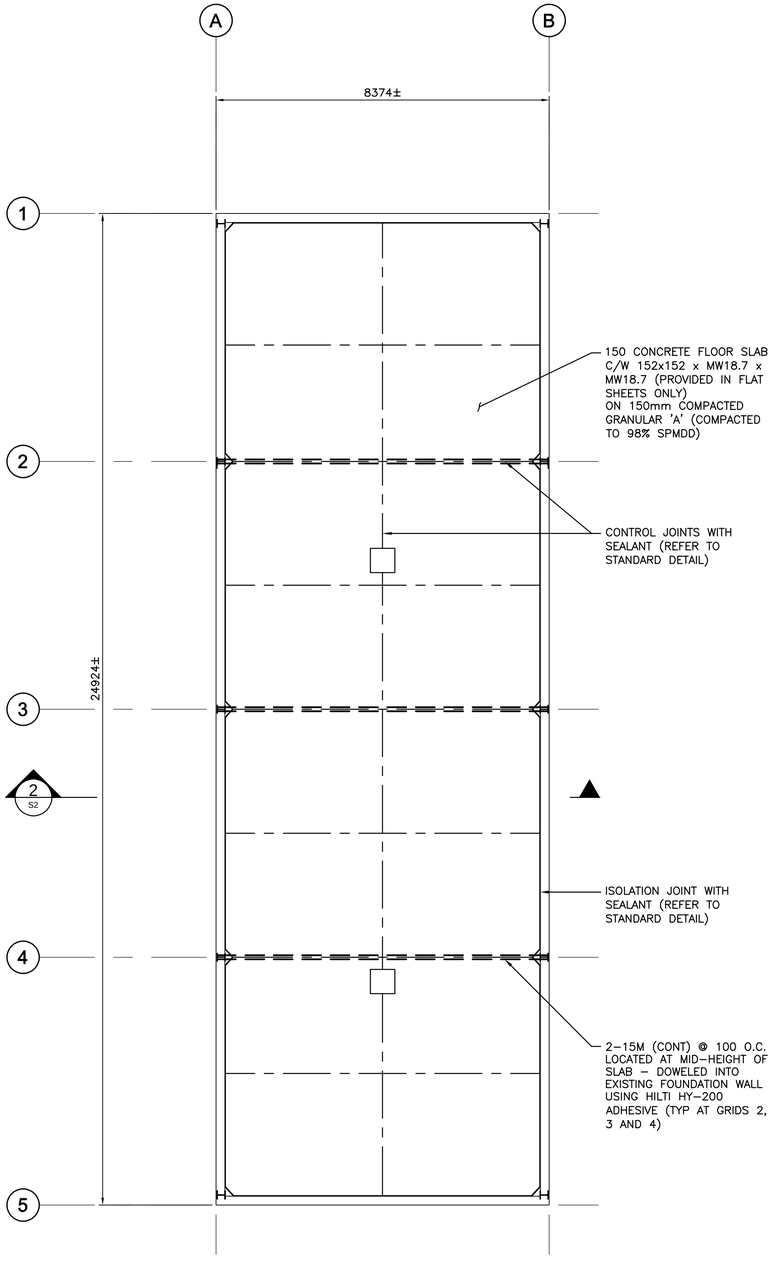
CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

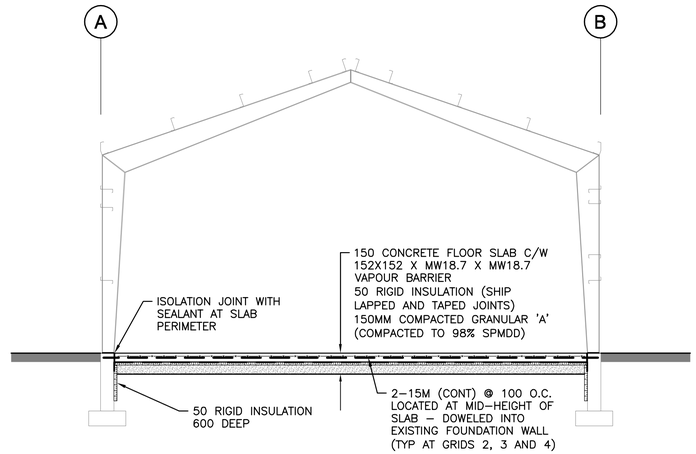
RECONDITIONING OF BUILDING 'F'
GENERAL NOTES, DETAILS
REMOVAL - SLAB PLAN, SECTION

SHEET NO. S1

FILENAME: C:\PW WORKING DIRECTORY\PROJECTS 2020\335PA\DMS102631\202403 09 STRUCT CON.DWG PLOTTED BY: HOUSTON, STEPHEN
PLOT DATE: 2020-09-18 @ 9:42:53 AM PLOT SCALE: 1:25.4 PLOT STYLE: DILLON-STANDARD.CTB



NEW CONSTRUCTION - SLAB PLAN
1:75



2/S2 SECTION
1:50

Conditions of Use

Verify elevations and/or dimensions on drawing prior to use. Report any discrepancies to Dillon Consulting Limited.

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LICENSED PROFESSIONAL ENGINEER
G.C. McCLUSKEY
PROVINCE OF ONTARIO

DILLON CONSULTING

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DESIGN: GCM | REVIEWED BY:
DRAWN: PDR | CHECKED BY:
DATE: MAY 2020
SCALE: NOTED

CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

RECONDITIONING OF BUILDING 'F'
NEW CONSTRUCTION - SLAB PLAN, SECTION

SHEET NO. S2

FILENAME: C:\PW WORKING DIRECTORY\PROJECTS 2020\3SDH\DMS10263\202403 09 STRUCT CON.DWG PLOTTED BY: HOUSTON, STEPHEN
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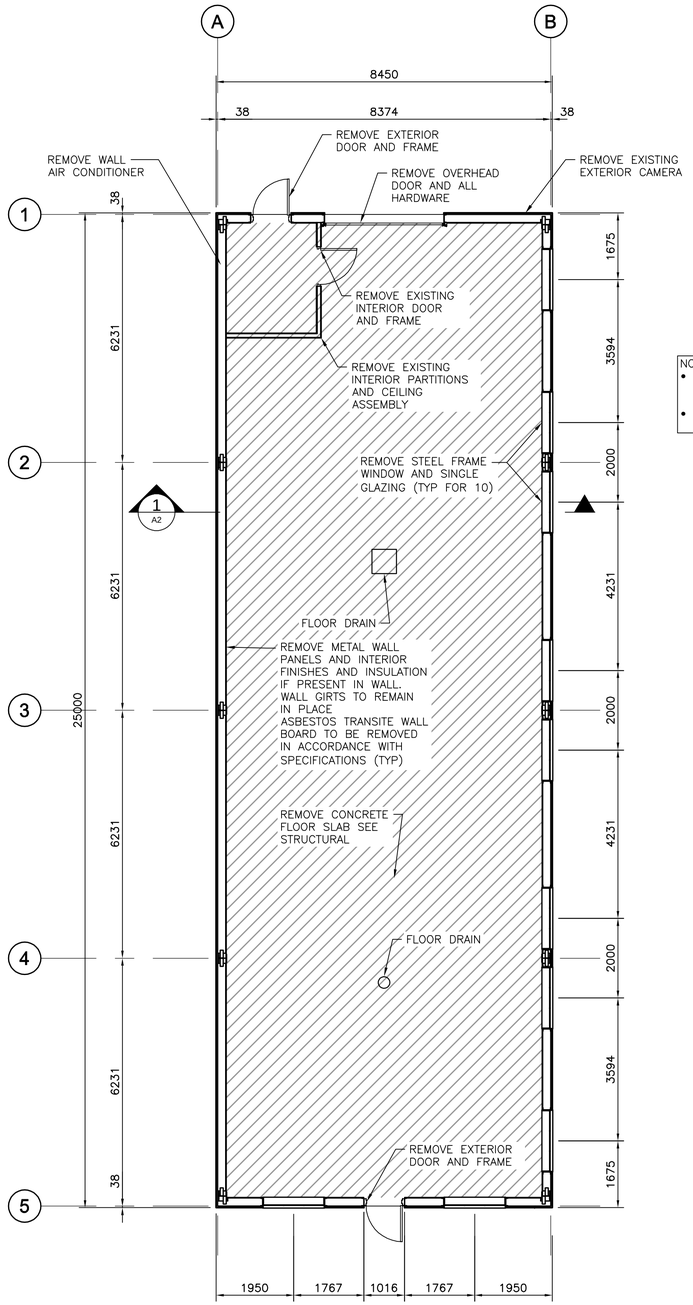
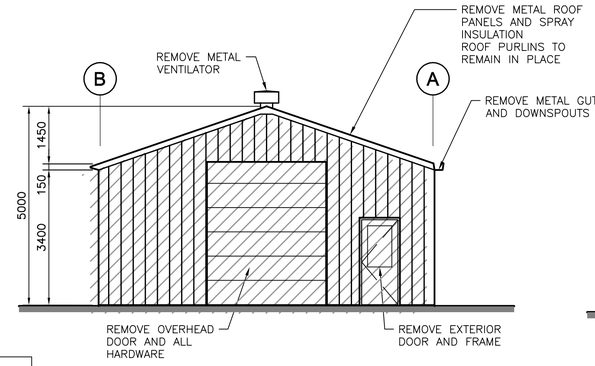
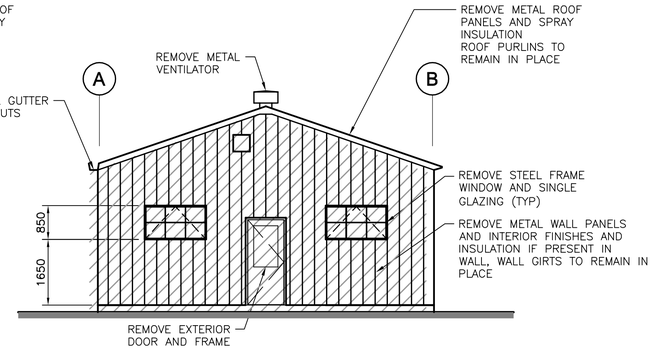


PLAN OF EXISTING BUILDING
1:75

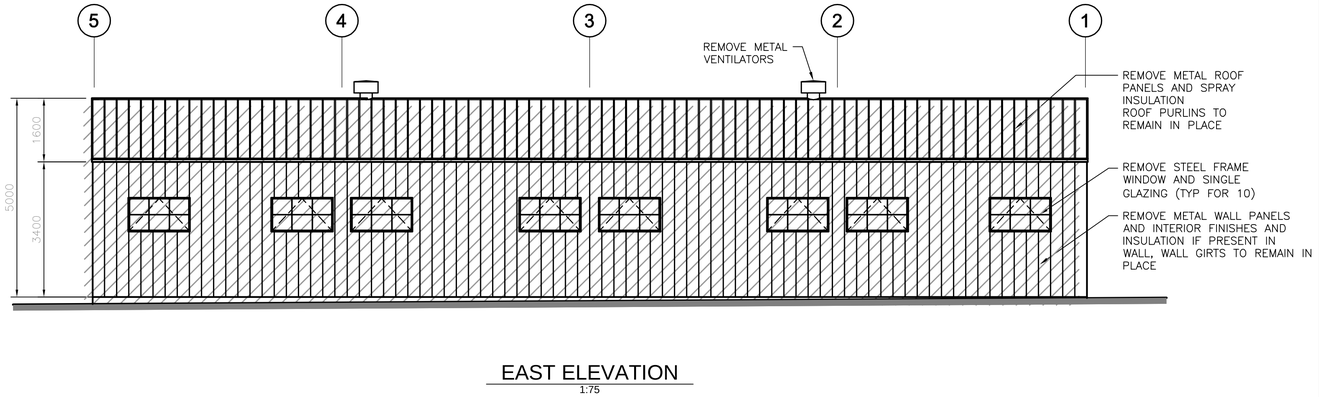
NOTE:
- ASBESTOS TRANSITE WALL BOARD TO BE REMOVED IN ACCORDANCE WITH SPECIFICATIONS
- LEAD CONTAINING PAINTS TO BE REMOVED IN ACCORDANCE WITH SPECIFICATIONS



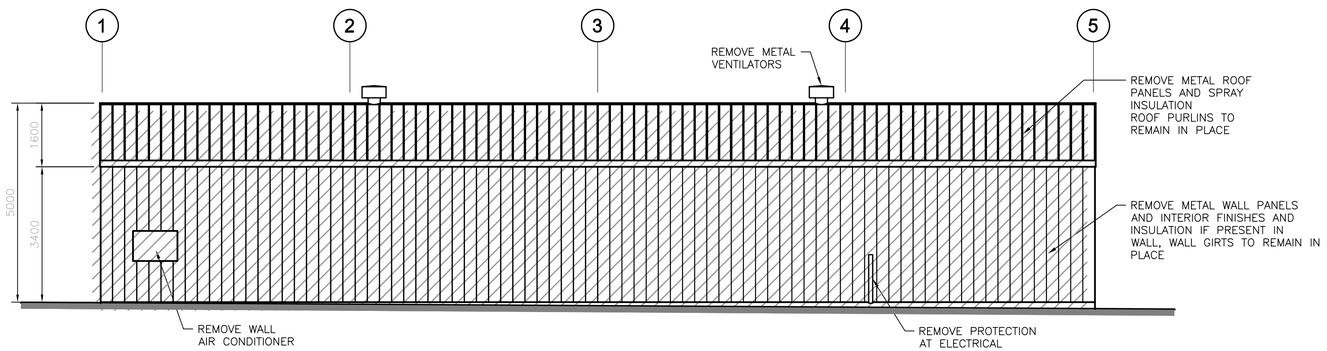
NORTH ELEVATION
1:75



SOUTH ELEVATION
1:75



EAST ELEVATION
1:75



WEST ELEVATION
1:75

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ONTARIO ASSOCIATION OF ARCHITECTS
NAZLI DELAVIZ
LICENCE
8851
September 17, 2010

DILLON
Building Design Ltd.
Engineers and Architects
130 Dufferin Ave, London, Ontario, N6A 5R2
Phone: (519) 438-6192, Fax (519) 672-8209
E-mail; london@dillon.ca

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DRAWN: PDR | CHECKED BY:
DATE: MAY 2020
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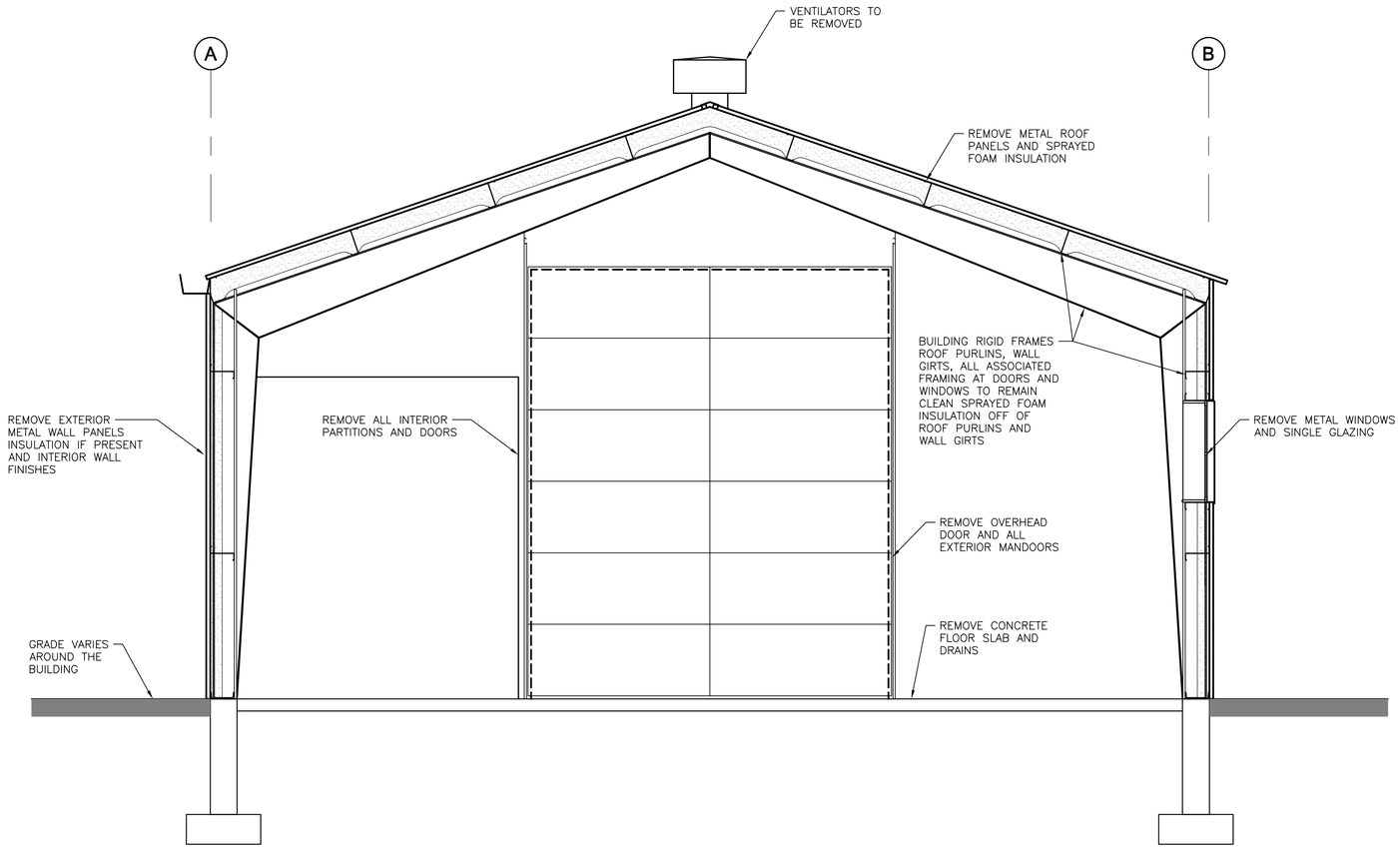
CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

RECONDITIONING OF BUILDING 'F'
REMOVALS FLOOR PLAN, ELEVATIONS

SHEET NO. A1



1 / A1 CROSS SECTION
1:25

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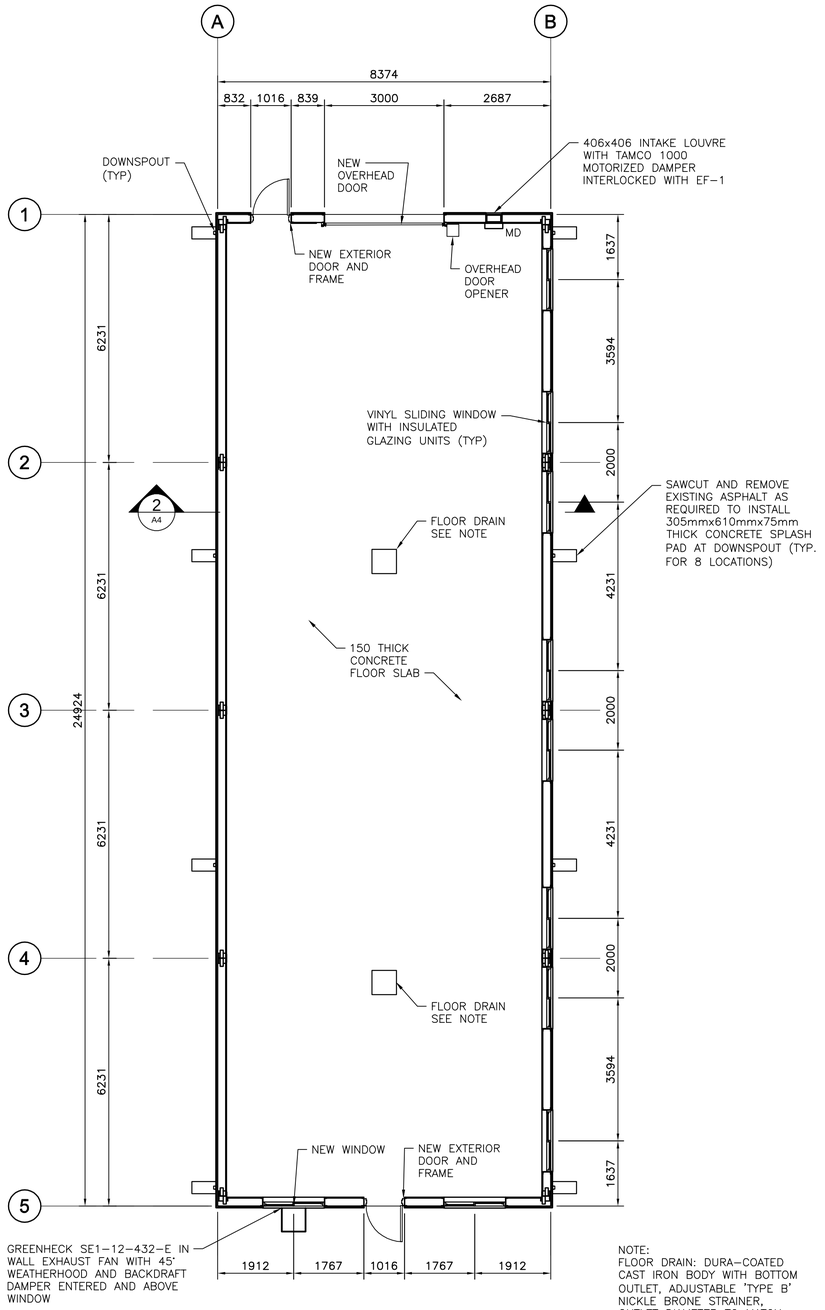
CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

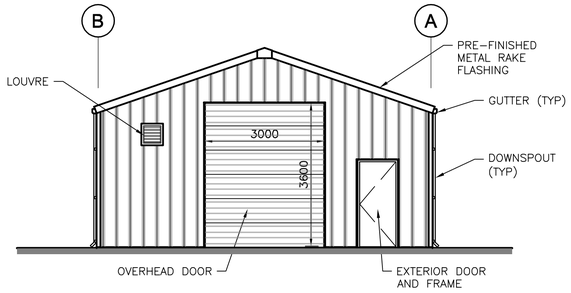
RECONDITIONING OF BUILDING 'F'
REMOVALS BUILDING CROSS SECTION

SHEET NO. A2

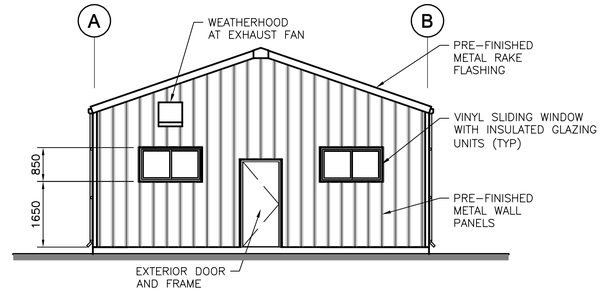


NOTE:
FLOOR DRAIN: DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, ADJUSTABLE 'TYPE B' NICKLE BRONE STRAINER, OUTLET DIAMETER TO MATCH PIPING

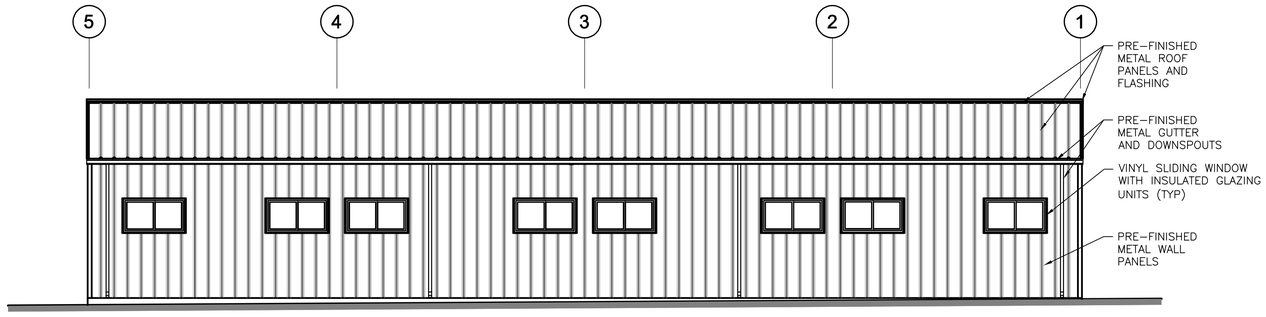
PLAN OF EXISTING BUILDING
1:75



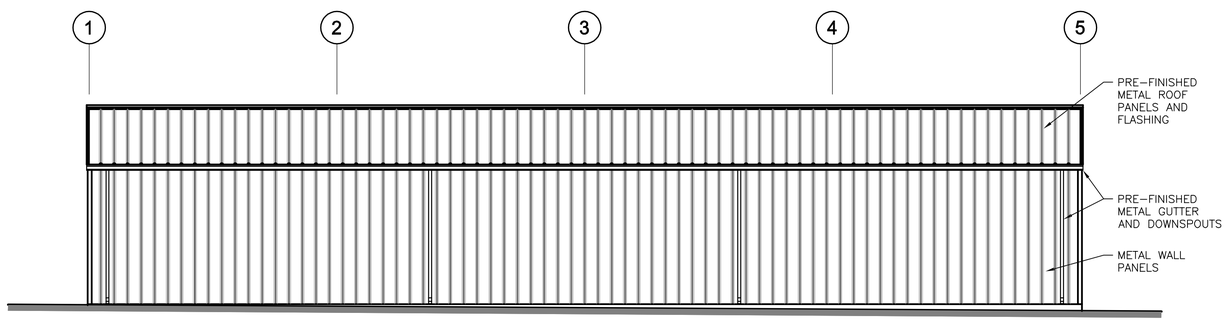
NORTH ELEVATION
1:75



SOUTH ELEVATION
1:75



EAST ELEVATION
1:75



WEST ELEVATION
1:75

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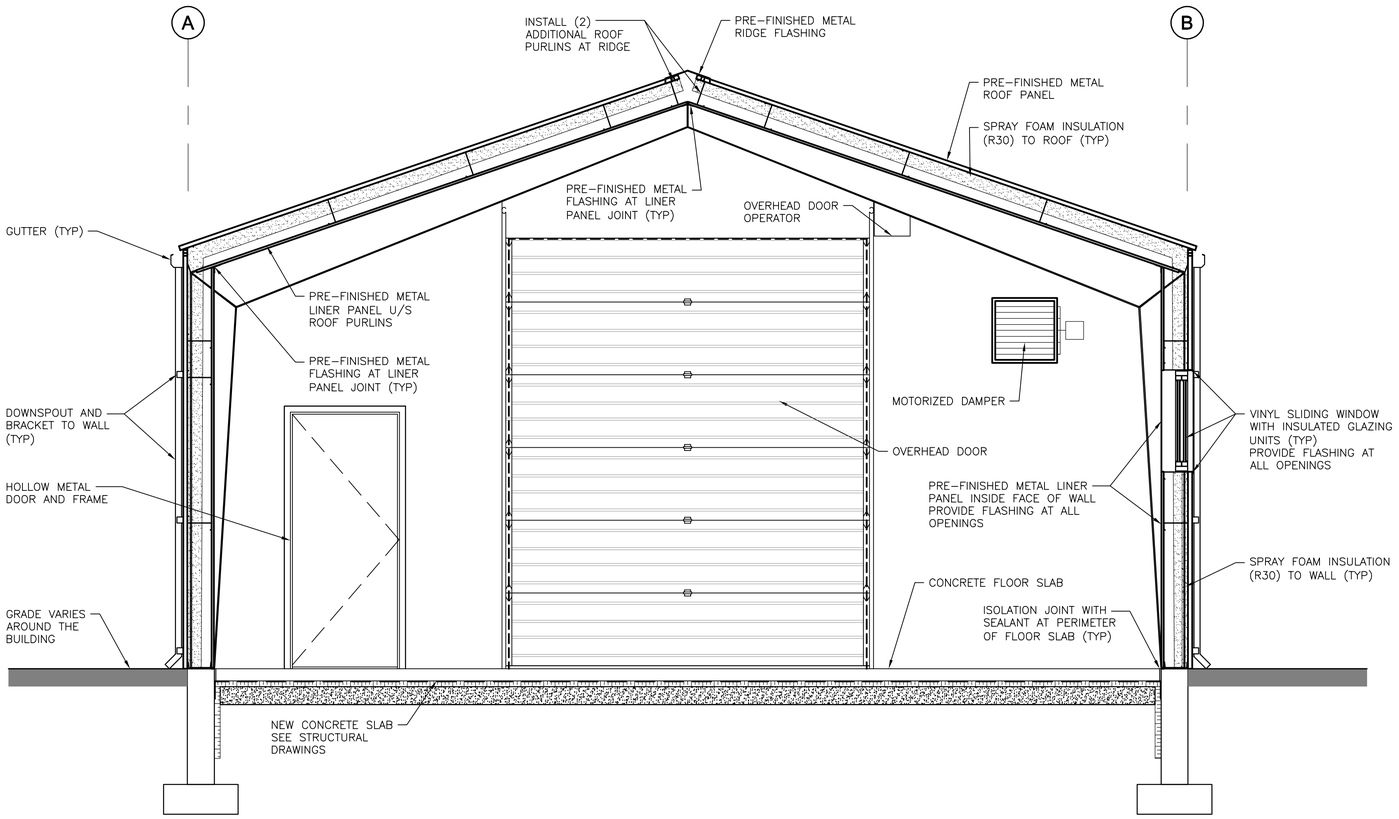
CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

RECONDITIONING OF BUILDING 'F' NEW CONSTRUCTION FLOOR PLAN ELEVATIONS

SHEET NO. A3

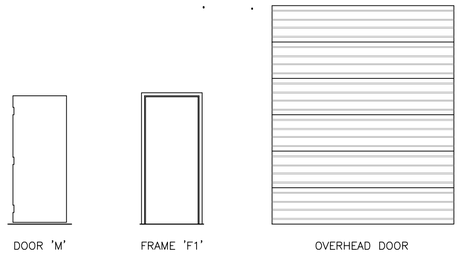


2 / A3 CROSS SECTION
1:25

DOOR AND FRAME SCHEDULE

	DOOR							FRAME					
NUMBER	TYPE	WIDTH	HEIGHT	THICK	MAT	FINISH	GLAZING	TYPE	MAT	FINISH	RATING	REMARKS	HDW PKG
D1	M	914	2134	45	HM	PAINT		F1	HM	PAINT		INSULATED DOOR, THERMALLY BROKEN FRAME	
D6	OH	3000	3600		STEEL	PAINT						INSULATED DOOR WITH OPERATOR AND CONTROLS	

DOOR HARDWARE:
3 NRP BUTT HINGES
1 CLOSER
1 THRESHOLD
1 WEATHERSTRIPPING
1 PANIC SET
1 DEAD BOLT



DOOR AND FRAME ELEVATIONS
1:50

Name of Practice:
Dillon Building Design Ltd.
Engineers and Architects
1400-130 Dufferin Avenue
London, Ontario, Canada N6A 5R2

Name of Project:
RECONDITIONING OF BUILDING 'F'

Location:
CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

Item	National Building Code Data Matrix Parts 3 or 9			Building Code Reference (References are to Division B unless noted [A] for Division A or [C] for Division C.)
1	Project Description:	☐ New ☐ Addition ☐ Change of Use ■ Alteration	☐ Part 11 11.1 to 11.4	■ Part 9 1.1.2. [A] & 9.10.1.3.
2	Major Occupancy(s) Storage garage - (Low Hazard Industrial) Group F-Division 3			9.10.2.
3	Building Area (m²)	Existing 211.25 m² New ___0___ Total 211.25 m²		1.4.1.2. [A]
4	Gross Area	Existing 211.25 m² New __0___ Total 211.25 m²		1.4.1.2. [A]
5	Number of Storeys	Above grade 1 Below grade _____0_____		1.4.1.2[A] & 9.10.4
6	Number of Streets/Fire Fighter Access _____1_____			9.10.20.
7	Building Classification 9.10.2. - Group F, Division 3			9.10.2.
8	Sprinkler System Proposed	☐ entire building ☐ selected compartments ☐ selected floor areas ☐ basement ☐ in lieu of roof rating ■ not required		9.10.8.2. INDEX
9	Standpipe required	☐ Yes ■ No		N/A
10	Fire Alarm required	☐ Yes ■ No		9.10.18.
11	Water Service/Supply is Adequate	■ Yes ☐ No		N/A
12	High Building	☐ Yes ■ No		N/A
13	Construction Restrictions Actual Construction	■ Combustible permitted ☐ Non-combustible required ☐ Both ☐ Combustible ■ Non-combustible ☐ Both		9.10.6.
14	Mezzanine(s) Area m² _____N/A_____			9.10.4.1.
15	Occupant load based on Basement: 1st Floor 2nd Floor 3rd Floor	☐ m²/person ■ design of building Occupancy ___0___ Load _____ persons Occupancy ____0____ Load _____ persons Occupancy ____0____ Load _____ persons Occupancy ____0____ Load _____ persons		9.9.1.3.
16	Barrier-free Design	☐ Yes ■ No (Explain) _____		9.5.2.
17	Hazardous Substances	☐ Yes ■ No		9.10.1.3.(4)

Building Code Data Matrix, Part 9

July, 2020

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DESIGN: ND | REVIEWED BY:
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SCALE: NOTED

CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

RECONDITIONING OF BUILDING 'F'
BUILDING CROSS SECTION, OBC MATRIX
DOOR AND FRAME SCHEDULE, ELEVATIONS

SHEET NO. A4

GENERAL NOTES

GENERAL

1. ALL WORK SHALL CONFORM TO THE 2015 NATIONAL BUILDING CODE OF CANADA.
2. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE LEGISLATION INCLUDING BUT NOT LIMITED TO OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS.
3. THE CONTRACTOR SHALL AS PART OF HIS WORK CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR BEFORE PROCEEDING WITH CONSTRUCTION.
4. SAFEGUARD AND PROTECT ALL EXISTING STRUCTURES, SERVICES AND UTILITIES WHICH MAY BE AFFECTED BY THE WORK OF THIS CONTRACT.
5. CONTRACTOR TO SUPPLY SHOP DRAWINGS FOR ALL ITEMS NOTED IN SPECIFICATIONS AND ALL ITEMS DESIGNED BY THE CONTRACTOR.

ASBESTOS CONTAINING MATERIAL

1. THE MANAGEMENT OF ASBESTOS CONTAINING MATERIAL IS GOVERNED UNDER ONTARIO REGULATION (O.REG.) 278/05 DESIGNATED SUBSTANCE – ASBESTOS ON CONSTRUCTION PROJECTS AND IN BUILDINGS AND REPAIR OPERATIONS. IF ASBESTOS CONTAINING MATERIAL IS KNOWN OR SUSPECTED TO BE PRESENT, THE MATERIAL SHOULD BE MANAGED AND REMOVED IN ACCORDANCE WITH O.REG. 278/05, PRIOR TO BEING DISTURBED DURING REPAIR, RENOVATION OR DEMOLITION ACTIVITIES.
2. ALL CONFIRMED ACMS SHOULD BE MANAGED AND/OR DISPOSED OF IN ACCORDANCE WITH O. REG 490/09, O.REG 278/05 AND O.REG 347. ALL ASBESTOS ABATEMENT ACTIVITIES SHOULD BE CONDUCTED BY A QUALIFIED ASBESTOS ABATEMENT CONTRACTOR.
3. DISPOSAL OF ACM IS GOVERNED UNDER O.REG 347 GENERAL WASTE MANAGEMENT. IT REQUIRES THAT ALL ACM WASTE MUST BE PLACED IN DOUBLE SEALED LABELED CONTAINER THAT IS FREE OF CUTS, TEARS, OR PUNCTURES AND DISPOSED OF IN LICENSED WASTE FACILITIES THAT HAVE BEEN PROPERLY NOTIFIED.

LEAD BASED PAINT

1. LEAD–CONTAINING SHOULD BE MANAGED IN ACCORDANCE WITH O.REG. 490/09 DURING DEMOLITION ACTIVATES. WORKERS SHALL BE PROTECTED FROM EXPOSURE TO AIRBORNE LEAD IF THEY ARE UNDERTAKING ANY ACTIVITY THAT DISTURB SURFACES COVERED WITH LEAD–BASED PAINT.

DEMOLITION

1. DETERMINE IF ENVIRONMENTAL ASSESSMENT (EA) IS REQUIRED.
2. IF NECESSARY, EMPLOY QUALIFIED CONSULTANT TO PERFORM EA.
3. COMMUNICATE FINDINGS AND CONCLUSIONS IN WRITING TO DEPARTMENTAL REPRESENTATIVE PRIOR TO START OF WORK.
4. INVESTIGATE SITE AND STRUCTURES TO DETERMINE DISMANTLING, PROCESSING AND STORAGE LOGISTICS REQUIRED PRIOR TO BEGINNING OF WORK.
5. OBTAIN NECESSARY PERMITS AND APPROVALS INCLUDING DEMOLITION. PROVIDE COPIES TO DEPARTMENTAL REPRESENTATIVE PRIOR TO START OF WORK ON SITE.
6. DISCONNECT ELECTRICAL, TELEPHONE AND COMMUNICATION SERVICE LINES ENTERING BUILDINGS TO BE DECONSTRUCTED. POST WARNING SIGNS ON ELECTRICAL LINES AND EQUIPMENT WHICH MUST REMAIN ENERGIZED TO SERVE OTHER PRODUCTS DURING PERIOD OF DEMOLITION.
7. LOCATE AND PROTECT UTILITY LINES. DO NOT DISRUPT ACTIVE OR ENERGIZED UTILITIES TRAVERSING PREMISES.
8. DISCONNECT AND CAP MECHANICAL SERVICES.
9. MATERIALS REMOVED ARE PROPERTY OF THE CONTRACTOR.
10. THROUGHOUT COURSE OF DECONSTRUCTION PAY CLOSE ATTENTION TO CONNECTIONS AND MATERIAL ASSEMBLIES. EMPLOY WORKMANSHIP PROCEDURES WHICH MINIMIZE DAMAGE TO MATERIALS AND EQUIPMENT.
11. ENSURE WORKERS AND SUBCONTRACTORS ARE BRIEFED AND TRAINED TO CARRY OUT WORK IN ACCORDANCE WITH APPROPRIATE DECONSTRUCTION TECHNIQUES.
12. PROJECT SUPERVISOR WITH PREVIOUS DECONSTRUCTION EXPERIENCE MUST BE PRESENT ON SITE THROUGHOUT PROJECT.
13. DECONSTRUCT IN ACCORDANCE WITH CSA S350.
14. WORKERS MUST UTILIZE ADEQUATE FALL PROTECTION WHERE CONSIDERED NECESSARY.
15. MAINTAIN STRUCTURAL INTEGRITY OF STRUCTURE.
16. SYSTEMATICALLY REMOVE FINISHES, FURNISHINGS, AND MECHANICAL AND ELECTRICAL EQUIPMENT OF VALUE.
17. DISASSEMBLE IN SEQUENCE: ROOF STEEL, INTERIOR PARTITIONS, EXTERIOR WALL STEEL, DOORS, WINDOWS AND CONCRETE FLOORS.
18. SUPPLY SEPARATE, MARKED DISPOSAL BINS FOR CATEGORIES OF WASTE MATERIAL OR SEPARATE MATERIAL INTO ORGANIZED PILES AS PRACTICAL.
19. TRANSPORT MATERIAL DESIGNATED FOR ALTERNATE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.
20. DISPOSE OF MATERIALS NOT DESIGNATED FOR ALTERNATE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.
21. KEEP SITE CLEAN AND ORGANIZED THROUGHOUT DECONSTRUCTION.
22. UPON COMPLETION OF PROJECT, REMOVE DEBRIS AND LEAVE WORK SITE CLEAN.

METAL ROOFING, SIDING, LINER PANEL AND METAL FLASHING:

1. GENERAL DESIGN SHALL BE BASED ON CSA STANDARD CAN/CSA–S136–01.
2. METAL SIDING AND FLASHING SHALL BE FABRICATED FROM STEEL SHEETS CONFORMING TO ASTM SPECIFICATION A653/A653M–03, GRADE "33" WITH A G90 (Z275) ZINC.
3. DESIGN PANELS TO RESIST THE REQUIRED ENVIRONMENTAL LOADS BUT IN NO CASE LESS THAN 1.0 kPa. ACTUAL DESIGN LOADS TO BE BASED ON LOCATION, GEOMETRY AND USE OF BUILDING.
4. SIDING AND FLASHING TO BE INSTALLED IN ACCORDANCE MANUFACTURER'S WRITTEN INSTRUCTIONS.
5. METAL ROOF PANELS PROFILE TO BE CL622R, EXTERIOR METAL SIDING PROFILE TO BE CL5022R AND INTERIOR LINER PROFILE TO BE CL508 (CHANNELWALL).
6. SIDING MATERIAL TO BE FORMED FROM GALVANIZED PRE–PAINTED STEEL WITH CORE NOMINAL THICKNESS OF 1.22 mm AS MANUFACTURED BY VICWEST OR APPROVED EQUIVALENT.
7. EXTERIOR METAL SIDING MATERIAL TO BE PRE–PAINTED WITH SILICONE MODIFIED POLYESTER (SMP) 'WEATHER X' PAINT SYSTEM, ON THE INTERIOR AND EXTERIOR SURFACES. EXTERIOR COATINGS TO BE IN ACCORDANCE WITH ASTM SPECIFICATION A924/A924M–06.
8. PREFINISHED CLADDING BARRIER COATING THICKNESS SHALL BE 8 MILS ON EXTERIOR EXPOSED SURFACE OF THE FINISHED PROFILE AND 8 MILS ON THE REVERSE.
9. FINISHED COLOUR TO BE SELECTED BY OWNER FROM MANUFACTURER'S STANDARD COLOUR RANGE.
10. CLOSURES, FLASHING, SILLS, FILLERS, CORNER PIECES, DOWNSPOUT AND CONDUCTOR HEAD SHALL BE FABRICATED FROM SAME MATERIAL AS METAL SIDING.
11. SCREWS SHALL BE CORROSION RESISTANT PURPOSE MADE, HEAD COLOUR TO MATCH ATTACHED SHEET.
12. FASTENERS SHALL BE SUPPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS TO MEET THE LOAD REQUIREMENTS.
13. SAMPLES OF METAL SIDING COLOUR, PROFILE AND FLASHING ARE TO BE SUBMITTED FOR OWNERS APPROVAL PRIOR TO FABRICATION.

SEALANT

1. MULTI–COMPONENT SEALANTS TO MEET CGSB SPECIFICATION CAN/CGSB–19.24, (2–PART URETHANE) OR SINGLE COMPONENT SEALANT TO MEET CGSB SPECIFICATION CAN/CGSB–19.13, (SILICONE) TO BE USED FOR:
   a. EXTERIOR JOINTS AROUND PERIMETERS OF METAL DOOR FRAMES INCLUDING THRESHOLDS AND SILLS.
   b. EXTERIOR JOINTS AROUND PERIMETERS OF LOUVRE FRAMES AND DUCT PENETRATIONS.
   c. EXTERIOR PERIMETER OF CONDUIT, WIRE AND PIPE PENETRATIONS.
   d. ROOF FLASHING.
2. USE ONE OF THE FOLLOWING SEALANTS:
   a. DYMERIC BY TREMCO (CANADA) LIMITED.
   b. 1200 SEALANT BY CGE CANADA LTD.
   c. 795 SEALANT BY DOW CORNING CANADA

RIGID INSULATION

1. INTERIOR FACE OF FOUNDATION WALLS: STYROFOAM SM BY DOW CHEMICAL CANADA INC., OR APPROVED EQUAL, EXPANDED CLOSED CELL POLYSTYRENE TO CAN/CGSB–51.20 TYPE 4.
2. RIGID INSULATION UNDER SLAB: HIGHLOAD 100 BY DOW CHEMICAL CANADA INC., OR APPROVED EQUAL, EXPANDED CLOSED CELL POLYSTYRENE. MINIMUM COMPRESSIVE STRENGTH OF 100 PSI.
3. PROVIDE IN TOTAL THICKNESS AND DEPTH AS SHOWN ON THE DRAWINGS.

SPRAY FOAM INSULATION

1. SPRAY FOAM IN WALLS AND ROOF: "WALLTITE" SPRAY POLYURETHANE TO CAN/ULC_S705.1.
2. PRIMERS: IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATION FOR SURFACE CONDITIONS
3. MANUFACTURERS HAVING COMPARABLE PRODUCTS TO THE REQUIREMENTS OF THIS SECTION, CONSIDERED ACCEPTABLE FOR USE
   a. BASF – THE CHEMICAL COMPANY
   b. CONSULTANT APPROVED EQUAL.

VERTICAL LIFT METAL DOORS:

1. DOOR SUPPLIER SHALL SUBMIT 3 COPIES OF SHOP DRAWINGS, MANUFACTURER'S OWNER'S MANUAL, MAINTENANCE MANUAL AND MASTER SERVICE MANUAL TO THE OWNER.
2. SECTIONAL DOORS SHALL BE SERIES THERM–O–DOR TD 138 AS MANUFACTURED BY STEEL–CRAFT DOOR PRODUCTS LTD. OR AN CONSULTANT APPROVED SUBSTITUTE DOOR SHALL BE TO SIZES NOTED ON THE DRAWINGS.
3. WINDOWS – SINGLE GLAZED: SIZE 24 INCH WIDE x 8 INCH HIGH x 1/8 INCH THICK CLEAR ACRYLIC LITES WITH ROUNDED CORNERS, MOUNTED IN CONTINUOUS RUBBER MOULDINGS IN DOOR SKINS.
4. LOWER VERTICAL TRACK SHALL BE U–SHAPED 12 GAUGE GALVANIZED STEEL.
5. DOOR INSTALLER SHALL EXAMINE THE SUBSTRATE AND CONDITIONS UNDER WHICH DOOR IS TO BE INSTALLED AND NOTIFY THE OWNER/ENGINEER IN WRITING OF ANY CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF THE WORK. DO NOT PROCEED WITH THE WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO THE INSTALLER.
6. DOOR INSTALLER SHALL INSTALL DOORS IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURER'S RECOMMENDATIONS. LOCATION OF DOOR AND HARDWARE SHALL BE AS INDICATED ON DRAWINGS.
7. IN ADDITION TO MANUFACTURER'S STANDARD WARRANTY OF ONE YEAR ON WORKMANSHIP AND MATERIALS, PROVIDE FIVE–YEAR WARRANTY AGAINST DELAMINATING OF INSULATED STEEL DOOR PANELS.

HOLLOW METAL DOORS AND FRAMES

1. DOOR FACE, 1.6 MM BASE THICKNESS STEEL SHEET, FLUSH TYPE, WITH NO FACE SEAMS.
2. CORE: SOLID SLAB OF POLYURETHANE INSULATION COMPLETELY FILLING INSIDE OF DOOR AND BONDED UNDER PRESSURE TO FACE SHEETS.
3. WELDED CORNERS, GROUND, FILLED AND SANDED SMOOTH, PRIMED AND PREPARED FOR FINAL FINISHING.
4. EXTERIOR DOOR FRAMES: 1.6 MM THICK BASE STEEL, THERMAL BREAK ASSEMBLY.
5. SET PLUMB, SQUARE, LEVEL AND AT CORRECT ELEVATION. ANCHOR TO ADJACENT CONSTRUCTION.
6. BRACE WHILE BUILDING–IN. INSTALL TEMPORARY HORIZONTAL WOOD SPREADERS AT THIRD POINTS OF DOOR OPENING TO MAINTAIN FRAME WIDTH. PROVIDE VERTICAL SUPPORT AT CENTRE OF HEAD FOR OPENINGS OVER 1200 MM WIDE. REMOVE TEMPORARY SPREADERS AND SUPPORTS AFTER FRAMES ARE BUILT–IN.
7. MAKE ALLOWANCE FOR DEFLECTION TO ENSURE STRUCTURAL LOADS ARE NOT TRANSMITTED TO FRAMES.
8. DOOR INSTALLATION: INSTALL DOORS AND HARDWARE IN ACCORDANCE WITH TEMPLATES AND MANUFACTURER'S INSTRUCTIONS.
9. PROVIDE EVEN MARGINS BETWEEN DOORS AND JAMBS AND DOORS AND FLOORING AND THRESHOLDS AS FOLLOWS:
   - HINGE SIDE: 1.0 MM.
   - LATCH SIDE AND HEAD: 1.5 MM. FLOORING AND THRESHOLDS: 13 MM.
10. ADJUST OPERABLE PARTS FOR CORRECT FUNCTION.
11. INSTALL VINYL TOP CAPS IN OUT SWINGING EXTERIOR DOORS FOR WEATHER PROTECTION.

VINYL OPERATING WINDOWS

1. DESIGN WINDOWS TO PREVENT THERMAL SHOCK AND FRACTURE DAMAGE TO GLASS. PERFORM STRESS ANALYSIS, DESIGN GLASS AND GLAZING TO MEET CAN/CGSB 12.20. DESIGN WINDOWS TO ACCOMMODATE LIVE, DEAD, LATERAL, WIND, SEISMIC, HANDLING, TRANSPORTATION, AND ERECTION LOADS. COMPLY WITH PUBLISHED RECOMMENDATIONS OF GLASS MANUFACTURER AND GLASS ASSOCIATION OF NORTH AMERICA GLAZING MANUAL.
2. DESIGN ALL GLAZING SYSTEMS TO PROVIDE FOR POSITIVE DRAINAGE OF WATER ENTERING CLADDING SYSTEMS TO EXTERIOR FACE OF BUILDING
3. ENSURE ALL WINDOWS MEET THE LISTED CAN/CSA A440 WINDOW CLASSIFICATION RATINGS SPECIFIED.
4. DESIGN WINDOWS, INCLUDING ANCHORAGE TO ACCOMMODATE THERMAL MOVEMENTS OF UNITS RESULTING FROM TEMPERATURE CHANGE RANGE OF 67 DEG C, AMBIENT 100 DEG C, FOR MATERIAL SURFACES WITHOUT BUCKLING, DISTORTION, OPENING OF JOINTS, FAILURE OF JOINT SEALANTS, DAMAGING LOADS AND STRESSES ON GLAZING AND CONNECTIONS AND OTHER DETRIMENTAL EFFECTS. BASE ENGINEERING CALCULATIONS ON ACTUAL SURFACE TEMPERATURES OF MATERIALS DUE TO SOLAR HEAT GAIN AND NIGHT TIME SKY HEAT LOSS.
5. REINFORCE UNITS TO WITHSTAND HANDLING STRESSES, TEMPERATURE CHANGES, THE EFFECT OF SHRINKAGE FORCES, WIND LOADS AND ALL OTHER DEAD AND LIVE LOADS INCLUDING FORCES INDUCED BY OTHER ELEMENTS.
6. DESIGN FOR WIND LOADS TO NATIONAL BUILDING CODE OF CANADA.
7. DESIGN AND ANCHOR WORK SO THAT THERE WILL BE NO OBJECTIONABLE DISTORTION OR SERIOUSLY STRESSED FASTENINGS AS THE METAL EXPANDS AND CONTRACTS. DESIGN AND FABRICATE EXPANSION JOINTS TO ENSURE THAT THEY WILL BE, AND REMAIN, PERMANENTLY WATERTIGHT. PROVIDE ALL NECESSARY WIND BRACING AS REQUIRED.
8. DESIGN MULLIONS FOR MAXIMUM DEFLECTION OF L/175 OR 19 MM MAXIMUM, UNDER DESIGN WIND AND MAINTENANCE LOAD.
9. WINDOWS SHALL BE FABRICATED OF POLYVINYL CHLORIDE (PVC) MATERIAL, STYLIZED SASH (143MM).
   a. FUSION WELDED PVC FRAME AND SASHES, THREE WEATHER–STRIPS FOR PROTECTION AGAINST AIR INFILTRATION
   b. HARDWARE; MULTI–POINT, FOLDING "ENCORE" HANDLE.
   c. SEALED GLASS UNIT WITH 16MM AIR SPACE. TRIPLE, LOW–E ARGON H.P
   d. NYLON SCREENS: TO CAN/CGSB–79.1.
   e. FASTENERS: TAMPER PROOF.
11. VINYL FINISHES: IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440, INCLUDING APPENDICES, SUPPLEMENTED AS FOLLOWS: GLAZE WINDOWS IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440.
12. INSTALL WINDOWS IN ACCORDANCE WITH CSA–A440/A440.1.
13. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS INCLUDED WITH EACH UNIT.
14. APPLY SEALANT AROUND PERIMETER OF WINDOW UNIT BETWEEN NAIL FIN AND EXTERIOR SHEATHING OF WALL.
15. INSTALL WINDOW UNIT LEVEL AND PLUMB. CENTER WINDOW UNIT IN OPENING AND SECURE WINDOW UNIT BY NAILING THROUGH NAIL FIN AND SCREW THROUGH JAMBS AS INDICATED IN MANUFACTURER'S INSTRUCTIONS.
16. FLASH WINDOWS IN ACCORDANCE WITH AAMA'S "STANDARD PRACTICE FOR INSTALLATION OF WINDOWS WITH A MOUNTING FLANGE IN STUD FRAME CONSTRUCTION".
17. ADJUST OPENING SASH AND HARDWARE TO OPERATE SMOOTHLY.
18. ROUGH OPENING SIZES INDICATED ARE APPROXIMATIONS ONLY. CONTRACTOR TO VERIFY ACTUAL ROUGH OPENING REQUIREMENTS ON SITE BASED ON MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
19. SEAL JOINTS BETWEEN WINDOWS AND WINDOW SILLS WITH SEALANT. BED SILL EXPANSION JOINT COVER PLATES AND DRIP DEFLECTORS IN BEDDING COMPOUND. CAULK BETWEEN SILL AND WINDOW–FRAME. CAULK BUTT JOINTS IN CONTINUOUS SILLS.

AIR BARRIER AND VAPOUR RETARDER

1. EQUIP WINDOW FRAMES WITH SITE INSTALLED AIR BARRIER AND VAPOUR RETARDER MATERIAL FOR SEALING TO BUILDING AIR BARRIER AND VAPOUR RETARDER AS FOLLOWS:
   f. MATERIAL: IDENTICAL TO, OR COMPATIBLE WITH, BUILDING AIR BARRIER AND VAPOUR RETARDER MATERIALS TO PROVIDE REQUIRED AIR TIGHTNESS AND VAPOUR DIFFUSION CONTROL THROUGHOUT EXTERIOR ENVELOPE ASSEMBLY.
   g. MATERIAL WIDTH: ADEQUATE TO PROVIDE REQUIRED AIR TIGHTNESS AND VAPOUR DIFFUSION CONTROL TO BUILDING AIR BARRIER AND VAPOUR RETARDER FROM INTERIOR.

PAINTING

1. THE PAINTING SCHEDULE IN THIS SECTION IS BASED ON THE PRODUCTS OF BENJAMIN MOORE.
2. COMPARABLE PRODUCTS OF GLIDDEN, ICI–DEVAE, COLOUR–YOUR–WORLD, SHERWIN WILLIAMS OR PARA PAINTS, PREMIUM LINE ARE ACCEPTABLE.
3. ALL FINISHES TO BE APPLIED BY SKILLED AND EXPERIENCED APPLICATORS OVER CLEAN AND DRY SURFACES ONLY.
4. PAINT SHALL BE EVENLY SPREAD AND EACH COAT WELL LEVELLED, WITHOUT RUNS, SAGS OR OTHER BLEMISHES.
5. EXCESS PAINT WHICH TENDS TO FILL UP ANGLES AND PROFILES OR SMALL MOULDINGS SHALL BE NEATLY CUT AWAY AND SUCH WORK FINISHED TO THE CONSULTANT'S SATISFACTION.
6. FINISHES OF EACH TYPE SHALL BE UNIFORM AS TO SHEEN, COLOUR, TEXTURE AND THICKNESS.
7. GENERAL:
   a. PREPARATION FOR THIS WORK SHALL CONSIST OF CLEANING OFF LOOSE MATERIAL, REMOVING ALL DUST, DIRT, GREASE, RUST AND OTHER EXTRANEOUS MATTER WHICH WOULD IMPAIR THE WORK, AND LEAVING ALL SURFACES CLEAN AND SUITABLE FOR THE APPLICATION OF THE MATERIALS HEREIN SPECIFIED.
   b. ALL WORK SHALL BE RUBBED OR SANDED SMOOTH BEFORE PAINTING AND/OR FINISHING IS COMMENCED.
   c. GALVANIZED METAL SURFACES, REMOVE DIRT AND GREASE WITH MINERAL SPIRITS AND WIPE DRY WITH CLEAN CLOTHS.
8. SCHEDULE – HOLLOW METAL DOORS AND FRAMES:
   a. PRIMER: ONE COAT ALKYD RUST PAINT MOORE PRIMER 163.
   b. FINISH: TWO COATS MOORE STYLE 589 ALKYD GLOSS ENAMEL.
   c. COLOUR TO BE SELECTED FROM MANUFACTURERS' STANDARD COLOURS.

ONTARIO ASSOCIATION OF ARCHITECTS
NAZLI DELAVIZ
LICENCE 8851
September 17, 2010

DILLON
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No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION	07/29/20	ND
1	ISSUED FOR CLIENT REVIEW	06/22/20	ND

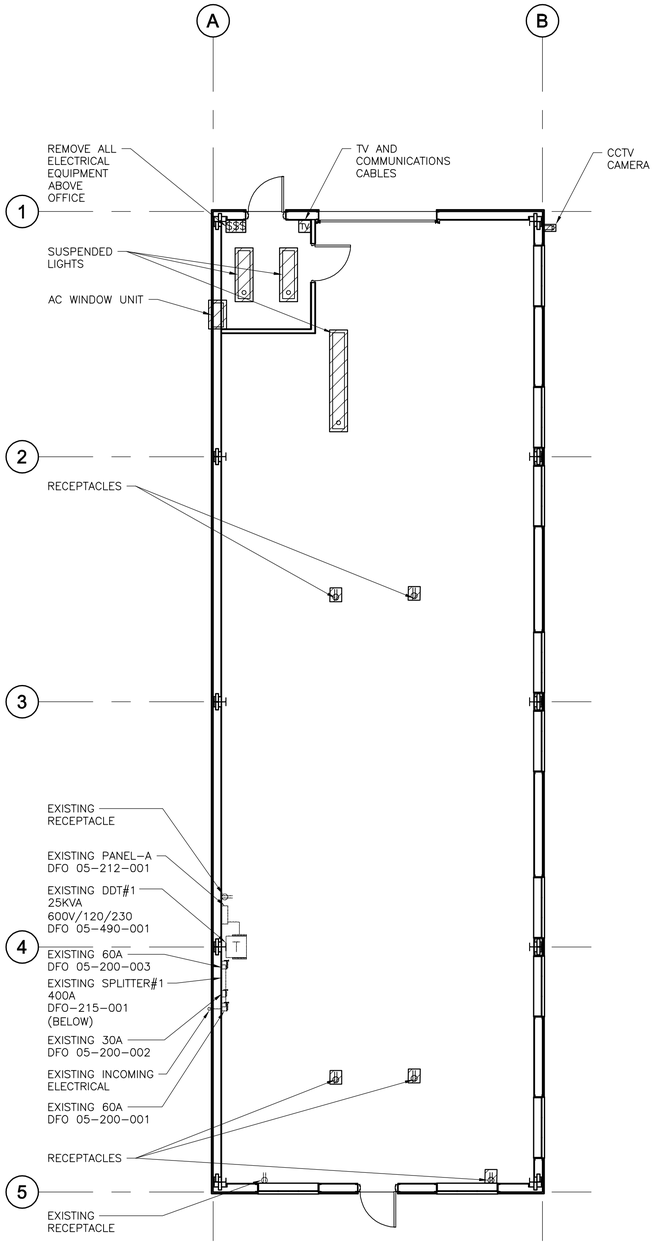
DESIGN: ND | REVIEWED BY:
DRAWN: PDR | CHECKED BY:
DATE: MAY 2020
SCALE: NOTED

CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

PROJECT NO. 20-2403

RECONDITIONING OF BUILDING 'F'
OUTLINE SPECIFICATIONS

SHEET NO. A5



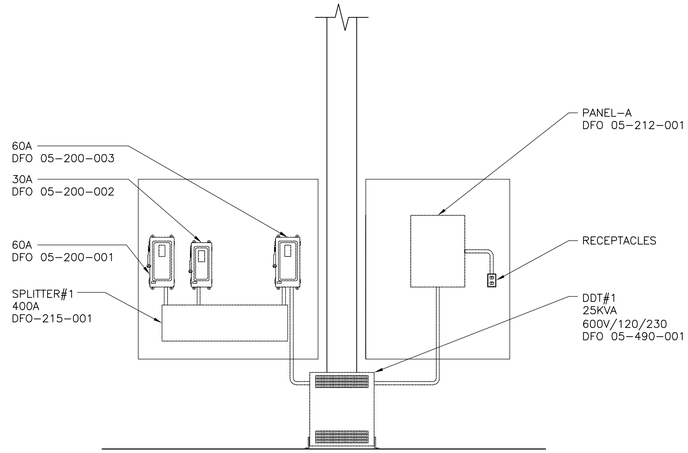
DEMOLITION POWER AND LIGHTING PLAN

1:75

NOTES

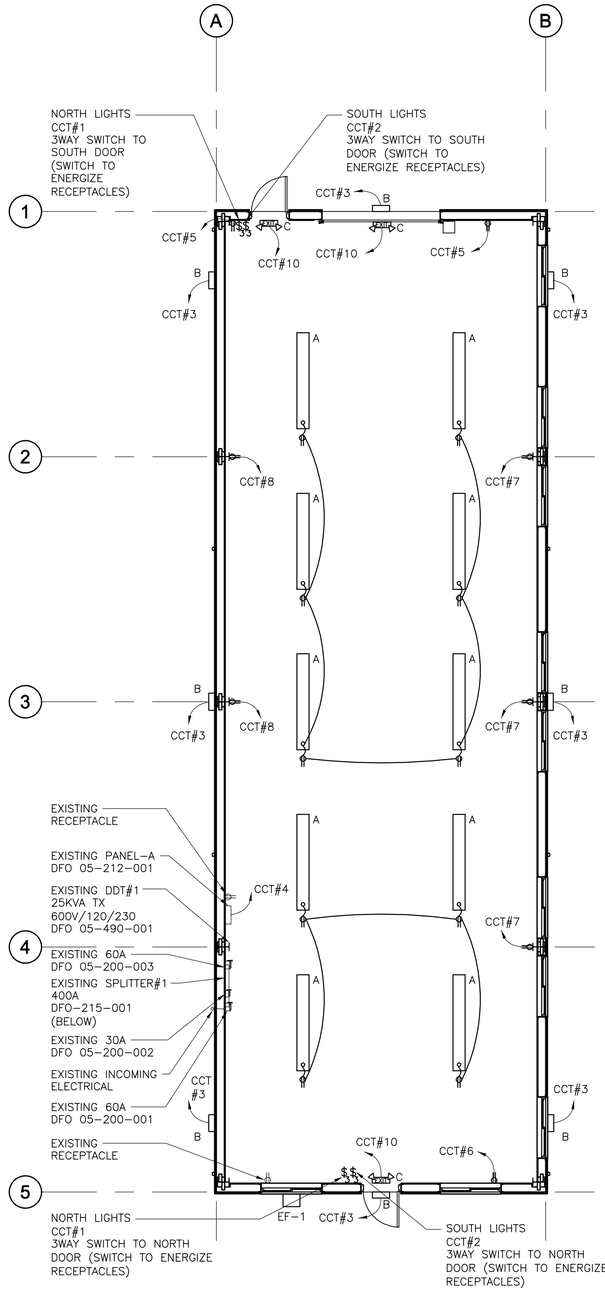
1. INCOMING ELECTRICAL SERVICE TO REMAIN (SPLITTER, DISCONNECTS, LIGHTING PANEL, TX.) CONTRACTOR TO VERIFY EXISTING ELECTRICAL EQUIPMENT IN THE FIELD.
2. CONTRACTOR TO REMOVE ALL ELECTRICAL CONDUITS, WIRING, SWITCHES, RECEPTACLES, JUNCTION BOX, CAMERAS, ETC. AC, TV AND CAMERA TO BE RETURNED TO OWNER. (THIS DEMO DETAIL DOES NOT DEPICT WHAT MAY BE IN THE FIELD. ADDITIONAL ITEMS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER/OWNER.)
3. CONTRACTOR TO SEAL ALL PENETRATIONS.
4. EXHAUST FAN EF–1 TO BE CONTROLLED BY THERMOSTAT. EF–1 TO BE INTERLOCKED WITH DAMPER.

PANEL–A(EX)		100A,1ø,120/240V,60HZ			18CCT.
LOAD	DESCRIPTION			DESCRIPTION	LOAD
	INTERIOR LIGHTS – NORTH	15A 1	2 15A	INTERIOR LIGHTS – SOUTH	
	EXTERIOR LIGHTS	15A 3	4 15A	PANEL RECEPTACLE	
	NORTH WALL RECEPTACLES	15A 5	6 15A	SOUTH WALL RECEPTACLES	
	EAST WALL RECEPTACLES	15A 7	8 15A	WEST WALL RECEPTACLES	
	EF–1(EXHAUST FAN/DAMPER)	15A 9	10 15A	EXIT AND EMG LIGHTS	
	–	__A 11	12 15A	GARAGE DOOR OPENER	
	–	__A 13	14 __A	–	
	–	__A 15	16 __A	–	
	–	__A 17	18 __A	–	



EXISTING ELECTRICAL LAYOUT (TO REMAIN)

N.T.S.



NEW ELECTRICAL POWER AND LIGHTING PLAN

1:75

LEGEND

INDICATES EQUIPMENT TO REMOVED AND/OR RELOCATED

LICENSED PROFESSIONAL ENGINEER M. V. LOMBARDI 100163974 Aug 7 2020 PROVINCE OF ONTARIO

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
2	ISSUED FOR CONSTRUCTION	08/07/20	MVL
1	ISSUED FOR CLIENT REVIEW	06/22/20	MVL

DESIGN	MVL
REVIEWED BY	
DRAWN	WC
CHECKED BY	
DATE	MAY 2020
SCALE	NOTED

CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

ELECTRICAL - DEMO, NEW POWER AND LIGHTING

PROJECT NO. 20-2403

SHEET NO. E1

1.0 – GENERAL CONDITIONS

1.1 GENERAL
THE FOLLOWING GENERAL CONDITIONS SHALL BE READ IN CONJUNCTION WITH THE GENERAL CONDITIONS AND SPECIAL CONDITIONS CONTAINED IN THE ASSOCIATED SPECIFICATIONS.

1.2 SCOPE OF WORK
THIS CONTRACTOR SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT AND ASSOCIATED SERVICES NECESSARY FOR, AND INCIDENTAL TO THE COMPLETE DEMOLITION, INSTALLATION OF COMPLETELY FINISHED, TESTED, BALANCED AND PROPERLY OPERATING ELECTRICAL SYSTEMS AS SPECIFIED HEREAFTER AND SHOWN ON DRAWINGS. THE INTENTION IS TO PROVIDE FOR A FINISHED PIECE OF WORK COMPLETE IN ALL ESSENTIALS AS CALLED FOR BY THE DOCUMENTS AND ACCEPTED GOOD PRACTICE.

1.3 CLEANING UP
THIS CONTRACTOR SHALL, AT ALL TIMES, KEEP THE SITE NEAT & CLEAN AND FREE FROM ACCUMULATION OF WASTE, MATERIALS AND RUBBISH WHICH ARISE OUT OF HIS WORK.

1.4 EQUIPMENT
EQUIPMENT AND MATERIAL TO BE CSA/ULC CERTIFIED, AND MANUFACTURED TO STANDARD QUOTED. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT CSA CERTIFIED, OBTAIN SPECIAL APPROVAL FROM LOCAL CSA OFFICE OR ESA OR GOVERNING BODY.

1.5 AS BUILT DRAWINGS
THIS CONTRACTOR SHALL MAINTAIN, AT THE JOB SITE, ONE SET OF PLANS ON WHICH HE SHALL CLEARLY NOTE ALL CHANGES OR DEVIATIONS FROM THE CONTRACT DOCUMENTS, AS THE JOB PROGRESSES THE CONTRACTOR SHALL AT THE TIME OF FINAL INSPECTION SUBMIT TO THE ARCHITECT, ENGINEERS OR OWNERS REPRESENTATIVE, ONE SET OF "AS–BUILT" DRAWINGS.

1.6 PROVIDE AND SUBMIT DRAWINGS TO ALL AUTHORITIES AS REQUIRED.

1.7 WORK SHALL BE DONE IN ACCORDANCE WITH ALL AUTHORITIES HAVING JURISDICTION AND TO ALL APPLICABLE CODES WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

1.8 BEFORE THE WORK IS COMPLETED, THOROUGHLY CLEAN ALL EQUIPMENT.

2.0 – WIRE AND CABLE

2.1 ALL CONDUCTORS SHALL BE STRANDED COPPER, MIN. SIZE # 12 AWG, WITH RW90 X–LINK INSULATION.

2.2 CONDUCTORS SHALL BE COLOURED WHITE FOR NEUTRAL; RED, BLACK, AND BLUE FOR PHASE CONDUCTORS; AND GREEN FOR GROUND CONDUCTORS. COLOUR SHALL BE CONTINUOUS THROUGHOUT.

2.3 WIRE IN UNDERGROUND PVC DUCTS TO BE RWU–90.

3.0 – GROUNDING

3.1 THE ENTIRE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE, OESC AND LOCAL AUTHORITY HAVING JURISDICTION OVER INSTALLATION.

4.0 – PERMIT AND BY–LAWS

4.1 THIS CONTRACTOR SHALL ABIDE BY ALL CODES AND BY–LAWS RELATED TO THIS INSTALLATION. PROVIDE NECESSARY NOTICE, OBTAIN AND PAY FOR ALL PERMITS OR OTHER FEES, IN ORDER THAT WORK SPECIFIED MAY BE CARRIED OUT.

5.0 – FIELD QUALITY CONTROL

5.1 TEST ELECTRICAL EQUIPMENT FOR CORRECT OPERATION IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

5.2 PERFORM TESTS USING QUALIFIED PERSONNEL. PROVIDE NECESSARY INSTRUMENTS AND EQUIPMENT.

5.3 CHECK PHASE ROTATION AND IDENTIFY EACH PHASE CONDUCTOR OF EACH FEEDER. IF APPLICABLE.

5.4 CHECK EACH FEEDER FOR CONTINUITY, SHORT CIRCUITS AND GROUNDS. ENSURE RESISTANCE TO GROUND OF CIRCUITS IS NOT LESS THAN 50 MEGOHMS. IF APPLICABLE.

6.0 – CONDUITS

.1 STANDARD RIGID WITH THREADED COUPLINGS, GALVANIZED STEEL.

.2 EMT WITH RAINTIGHT CONNECTORS FOR CONDUIT RUNS IN BUILDING INTERIORS.

.3 FLEXIBLE CONDUIT SHALL BE STEEL, PVC COVERED, LIQUID–TIGHT WITH INTEGRAL GROUND STRAP.

6.1 – EXPANSION FITTINGS FOR RIGID CONDUIT

.1 WEATHERPROOF EXPANSION FITTINGS WITH INTERNAL BONDING ASSEMBLY SUITABLE FOR 200 MM LINEAR EXPANSION.

.2 WATERTIGHT EXPANSION FITTINGS WITH INTEGRAL BONDING JUMPER SUITABLE FOR LINEAR EXPANSION AND 19 MM DEFLECTION IN ALL DIRECTIONS.

.3 WEATHERPROOF EXPANSION FITTINGS FOR LINEAR EXPANSION AT ENTRY TO PANEL.

6.2 – FISH CORD

.1 POLYPROPYLENE.

6.3 – INSTALLATION

.1 USE RIGID HOT DIPPED GALVANIZED STEEL THREADED CONDUIT ABOVE GRADE WHERE EXPOSED TO MECHANICAL DAMAGE.

.2 USE RIGID PVC CONDUIT UNDERGROUND.

.3 INSTALL CONDUIT SEALING FITTINGS IN HAZARDOUS AREAS. FILL WITH COMPOUND.

.4 MINIMUM CONDUIT SIZE FOR LIGHTING AND POWER CIRCUITS: 19 MM.

.5 BEND CONDUIT COLD. REPLACE CONDUIT IF KINKED OR FLATTENED MORE THAN 1/10TH OF ITS ORIGINAL DIAMETER.

.6 MECHANICALLY BEND STEEL CONDUIT OVER 19 MM DIA.

.7 FIELD THREADS ON RIGID CONDUIT MUST BE OF SUFFICIENT LENGTH TO DRAW CONDUITS UP TIGHT.

.8 INSTALL FISH CORD IN EMPTY CONDUITS.

.9 REMOVE AND REPLACE BLOCKED CONDUIT SECTIONS. DO NOT USE LIQUIDS TO CLEAN OUT CONDUITS.

.10 DRY CONDUITS OUT BEFORE INSTALLING WIRE.

.11 PROVIDE AND INSTALL EXPANSION JOINTS ON ALL CONDUIT RUNS WHEN CROSSING EXISTING STRUCTURAL EXPANSION JOINTS.

7.0 – BOXES AND ENCLOSURES

7.1 ALL EEMAC 1 INDOORS AND EEMAC 4 OUTDOORS.

7.2 PULL BOXES AND JUNCTION BOXES SHALL BE CODE GAUGE SHEET STEEL OF WELDED CONSTRUCTION WITH SCREW–ON COVER.

8.0 – SHOP DRAWINGS

8.1 THE CONTRACTOR SHALL FURNISH TO THE ENGINEER SHOP DRAWINGS FOR ALL NEW FIXTURES. PANELBOARDS, TRANSFORMERS, METERING EQUIPMENT, DISCONNECT SWITCHES. FIRE ALARM SYSTEM FOR REVIEW.

9.0 AS BUILT DRAWINGS

9.1 THE CONTRACTOR SHALL FURNISH TO THE ENGINEER ON COMPLETION OF THE WORK ONE SET OF THE ENGINEER'S DRAWINGS NEATLY MARKED UP TO SHOW THE ACTUAL INSTALLATION AS BUILT.

LIGHTING FIXTURE SCHEDULE

TYPE	QTY	DESCRIPTION
A	10	SINGLE LED SUSPENDED LUMINAIRES, METAL HOUSING, 4000K, CRI 80, 120/277V UNIVERSAL VOLTAGE, FLAT DIFFUSE LENS, PENDENT MOUNTED SIGNIFY CAT. No.: LBX 40 L840 UNV FD OR VISCOR CAT. No.: LCOMN INTELLECT LED LCOMN48 LED 8 40K UNV P95 OR EATON CAT. No.: 4APVTLD 40L 840 OR OWNER APPROVED EQUAL
B	8	SINGLE LED WALL SCONCE, 16 LEDS, 400MA, NEUTRAL WHITE 4000K, 70 CRI GENERATION 4, TYPE 3, 120/277V UNIVERSAL VOLTAGE, LOW COPPER DIE CAST ALUMINUN ALLOY C/W PHOTOCELL AND MOTION DETECTION. SIGNIFY CAT. No.: 121 16L 400 NW G4 3 UNV IMR13 PCB DGY OR ACUITY BRANDS CAT. No.: HLWPC2 P10 40K AS T3M GYDP MASL PE OR EATON CAT. No.: ISW AF 350 LED E1 T3 AP P MS/DIM–L12 OR OWNER APPROVED EQUAL
C	3	EMERGENCY/EXIT LIGHTING COMBINATION, STEEL HOUSING WITH TWO LED LAMPS AND EXTRA CAPACITY FOR REMOTE HEADS. MAINTENANCE FREE BATTERY AND CHARGING UNIT. CSA APPROVED STANPRO CAT. No.: PRMS–1–272–2S–5LA–AT OR OWNER APPROVED EQUAL

LICENSED PROFESSIONAL ENGINEER
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CANADIAN COAST GUARD BASE
401 KING STREET W, PRESCOTT, ON

SPECIFICATIONS

PROJECT NO. 20-2403

SHEET NO. E2

APPENDIX B

Designated Substances and Hazardous Materials Survey, Building F – Canadian Coast Guard Base, 401 King Street, Prescott, Ontario, XCG Consulting Limited, March 2020

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XCG File No. 1-3266-02-01
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DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS SURVEY
BUILDING F – CANADIAN COAST GUARD BASE
401 KING STREET,
PRESCOTT, ONTARIO

Prepared for:

FISHERIES AND OCEANS CANADA | GOVERNMENT OF CANADA
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ES 1. EXECUTIVE SUMMARY

XCG Consulting Limited (XCG) was retained by Fisheries and Oceans Canada (DFO) to complete a Designated Substances and Hazardous Material Survey (DSHMS) at the Prescott Canadian Coast Guard (CCG) in Prescott, Ontario. The subject building is a metal clad storage building. The subject building is shown in Figure 1.

The purpose of the DSHMS was to determine if any designated substances and other potentially hazardous materials are present at the subject building and provide references for the management as required to mitigate potential exposure by persons entering the building and/or conducting any demolition or renovation activities. The survey included all designated substances defined by the Ontario Ministry of Labour (MOL), as well as other potentially hazardous materials, and included testing of potential asbestos-containing materials (ACMs) and lead-based paints (LBP). An inventory of designated substances and other potentially hazardous materials present or potentially present was developed.

The DSHMS involved a review of available background information pertaining to the building, site visit, and collection and testing of building materials suspected of being ACMs and potential LBP. All of the designated substances defined by the Ontario Ministry of Labour (MOL) under Ontario Regulation 490/09 (O. Reg. 490/09), O. Reg. 278/05 for asbestos, polychlorinated biphenyls (PCBs), mould, and other potentially hazardous materials listed in the table below were evaluated. The results of the investigation to determine the potential presence or absence of designated substances are summarized in the following table.

Substance	Not Identified	Potentially Present	Determined Present
Acrylonitrile	X		
Arsenic	X		
Asbestos			X
Benzene	X		
CFCs and Halocarbons		X	
Coke Oven Emissions	X		
Ethylene Oxides	X		
Isocyanates	X		
Lead			X
Mercury		X	
Mould	X		
Polychlorinated Biphenyls (PCBs)		X	
Silica			X
Urea Formaldehyde Foam Insulation (UFFI)	X		
Vinyl Chloride	X		

The substances that were not identified on-site are not likely to be a concern and require no further evaluation or management. A further discussion of the substances that are present or potentially present is provided below.

Asbestos-Containing Materials

The following building materials were confirmed to be asbestos-containing during the DSHMS. Recommended abatement measures and procedures are indicated for each identified asbestos-containing material:

Follow O. Reg. 278/05 Type 1 measures and procedures when disturbing the following:

- Grey transite board, 20% chrysotile asbestos (approximately 8 m^3)

All confirmed ACMs should be managed and/or disposed of in accordance with O. Reg. 490/09, O. Reg. 278/05, and O. Reg. 347. Prior to any demolition activities contractors must be provided with a copy of this DSHMS report. All asbestos abatement activities should be conducted by a qualified asbestos abatement contractor.

Any suspect material encountered should be treated as ACM unless otherwise indicated by sampling and analytical testing. If additional ACM (currently hidden or inaccessible) are identified, these materials should be examined, tested, and handled appropriately. Any asbestos removal needs to be completed by a trained asbestos abatement contractor.

Lead-Containing Paints

Based on the results of the sampling completed by XCG, all of the surface coatings are considered to be lead-containing and should be managed in accordance with O. Reg. 490/09, as amended, during demolition activities. Workers are not at risk of being exposed to lead unless they are undertaking an activity that disturbs surfaces covered with a lead-based coating. The Ontario MOL "Guideline – Lead on Construction Projects," dated April 2011, should be consulted in determining worker protection based on surface coating removal techniques.

Abatement of lead-containing surface coatings is not required prior to demolition activities.

Silica

Concrete and cement building materials were observed, but do not represent a concern in their present state and condition.

Exposure to airborne silica is regulated under O. Reg. 490/09 (as amended). Airborne silica can be generated through such processes as drilling, grinding, cutting, and abrading silica-containing material. Precautions must be taken to prevent silica-containing particles from becoming airborne during the application of such processes. Such precautions include wetting of silica-containing area(s) to be disturbed and daily wet sweeping or HEPA vacuuming of silica dust. Additionally, appropriate respiratory protection, personal protective clothing, hand and face washing, and ventilation must be utilized during disturbance of silica-containing structures. The Ontario MOL "Guideline – Silica on Construction Projects," dated April 2011, should be consulted in determining worker protection based on concrete and cement building material demolition or disturbance techniques.

Summary

In summary, designated substances indicated in the table below are present or likely to be present. During any renovations or demolition, DFO representatives and project contractors should ensure that the materials are properly handled and disposed of in accordance with Federal and Provincial regulations.

The information contained within this executive summary is based on the findings of the report and are subject to the same report limitations. As such, the entire report must be read in conjunction with the executive summary.

Material	Sample ID	Description	Location	Quantity (square metres)	Condition	Photo
Asbestos	F-TP-2	Transite wall board	Interior southeast corner	8	Good	Photo 1
Lead Paint	F-PB-R-1	Red over grey	Door trim	4 m^2-	Poor	-
Lead Paint	F-PB-G-2	Grey	Steel siding and roof	485 m^2-	Poor	-
Lead Paint	F-PB-W-3	White over multiple	Exterior Fascia	70 linear metres	Poor	-
Lead Paint	F-PB-WH-4	White	Interior office wall	23 m^2-	Good	-
Lead Paint	F-PB-GR-5	Dark green	Interior wall ½ perimeter	50 m^2-	Good-	-
Lead Paint	F-PB-G-6	Grey	Interior wall ½ perimeter	50 m^2-	Good	-
Lead Paint	F-PB-LG-7	Light Green over dark green	Wall north east corner	20 m^2	Good	-
Silica	-	Concrete foundation and cement floor	Throughout	-	Good	-

Notes:
-: Not applicable.

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APPENDICES

1. INTRODUCTION

XCG Consulting Limited (XCG) was retained by Fisheries and Oceans Canada (DFO) to complete a Designated Substances and Hazardous Material Survey (DSHMS) at the Prescott Canadian Coast Guard (CCG) base in Prescott, Ontario. The subject building is a metal clad storage building. The subject building is shown on Figure 1.

The purpose of this DSHMS was to determine if any designated substances and other potentially hazardous materials are present at the subject building and provide references for the management as required to mitigate potential exposure by persons entering the building and/or conducting any demolition or renovation activities. The survey included all designated substances defined by the Ontario Ministry of Labour (MOL), as well as other potentially hazardous materials, and included testing of potential asbestos-containing materials (ACMs) and lead-based paints (LBP). An inventory of designated substances and other potentially hazardous materials present or potentially present was developed.

1.1 Building Description

The subject building is a metal clad storage building (site identified as Building F) one storey structure located on the south east area of the subject property. The subject building was reported to be constructed in 1958. The gross floor area of the building, based on the site measurement, is approximately 200 square metres (m^2) (2,153 square feet).

The subject building provides unheated storage space with a small office in the north west area of the building. The subject building has a cast-in-place concrete foundation with pre-engineered structural steel framing (Butler manufactured). The building exterior is clad with metal siding and a metal roof. Spray foam was observed applied to the underside of the steel roof. The interior office was observed to be fibreglass insulated with plywood sheet coverings.

1.2 Historic Reports

As part of this DSHMS provided reports were reviewed prior to this site visit, and summarized below:

Decommissioning Consulting Services Limited (DCS), "Hazardous Materials Inventory Prescott Canadian Coastguard Base 401 King Street West Prescott, Ontario," dated January 31, 2013

A hazardous materials inventory was conducted at the site but does not list the subject building.

Jacques Whitford, "Hazardous Materials Inventory Prescott Canadian Coastguard Base Project No. 1009939," dated March 23, 2006

A hazardous materials inventory was conducted at the entire site. The objective was to characterize the types and quantities of hazardous substances that are procured, used, handled, stored, or disposed. Designated substances were not reviewed as part of the assignment.

It should be noted that the two reports above are not DSHMS surveys.

2. SCOPE OF WORK

The scope of work for the DSHMS included the following activities:

- Review of drawings and related information pertaining to the design and condition of the building;
- Inspection and sampling of potential hazardous materials within the subject building that could be reasonably accessed by occupants, workers and the general public;
- Documentation of the locations of potential hazardous materials and estimation of quantities;
- Submission of representative samples of potential hazardous materials for laboratory analysis; and
- Preparation of a report summarizing the results of the DSHMS for the building.

The field survey included an inspection of accessible areas of the subject building, and the visual identification of potential designated substances. Where confirmation was required to verify the presence or absence of certain designated substances (specifically lead and asbestos) within a building material, representative samples were collected and submitted for analysis to Paracel Laboratories LTD. (Paracel), a National Voluntary Laboratory Accreditation Program (NVLAP) and Canadian Association for Laboratory Accreditation Inc (CALA) accredited laboratory.

2.1 Designated Substances

The following table lists the designated substances and other potentially hazardous materials that were evaluated and included in the survey.

Table 1 List of Designated Substances and Hazardous Materials Evaluated at the Subject Site

Designated Substances	Other Potentially Hazardous Materials
Acrylonitrile	Polychlorinated biphenyls (PCBs)
Arsenic	Chlorofluorocarbons (CFCs) and Halocarbons
Asbestos	Urea formaldehyde foam insulation (UFFI)
Benzene	Mould
Coke oven emissions	
Ethylene oxide	
Isocyanates	
Lead	
Mercury	
Silica	
Vinyl chloride	

3. REGULATIONS AND GUIDELINES

The Ontario Occupational Health and Safety Act (OHSA) (as amended) and associated regulations outline the designated substances that are commonly present within buildings and provides references for management of these substances, as summarized below.

3.1.1 Asbestos Containing Material (ACM)

Asbestos was used in building materials such as mechanical pipe insulation, fireproofing, and interior finishes, such as plaster and drywall joint compound until approximately the mid-1980s. Asbestos was also commonly used in vinyl and linoleum flooring products, acoustic ceiling tiles, adhesives, and caulking, among other materials.

The management of ACMs is governed under Ontario Regulation (O. Reg.) 278/05 *Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations* (as amended). Building materials found to have 0.5 percent or greater asbestos by dry weight are considered to be ACMs. This regulation describes the procedures and protocols for the identification and removal of ACM from buildings. If ACM is known or suspected to be present, then the locations of the material must be documented, and the material managed and removed in accordance with O. Reg. 278/05, prior to being disturbed during repair, renovation or demolition activities.

Disposal of ACM is governed under O. Reg. 347 General Waste Management (as amended) and requires that all ACM waste must be placed in a double sealed labelled container that is free of cuts, tears, or punctures and disposed of in a licensed waste facility that has been properly notified.

3.1.2 Lead-Based Paint

Lead is a heavy metal and is typically found in inorganic compounds often occurring as components of products such as pigments, varnishes, and paints. Lead exposure is a particular concern from lead containing dust during renovation, demolition, or construction activities, or from deterioration of wall coverings.

The Surface Coating Materials Regulations under the Hazardous Products Act (HPA) states that paints having a lead content greater than 90 parts per million (ppm) (90 mg/kg) are considered lead-based. Although not a workplace, O. Reg. 490/09 (as amended) may be used as a best practice guide when renovations or demolition is being undertaken. O. Reg. 490/09 (as amended) stipulates that workers shall be protected from exposure to airborne lead if they are undertaking an activity that disturbs surfaces covered with lead-based paint. The MOL guideline "*Lead on Construction Projects*" dated April 2011, outlines procedures that should be used during renovation or demolition activities to ensure that worker exposure to lead does not exceed regulated limits specified in the OHSA.

3.1.3 CFCs and Halocarbons

Chlorofluorocarbons (CFCs) and halocarbons are chemical compounds that include most ozone depleting substances, chlorofluorocarbons and their halogenated replacements, many of which are greenhouse gases. The use and handling of halocarbons in refrigeration and air conditioning, fire-extinguishing, and solvent systems on federal lands are controlled by the Federal Halocarbon Regulations, 2003 and O. Reg. 463/10. "Small" systems, such as household appliances, are exempt from the annual leak test requirement.

3.1.4 Mercury

Mercury is contained within some thermostats and fluorescent light bulbs. Mercury exposure may occur from airborne vapours or through skin absorption. There is no personal, occupational or environmental concern associated with mercury in its current state and condition. Normal use of a thermostats and fluorescent light bulbs would not cause exposure to vapours. However, if damage occurs to these materials, mercury could be released. Those at highest risk of exposure are construction workers during renovation, demolition, or construction activities. Manage mercury containing equipment in accordance with applicable legislative requirements.

The MOL has an occupational exposure limit (OEL) of 0.01 mg/m^3 for alkyl compounds of mercury, and 0.025 mg/m^3 for all forms of mercury based on a 40-hour time weighted average exposure value (TWAEV). O. Reg. 490/09 stipulates that workers are not at risk of being exposed to mercury unless they are undertaking an activity that disturbs the mercury-containing materials and outlines that precautions are required during renovation or demolition activities to ensure that worker exposure to mercury does not exceed the OEL limits specified in the OHSA.

3.1.5 Mould

Mould spores are present in all indoor and outdoor environments and cannot be completely eliminated. Cellulose-based building materials provide a nutrient base for many mould species; however, moulds generally do not grow unless an adequate amount of moisture is present.

There are no clear regulatory standards for determining acceptable concentrations of mould in indoor air. Listed below are commonly used industry references used to help identify and evaluate mould contamination in buildings:

- "*Guidelines for the Investigation, Assessment, & Remediation of Mould in Workplaces,*" Manitoba Department of Labour and Immigration, Workplace Safety and Health Division, March 2001;
- "*Mold Remediation in Schools and Commercial Buildings,*" U.S. E.P.A. Office of Air and Radiation, Indoor Environments Division, September 2008;
- "Guidelines on Assessment and Remediation of Fungi in Indoor Environments," New York City Department of Health, November 2008;
- "Mould Guidelines for the Canadian Construction Industry," Standard Construction Document CCA 82, 2004; and

- "Mould Abatement Guidelines," Environmental Abatement Council of Ontario (EACO), Edition (3) 2015.

3.1.6 PCBs

Polychlorinated biphenyls (PCBs) were historically used as dielectric and coolant fluids in electrical equipment such as capacitors, transformers, heat exchangers, electric motors, and fluorescent light ballasts. PCBs are known carcinogens to mammals and humans; therefore, PCB sales were banned in Canada in 1977 and releasing the chemical into the environment was banned in 1985; however, owners of PCB-containing equipment are allowed to continue to use the equipment until the end of its service life, with the storage, handling, transport, and destruction of the PCBs regulated by O. Reg. 362/90 (as amended) and Environment Canada, SOR 2008-273.

3.1.7 Silica

Silica occurs naturally as crystalline or amorphous material. It is normally found in concrete, mortar, acoustic ceiling tiles, and stucco finishes. There is no personal, occupational or environmental concern associated with silica in its current state and condition. However, if dust creating disturbance occurs to these materials, silica could be released. Those at highest risk of exposure are construction workers during renovation, demolition, or construction activities.

The MOL has established an OEL of 0.10 mg/m^3 for quartz and tripoli, and 0.05 mg/m^3 for cristobalite and tridymite, based on a 40-hour TWAEV. O. Reg. 490/09 (as amended) stipulates that workers are not at risk of being exposed to silica unless they are undertaking an activity that disturbs the silica-containing materials. The MOL document "*Guideline – Silica on Construction Projects*" outlines procedures that should be used during renovation or demolition activities to ensure that worker exposure to silica does not exceed regulated limits specified in the OHSA.

3.1.8 UFFI

Urea formaldehyde foam insulation (UFFI) is a type of insulation made from a foaming agent and compressed air used to insulate hard to reach areas, such as within pre-existing hollow walls. In Canada, UFFI was approved for use in 1977 and was banned under the Hazardous Products Act in December 1980; however, approximately 100,000 homes in Canada contain UFFI. During the curing process of the insulation, formaldehyde gas is emitted, which can cause eye irritation, respiratory problems, nausea, and headaches; however, many other household materials create formaldehyde gas, and humidity, mould, other airborne chemicals and a tightly sealed house can also cause the same symptoms as UFFI.

3.1.9 Other Designated Substances and Hazardous Materials

The other designated substances that were part of the survey are regulated by the O. Reg. 490/09 include acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, and vinyl chloride.

4. SURVEY METHODOLOGY

Mr. Greg Mallette of XCG conducted the DSHMS on October 24, 2019. Mr. Mallette was accompanied during the initial site tour by Site Representative Mr. David Schwabe and DFO representative Mr. Sean Ilkhaania at the subject site.

Where it was considered possible that designated substances or hazardous materials existed in areas that could not be accessed without employing destructive methods, such methods to access the area were used.

The survey included room by room visual observations of reasonably accessible areas to identify the presence of designated or hazardous materials in the project area. The survey was undertaken in a manner to minimize repetition of observations and sampling of like areas (e.g. painted surfaces).

The following building components were assessed individually during the survey as part of routine field procedures:

- Walls;
- Ceiling;
- Floors; and
- Mechanical Systems (i.e. pipe wrap).

During the site survey, bulk samples for asbestos content analysis and paint chip samples for lead in paint analysis were collected and submitted under chain-of-custody to Paracel for asbestos and lead analysis.

Observations were made to identify if visible mould growth was present; however, no samples would be submitted for laboratory analysis.

If fluorescent light ballasts were observed, a minimum of 10% of the light ballasts were visually inspected to identify whether or not PCBs were present within the ballast.

4.1.1 Asbestos-Containing Material

Visual observations of accessible areas in the building were made in order to identify the presence of materials suspected of containing asbestos. The visual surveys were primarily limited to a survey of structures in areas with reasonable accessibility.

In accordance with O. Reg. 278/05, a minimum of three samples of each homogenous material was obtained from the subject building. Materials sampled were dampened with an amended water solution using a spray bottle. Each sample was collected and placed in a labelled, sealable plastic bag and submitted to Paracel Laboratories for analysis by polarized light microscopy (PLM) with dispersion staining, following USEPA Method 600/R-93/116 under chain of custody protocol.

4.1.2 Sampling of Suspected Lead-Based Paint

Samples from the subject building of visibly different paints were collected through small scrapings of the paint from the substrate and/or where paint was observed to be peeling or flaking. The location, approximate volume/area, and condition of each

different paint was recorded based on visual observation. All paint samples were also submitted to Paracel Laboratories and analyzed by MOE Method E3470, inductively coupled plasma - optical emission spectrometry (ICP-OES).

5. SURVEY FINDINGS

5.1 Substance Identification

The likely presence or absence of designated substances and other potentially hazardous materials within the subject building was initially assessed through background research, visual observation and inspection, and discussions with personnel knowledgeable about the building.

The following table summarizes the potential presence or absence of each designated substance at the subject site, based on on-site observations and the results of sampling of potential asbestos containing and lead-containing materials.

Table 2 Suspected Designated and Potentially Hazardous Materials

Substance	Not Identified	Potentially Present	Determined Present
Acrylonitrile	X		
Arsenic	X		
Asbestos			X
Benzene	X		
CFCs and Halocarbons		X	
Coke Oven Emissions	X		
Ethylene Oxides	X		
Isocyanates	X		
Lead			X
Mercury		X	
Mould	X		
Polychlorinated Biphenyls (PCBs)		X	
Silica			X
Urea Formaldehyde Foam Insulation (UFFI)	X		
Vinyl Chloride	X		

The substances that were not identified on-site are not likely to be a concern and require no further evaluation or management. A further discussion of the substances that are present or potentially present is provided below.

5.1.1 Asbestos

Potential ACMs visually identified in the building included window glazing and transite wall board which were collected and submitted for laboratory analysis. The spray applied insulation observed on the underside of the ceiling was foam and is not a suspected ACM and was therefore not sampled. The details for each ACM material are provided below in Section 5.2.1.

5.1.2 Lead

Potential lead-containing paints were visually identified in the building. Seven samples of these paints were collected and submitted for laboratory analysis.

5.1.3 CFCs and Halocarbons

CFCs and/or Halocarbons are expected to be present within the observed window A/C unit located in the front office window. No samples were collected or submitted for laboratory analysis.

5.1.4 Mercury

Smalls amounts are expected to be present in observed fluorescent lighting. No samples were collected or submitted for laboratory analysis.

5.1.5 PCBs

PCBS may be present in the observed florescent lighting ballasts. The florescent lighting was not inspected due to the height of the fixtures.

5.1.6 Silica

Free crystalline silica is expected to be present within all concrete and cement-based building materials within the building. No samples were collected or submitted for laboratory analysis.

5.1.7 Other Designated and Hazardous Substances

None of the following designated and hazardous substances were noted within the project area of the building during the survey: acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates, UFFI, and vinyl chloride.

6. SUMMARY OF LABORATORY RESULTS

Figure 1 can be found in Appendix A. Figure 1 identifies the sample collection locations for both ACMs and lead-based paint within the subject building. Laboratory certificates of analysis are provided in Appendix B. Select photographs showing ACMs and lead-based paint locations within the building are presented in Appendix C.

6.1 Asbestos Containing Materials

Table 3 provides a summary of the results of the asbestos analysis for the surveyed areas of the subject building.

6.2 Lead-Based Paint

Table 4 provides a summary of the paint samples analysed for the surveyed areas of the subject building.

Table 3 Summary of Asbestos Results

Sample ID	Sample Description	Location	Asbestos Content	Historic Results	Quantity[1]	Condition[2]	Accessibility[3]	Friability[4]	Comments
2019 DSHMS									
F-GLZ-1A,B,C	Window glazing	East and south windows (approx. Qty 10)	ND	-	-	-	-	-	-
F-TP-2A,B,C	**Transite board**	**South interior wall corner**	**20% Chrysotile**	**-**	**8 m²**	**Fair**	**A**	**Non-Friable-**	**Type 1 Procedures**

Notes:

ND Asbestos not detected.

Bold Asbestos containing material with a concentration equal to or greater than 0.5% asbestos.

1. Quantity is provided for only materials found or suspected to be asbestos-containing.
2. Condition is ranked as Good, Fair, or Poor in accordance with PCA Asbestos Management Guide – 2014.
3. Accessibility is rated (for friable, asbestos-containing samples only) as discussed in Section 4.3.3:
   - A - Areas of the building within reach (from floor level) of all building users;
   - B - Frequently entered maintenance areas within reach of maintenance staff, without the need of a ladder;
   - C (exposed) - Areas of the building above 2.4 m where use of a ladder is required to reach the asbestos-containing material;
   - C (concealed) - Areas of the building that require the removal of a building component, including lay-in ceilings and access panels into solid ceiling systems;
   - D - Areas of the building behind inaccessible solid ceiling systems, walls or mechanical equipment etc. where demolition of the ceiling, wall or equipment, etc. is required to reach the asbestos containing material.
4. Friability is assessed as friable or non-friable.

Table 4 Summary of Suspect Lead-Based Paint Results

Sample Number	Description	Location	Concentration Lead, Parts per million (ppm)	Historic Results (ppm)	Approximate Quantity (square metres)	Condition	Comments
2019 DSHMS							
F-PB-R-1	Red over grey	Door trim	2,660	-	4 m^2-	Poor	O.Reg. 490/09
F-PB-G-2	Grey	Steel siding and roof	1,620	-	485 m^2-	Poor	O.Reg. 490/09
F-PB-W-3	White over multiple	Exterior Fascia	1,810	-	70 linear metres	Poor	O.Reg. 490/09
F-PB-WH-4	White	Interior office wall	276	-	23 m^2-	Good	O.Reg. 490/09
F-PB-GR-5	Dark green	Interior wall ½ perimeter	35,000	-	50 m^2-	Good-	O.Reg. 490/09
F-PB-G-6	Grey	Interior wall ½ perimeter	447	-	50 m^2-	Good	O.Reg. 490/09
F-PB-LG-7	Light Green over dark green	Wall north east corner	13,700	-	20 m^2	Good	O.Reg. 490/09

7. DISCUSSION AND RECOMMENDATIONS

The following designated substances and/or hazardous materials were identified as being present or potentially present during the DSHMS conducted by XCG of Building F at the Canadian Coast Guard Base, Prescott, Ontario: Asbestos, lead, CFCs and halocarbons, mercury, PCBs, and silica. Recommendations related to these substances are provided below.

No significant potential sources of free silica, UFFI, or other designated substances or hazardous materials were identified beyond those listed below. As such, no recommendations are provided regarding these materials.

Prior to any demolition or renovation activities, any contractors must ensure that the materials are properly handled and disposed of in accordance with OHSA and associated regulations, as summarized below.

7.1 Asbestos-Containing Materials

The following building materials were confirmed to be asbestos-containing during the DSHMS. Recommended abatement measures and procedures are indicated for the identified asbestos-containing material:

Follow O. Reg. 278/05 Type 1 measures and procedures when disturbing and or removing the following:

- Grey transite board, 20% chrysotile asbestos (approximately 8 m^3)

All confirmed ACMs should be managed and/or disposed of in accordance with O. Reg. 490/09, O. Reg. 278/05, and O. Reg. 347. Prior to any demolition activities contractors must be provided with a copy of this DSHMS report. All asbestos abatement activities should be conducted by a qualified asbestos abatement contractor.

Any suspect material encountered should be treated as ACM unless otherwise indicated by sampling and analytical testing. If additional ACMs (currently hidden or inaccessible) are identified, these materials should be examined, tested, and handled appropriately. Any asbestos removal needs to be completed by a trained and licensed asbestos abatement contractor.

7.2 Lead-Containing Paints

Based on the results of the sampling completed by XCG, all surface coatings are considered to be lead-containing and should be managed in accordance with O. Reg. 490/09, as amended, during demolition activities. Workers are not at risk of being exposed to lead unless they are undertaking an activity that disturbs surfaces covered with a lead-based coating. The Ontario MOL "Guideline – Lead on Construction Projects," dated April 2011, should be consulted in determining worker protection based on surface coating removal techniques.

Abatement of lead-containing surface coatings is not required prior to demolition activities.

7.3 CFCs and halocarbons

ODSs present within the building were associated with a window-mounted air conditioning unit. If encountered during renovations, ODSs should be handled and disposed of in accordance with O. Reg. 189/94 (as amended), this work should only be undertaken by qualified licensed individuals.

7.4 Mercury

Mercury-containing fluorescent lights slated for disposal must be handled and disposed of in accordance with O. Reg. 490/09 (as amended) and O. Reg. 347 (as amended).

7.5 PCBs

PCBs may be present in the observed florescent lighting ballasts and should be inspected upon removal to determine if they contain or may contain PCBs and, if so, disposed of in accordance with O. Reg. 362/90 as amended.

7.6 Silica

Concrete and cement building materials were observed and contain silica, but do not represent a concern in their present state and condition.

Exposure to airborne silica is regulated under O. Reg. 490/09 (as amended). Airborne silica can be generated through such processes as drilling, grinding, cutting, and abrading silica-containing material. Precautions must be taken to prevent silica-containing particles from becoming airborne during the application of such processes. Such precautions include wetting of silica-containing area(s) to be disturbed and daily wet sweeping or HEPA vacuuming of silica dust. Additionally, appropriate respiratory protection, personal protective clothing, hand and face washing, and ventilation must be utilized during disturbance of silica-containing structures.

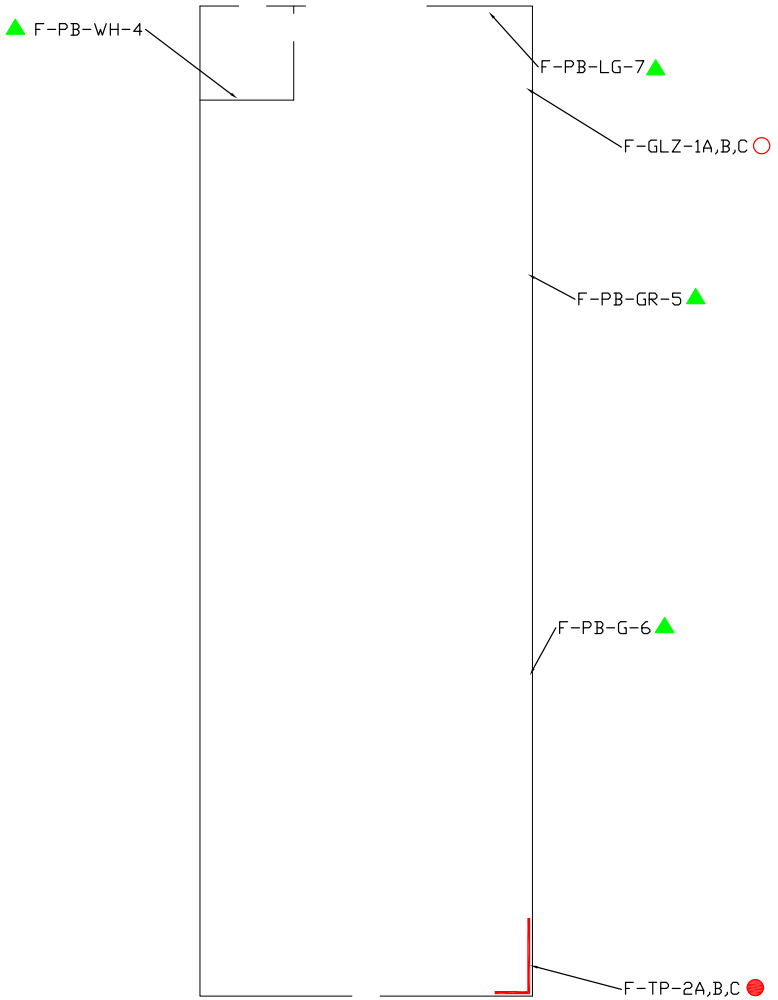
8. LIMITATIONS

Limited sampling of building materials and paints was undertaken as part of this investigation. As such, detailed investigations or testing in subsequent studies may encounter conditions not apparent at this time or at other locations. While every attempt was made to ensure that samples collected were representative of the general sampling area, it is possible that conditions outside specific sampling locations may differ. Therefore, users of this report are advised to observe conditions prior to conducting any demolition or renovation activities. XCG Consulting Limited cannot be held responsible for conditions that were not apparent from documentation supplied to XCG Consulting Limited.

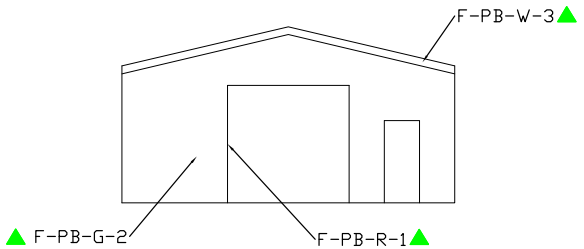
The conclusions presented in this report are professional opinions based on visual observations, limited information provided by persons familiar with the subject building and analytical results. As such, XCG Consulting Limited cannot be held responsible for environmental conditions at the building that were not apparent from the available information.

The scope of this work is limited to the matters expressly covered. This report is prepared for the sole benefit of Fisheries and Oceans Canada (DFO) and the Canadian Coast Guard (CCG), and its authorized contractors and should not be relied upon by any other person or entity. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this document or the findings and conclusions represented herein is at the sole risk of the said users.

APPENDIX A
FIGURE



PLAN VIEW



ELEVATION

* BASED ON ANALYTICAL RESULTS ALL SURFACE COATINGS ARE CONSIDERED TO BE LEAD–CONTAINING.

APPROXIMATE SCALE:

0 5 10 15 20

F132660201001.dwg

KEY MAP

LEGEND

- CONFIRMED ASBESTOS CONTAINING MATERIAL > 0.5%
- NON-ASBESTOS CONTAINING MATERIAL
- CONFIRMED LEAD PAINT SAMPLING LOCATION
- NON-LEAD BASED PAINT SAMPLING LOCATION
- ASBESTOS CONTAINING TRANSITE WALL BOARD

DRAWING REFERENCE: Figure based on XCG field notes.
Site Plan taken from GOOGLE MAPS

NOTE: Location of building, underground utilities, etc. are for reference only and should not be relied upon for detailed design, renovation, or construction purposes. Property boundary and building locations shown may not represent actual surveyed boundaries.

TITLE:
DESIGNATED SUBSTANCES AND HAZARDOUS MATERIALS BUILDING F STORAGE SAMPLE LOCATIONS

LOCATION:
401 KING STREET
PRESCOTT, ONTARIO

XCG
Environmental Engineers & Scientists

DATE:	DRAWN:	FIGURE:
DEC 10/19	GGM	1

PROJECT No:
1-3266-02-01

APPENDIX B
LABORATORY CERTIFICATES OF ANALYSIS

PARACEL LABORATORIES LTD.
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300 - 2319 St. Laurent Blvd
Ottawa, ON, K1G 4J8
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

XCG Consulting Limited (Kingston)

4 Cataraqui Street, Woolen Mill, East Wing, Suite 100
Kingston, ON K7K1Z7
Attn: Greg Mallette

Client PO:
Project: 1-3266-02-01
Custody:

Report Date: 4-Nov-2019
Order Date: 30-Oct-2019

Order #: 1944273

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1944273-01	F-PB-R-1
1944273-02	F-PB-G-2
1944273-03	F-PB-W-3
1944273-04	F-PB-WH-4
1944273-05	F-PB-GR-5
1944273-06	F-PB-G-6
1944273-07	F-PB-LG-7

Approved By: Mark Foto

Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis

Report Date: 04-Nov-2019

Client: XCG Consulting Limited (Kingston)

Order Date: 30-Oct-2019

Client PO:

Project Description: 1-3266-02-01

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-OES	based on MOE E3470, ICP-OES	4-Nov-19	4-Nov-19

Sample Data Revisions

None

Work Order Revisions/Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.

PARACEL LABORATORIES LTD.

Order #: 1944273

Certificate of Analysis
Client: XCG Consulting Limited (Kingston)
Client PO:

Report Date: 04-Nov-2019
Order Date: 30-Oct-2019
Project Description: 1-3266-02-01

Sample Results

Lead

Matrix: Paint
Sample Date: 24-Oct-19

Paracel ID	Client ID	Units	MDL	Result
1944273-01	F-PB-R-1	ug/g	20	2660
1944273-02	F-PB-G-2	ug/g	20	1620
1944273-03	F-PB-W-3	ug/g	20	1810
1944273-04	F-PB-WH-4	ug/g	20	276
1944273-05	F-PB-GR-5	ug/g	20	35000
1944273-06	F-PB-G-6	ug/g	20	447
1944273-07	F-PB-LG-7	ug/g	20	13700

Laboratory Internal QA/QC

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Matrix Blank									
Lead	**ND**	**20**	**ug/g**						
Matrix Duplicate									
Lead	**ND**	**20**	**ug/g**	**ND**			**0.0**	**30**	
Matrix Spike									
Lead	231		ug/L	ND	91.1	70-130			

PARACEL LABORATORIES LTD.

Paracel ID: 1944273

ead Office
0-2319 St. Laurent Blvd
ttawa, Ontario K1G 4J8
1-800-749-1947
paracel@paracellabs.com

Chain of Custody
(Lab Use Only)

Page 1 of 1

Client Name: XCG CONSULTING LIMITED
Contact Name: GREG MALLETTE
Address: 4 CATARAQUI STREET, KINGSTON, ONT
Telephone: 613-417-7106

Project Reference: 1-3266-02-01
Quote #: 19-456 XCG
PO #:
Email Address: GREGM@XCG.COM

Turnaround Time:
☐ 1 Day ☐ 3 Day
☐ 2 Day ☑ Regular
Date Required:

Criteria: ☐ O. Reg. 153/04 (As Amended) Table __ ☐ RSC Filing ☐ O. Reg. 558/00 ☐ PWQO ☐ CCME ☐ SUB (Storm) ☐ SUB (Sanitary) Municipality: ____ ☐ Other: ____

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Paracel Order Number: 1944273

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	Required Analyses: LEAD										
1	F-PB-R-1	P		1	24/10/2019		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	F-PB-G-2	P		1	24/10/2019		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
3	F-PB-W-3	P		1	24/10/2019		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
4	F-PB-WH-4	P		1	24/10/2019		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
5	F-PB-GR-5	P		1	24/10/2019		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
6	F-PB-G-6	P		1	24/10/2019		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
7	F-PB-LG-7	P		1	24/10/2019		☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
8							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
9							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
10							☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Comments:

Method of Delivery: Fed Ex

Relinquished By (Sign): [signature]	Received by Driver/Depot:	Received at Lab: Sumeepoom Dolmai	Verified By: [signature]
Relinquished By (Print): GREG MALLETTE	Date/Time:	Date/Time: Oct 30, 2019 10:15	Date/Time: 10-30-19 P:20
Date/Time: 25/10/2019	Temperature: ___ °C	Temperature: ___ °C	pH Verified [ ] By:

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Ottawa, ON, K1G 4J8
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

XCG Consulting Limited (Kingston)

4 Cataraqui Street, Woolen Mill, East Wing, Suite 100
Kingston, ON K7K1Z7
Attn: Greg Mallette

Client PO:
Project: 1-3266-02-01
Custody:

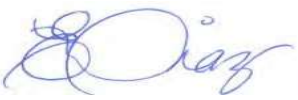
Report Date: 4-Nov-2019
Order Date: 30-Oct-2019

Order #: 1944276

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID	Client ID
1944276-01	F-GLZ-1A
1944276-02	F-GLZ-1B
1944276-03	F-GLZ-1C
1944276-04	F-TP-2A
1944276-05	F-TP-2B
1944276-06	F-TP-2C

Approved By:



Emma Diaz

Senior Analyst

PARACEL LABORATORIES LTD.

Order #: 1944276

Certificate of Analysis

Report Date: 04-Nov-2019

Client: XCG Consulting Limited (Kingston)

Order Date: 30-Oct-2019

Client PO:

Project Description: 1-3266-02-01

Asbestos, PLM Visual Estimation **MDL - 0.5%**

Paracel ID	Sample Date	Colour	Description	Asbestos Detected	Material Identification	% Content
1944276-01	24-Oct-19	Grey	Window Glazing	No	**Client ID: F-GLZ-1A**	
					Non-Fibers	100
1944276-02	24-Oct-19	Grey	Window Glazing	No	**Client ID: F-GLZ-1B**	
					Non-Fibers	100
1944276-03	24-Oct-19	Grey	Window Glazing	No	**Client ID: F-GLZ-1C**	
					Non-Fibers	100
1944276-04	24-Oct-19	Grey	Transite Board	**Yes**	**Client ID: F-TP-2A**	
					Chrysotile	20
					Non-Fibers	80
1944276-05	24-Oct-19				**Client ID: F-TP-2B**	
					not analyzed	
1944276-06	24-Oct-19				**Client ID: F-TP-2C**	
					not analyzed	

** Analytes in bold indicate asbestos mineral content.

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	NVLAP Lab Code *	Analysis Date
Asbestos, PLM Visual Estimation	by EPA 600/R-93/116	2 - Ottawa West Lab	200812-0	31-Oct-19

* Reference to the NVLAP term does not permit the user of this report to claim product certification , approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Ottawa West Lab: 25 Northside Rd, Unit C Nepean, Ontario K2H 8S1

Work Order Revisions | Comments

None

1944276

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paracel@paracellabs.com

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Page 1 of 1

Client Name: XCG CONSULTING LIMITED	Project Reference: 1-3266-02-01
Contact Name: GREG MALLETTE	Quote #: 19-456 XCG
Address: 4 CATARAQUI STREET KINGSTON	PO #:
Telephone: 613-417-7106	Email Address: GREGM@XCG.COM

Turnaround Time:

- ☐ Immediate
- ☐ 4 Hour
- ☐ 8 Hour
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ Regular

Date Required: _____

ASBESTOS & MOLD ANALYSIS

Matrix: ☐ Air ☒ Bulk ☐ Tape Lift ☐ Swab ☐ Other **Regulatory Guideline:** ☐ ON ☐ QC ☐ AB ☐ SK ☐ Other:

Analyses: ☐ Microscopic Mold ☐ Culturable Mold ☐ Bacteria GRAM ☐ PCM Asbestos ☒ PLM Asbestos ☐ Chatfield Asbestos ☐ TEM Asbestos

Paracel Order Number: 1944276

	Sample ID	Sampling Date	Air Volume (L)	Analysis Required	Asbestos - Bulk: Identify Distinct Building Materials to Be Analyzed (if not specified, all materials identified will be analyzed) *	Positive Stop?
1	F-GLZ-1A,B,C	24/10/2019		PLM	GREY WINDOW GLAZING	☒
2	F-TP-2A,B,C	24/10/2019		PLM	GREY TRANSITE BOARD	☒
3						☐
4						☐
5						☐
6						☐
7						☐
8						☐
9						☐
10						☐
11						☐
12						☐

* If left blank, all distinct materials identified in the samples will be analyzed and reported separately as per EPA 600/R-93/116. Additional charges will apply.

Comments:

Method of Delivery: FedEx

Relinquished By (Sign):	Received at Depot:	Received at Lab:	Verified By:
Relinquished By (Print): GREG MALLETTE			
Date/Time: 25/10/2019	Date/Time:	Date/Time: 10/30/19 10:40am	Date/Time: 10/30/19 10:50am

APPENDIX C
SITE PHOTOGRAPHS

Photo 1: Subject site front view looking south.

Photo 2: Subject site exterior view looking east.

Photo 3: Subject building interior representative finishes.

Photo 4: Asbestos-containing transite board. See sample F-TB-2A.