SPECIFICATIONS

DEMOLITION OF SELECT ASSETS
PARKS CANADA

Prime Consultants:
Coles Associates Ltd.
Architects & Engineers

Project #: 131144

January 30, 2014

1 General

1.1 APPENDICES

.1 Final Modified Phase I Environmental Site Assessment and Hazardous Materials Survey, Cavendish Assets, January 13, 2011.

.2 Final Modified Phase I Environmental Site Assessment and Hazardous Materials Survey, Dalvay Assets, January 13, 2011.

.3 Limited Phase I/II Environmental Site Assessment, (Asset No. 05304) Dalvay Compound, June 2005.

.4 Hazardous Materials Survey, Parks Canada Demolition & Disposal Assets, January 17, 2014.

End of Section

1 General

1.1 SCOPE OF WORK

.1 The Contractor is to provide each item, and properly execute all work as specified herein, indicated by drawings, addenda, or change orders issued with respect to this project.

.2 The Contractor shall coordinate, administer, and supervise all work, material acquisition and labour.

.3 The project consists of the following work:

.1 Demolition

.1 Architectural

.1 Removal and disposal of (23) twenty three structures including foundations, all at the following locations:

Asset Number	Asset Name	Location	Latitude	Longitude
314	2 Car Garage, Simpson Property	Cavendish	46.492847	-63.391154
391	Out Building #1, Simpson Property	Cavendish	46.492516	-63.390535
392	Out Building #2, Simpson Property	Cavendish	46.492612	-63.391283
393	Out Building #3, Simpson Property	Cavendish	46.492729	-63.391222
394	Out Building #4, Simpson Property	Cavendish	46.493407	-63.390677
395	Out Building #5, Simpson Property	Cavendish	46.493416	-63.390575
396	Out Building #6, Simpson Property	Cavendish	46.493467	-63.390434
8992	Art Barn, Cavendish Grove	Cavendish	46.491600	-63.393330
8993	Maintenance Building, Cavendish Grove	Cavendish	46.492500	-63.393880
8993A	Red Shade, Cavendish Grove	Cavendish	46.492500	-63.393880
8994	Canteen Building, Cavendish Grove	Cavendish	46.492000	-63.395200
404	Old VIC, Grahams Lane	Cavendish	46.492570	-63.410930
819	Washroom, Cavendish Campground	Cavendish	46.500388	-63.409390
821	Washroom, Cavendish Campground	Cavendish	46.501342	-63.407798
829	Old Power Building, Cavendish Campground	Cavendish	46.498536	-63.407072
7706	Kitchen Shelter, North Rustico	North Rustico	46.461645	-63.297303
209	Chemical Storage Building, Dalvay Compound	Dalvay	46.415798	-63.075032
210	Interp Storage Shed, Dalvay Compound	Dalvay	46.416245	-63.075016
212	Storage Area	Dalvay	46.416901	-63.097816
216	Sign Storage Building, Stanhope Storage Area	Dalvay	46.416544	-63.096017
218	Storage Area	Dalvay	46.416746	-63.097679
223	Tire Shed, Dalvay Compound	Dalvay	46.416175	-63.074885
5304	Technicians Office, Dalvay Compound	Dalvay	46.415417	-63.077693

.2 Work to be undertaken in accordance with:

.1 Final Modified Phase I Environmental Site Assessment and Hazardous Materials Survey, Cavendish Assets, January 13, 2011.

.2 Final Modified Phase I Environmental Site Assessment and Hazardous Materials Survey, Dalvay Assets, January 13, 2011.

.3 Limited Phase I/II Environmental Site Assessment, (Asset No. 05304) Dalvay Compound, June 2005.
.4 Hazardous Materials Survey, Parks Canada Demolition & Disposal Assets, January 17, 2014.

.2 Mechanical
.1 All site services utilities shall be cut at the foundation wall and a 2"x4" pressure treated piece of lumber, extended from the underground service to above finished grade, painted with the following color coding: green for sanitary sewer, blue for water, and orange for electrical.

.3 Civil/Site work
.1 Fill, compaction and grading to surrounding elevations of excavation remaining from removal of various foundations.

.4 General:
.1 Existing structures contain a large amount of waste and other contents. The removal and disposal of all waste and building contents is to be the responsibility of this Contractor.
.2 Parks Canada deems all of the demolished material as non-salvageable and to be properly disposed of by the demolition contractor.
.3 The disturbed area is to be left with 500 mm of topsoil and fine graded to the surrounding contours.
.4 Restoration of the site beyond topsoil will be carried out by Parks Canada in the spring of 2014.
.5 Not all buildings have concrete foundations. Contractor to confirm site conditions at all locations.

1.2 EXECUTION

.1 Execute work with least possible interference or disturbance to building operations, public and normal use of premises.

1.3 DOCUMENTS

.1 The Contract Documents are complementary and what is called for by anyone shall be as binding as if called for by all.
.2 Descriptions of materials or work which have well known technical or trade meanings shall be held to refer to such recognized standards.
.3 All specifications shall be interpreted in conformity with the agreement.

1.4 COMMUNICATION

.1 All submissions and inquiries shall be directed to the Departmental Representative for review.
.2 All direction will be transmitted to the Contractor by the Departmental Representative.

1.5 CODES AND REGULATIONS

.1 Perform work in accordance with National Building Code of Canada (NBC) 2010 and any other code of provincial or local application, provided that in any case of conflict or discrepancy the more stringent requirements shall apply.
.2 Meet or exceed requirements of contract documents and specified standards.
.3 References to standards, including manufacturer's direction for installation shall be the latest edition.
.4 All materials, components and equipment as well as construction methods shall comply with the latest edition of the National Building Code and all other applicable Provincial codes or regulations.
.5 The latest edition of the Canadian Electrical Code shall govern all electrical work, whether pre-wired an/or assembled remote from the site or not.
.6 All equipment supplied or installed shall be CSA approved for the intended use.
.7 The latest edition of the Canada Labour Code Part 2 and the PEI Occupational Health and Safety Act and Regulations shall govern safe construction practices.
.8 Provide a copy of all certificates of acceptance issued by Provincial or local authorities.

1.6 WORK SCHEDULE AND PROGRESS REPORTS

.1 The Contractor will prepare and maintain a consolidated schedule in weekly increments showing scheduled work versus actual work. The schedule shall indicate the contract commencement and completion date for the total project.
.2 Provide updated schedule information from time to time as the progress of the work or Departmental Representative may require.

1.7 CONTRACTOR'S USE OF SITE

.1 Do not unreasonably encumber site with materials or equipment.
.2 Move stored products or equipment, which interfere with operations of Departmental Representative or other Contractors.
.3 Obtain and pay for use of additional off site storage or work areas needed for operations.
.4 The work related to modifying the site roadways must be carried out so that one half of the roadway is open to vehicle traffic at all times.
.5 Provide snow clearing to allow for access to site at all times.

1.8 PROJECT MEETINGS

.1 Project meetings will be held as needed or as directed by the Departmental Representative.
.2 Notify all parties concerned of such meetings.
.3 The Contractor will record minutes of meetings and distribute to all parties within three (3) days of meeting.
.4 Failure of the Contractor to accurately record minutes or distribute the minutes in a timely manner may result in the Departmental Representative taking over the duties and invoicing the owner and deducting and equal amount from the progress claims as compensation.

1.9 SITE INSPECTOR

.1 No work is to be covered without having received approval from the Departmental Representative. The Departmental Representative will have the authority to cause any part of the work to cease, should, in his or her opinion, there be cause to do so.
.2 This work shall be examined by the Departmental Representative and approval granted to resume when a satisfactory solution has been found out.

1.10 EXISTING SERVICES

.1 Before commencing work, establish the location and extent of known service lines and utilities and notify Departmental Representative of findings if in conflict with information or intent shown.
.2 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.
.3 Cap end of individual services and provide 2"x4" pressure treated piece of lumber, extended from the service to finish grade and painted with the following color code: sanitary = green, water = blue, elect = orange.

1.11 ACCESS AND SECURITY

.1 Access and security on the entire job site will be the responsibility of the Contractor.

1.12 RELICS AND ANTIQUITIES

.1 Relics and antiquities and items of historical or scientific interest such as cornerstones and contents, commemorative plaques, inscribed tablets, and similar objects found during the work, shall remain property of the Owner. Protect such articles and request directives from Departmental Representative.
.2 Give immediate notice to Departmental Representative if evidence of archaeological finds are encountered during construction, and await Departmental Representative's written instructions before proceeding with work in this area.

1.13 TIMING REQUIREMENTS

This project will require the achievement of the following project milestones.

.1 Project Milestones:

.1	Tender Close	As noted in Tender Call.
.2	Tender Award	One (1) week after Tender Close.
.3	Construction Start	One (1) week after Tender Award.
.4	Construction Completed	March 31, 2014

1.14 TENDER PRICE

1. All work, plant and materials required to fully complete the work as noted on the drawings and specifications shall be provided in the form of a **Lump Sum** contract. Complete entire tender form provided and as specified.

End of Section

1 General

1.1 ADMINISTRATIVE

.1 Submit to Departmental Representative submittals listed for review. Submit 10 working days after award of contract 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 Present shop drawings, product data, samples and mock-ups in SI Metric units.

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

.5 Review 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.

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

.7 Verify field measurements and affected adjacent Work are co-ordinated.

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

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

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

1.2 SHOP DRAWINGS AND PRODUCT DATA

.1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.

.2 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.

.3 Allow 10 days for Departmental Representative's review of each submission.

.4 Adjustments made on shop drawings by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.

.5 Make changes in shop drawings as Departmental Representative may require, consistent with Contract Documents. When resubmitting, notify Departmental Representative in writing of revisions other than those requested.

.6 Submissions include:

- .1 Date and revision dates.
- .2 Project title and number.
- .3 Name and address of:
  - .1 Subcontractor.
  - .2 Supplier.
  - .3 Manufacturer.
- .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
- .5 Details of appropriate portions of Work as applicable:
  - .1 Fabrication.
  - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
  - .3 Setting or erection details.
  - .4 Capacities.
  - .5 Performance characteristics.

.6 Standards.
.7 Operating weight.
.8 Wiring diagrams.
.9 Single line and schematic diagrams.
.10 Relationship to adjacent work.

.7 After Departmental Representative's review, distribute copies.

.8 Submit one transparency of shop drawings for each requirement requested in specification Sections and as Departmental Representative may reasonably request.

.9 Submit 6 copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Departmental Representative where shop drawings will not be prepared due to standardized manufacture of product.

.10 Submit 3 copies of test reports for requirements requested in specification Sections and as requested by Departmental Representative.
.1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
.2 Testing must have been within 3 years of date of contract award for project.

.11 Submit 3 copies of certificates for requirements requested in specification Sections and as requested by Departmental Representative.
.1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
.2 Certificates must be dated after award of project contract complete with project name.

.12 Submit 3 copies of manufacturers instructions for requirements requested in specification Sections and as requested by Departmental Representative.
.1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.

.13 Submit 3 copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Departmental Representative.
.1 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

.14 Submit 3 copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Departmental Representative.

.15 Delete information not applicable to project.

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

.17 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections are made, transparency will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.3 SAMPLES

.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to Departmental Representative's business address.

.3 Notify Departmental Representative in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where color, pattern or texture is criterion, submit full range of samples.

.5 Adjustments made on samples by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Departmental Representative prior to proceeding with Work.

.6 Make changes in samples which Departmental Representative may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.4 GENERAL

.1 At Commencement of Contract (and no later than 10 days after award)
- .1 Contract Security
- .2 Cost Breakdown
- .3 Permits as required
- .4 Construction schedule for Trade Package activity
- .5 Name of Project Superintendent
- .6 Corporate Safety Plan
- .7 Site specific safety plan
- .8 Shop drawing schedule

.2 During Construction
- .1 Updated trade construction schedule
- .2 Shop drawings as required
- .3 Inspection and test reports
- .4 Request for Information
- .5 Submission required for payment purposes

.3 Completion of Work
- .1 Submission at completion of work as specified in Project Close Out, Commissioning, and Operations and Maintenance Data Sections.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.
.2 Section 02 61 00 - Hazardous Facility Remediation.

1.2 REFERENCES

.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations.
.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS).
  .1 Material Safety Data Sheets (MSDS).
.3 Province of Prince Edward Island
  .1 Occupational Health and Safety Act, R.S.P.E.I. 1988.

1.3 SUBMITTALS

.1 Make submittals 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 prior to commencement of Work. Health and Safety Plan must include:
  .1 Part 1: List of individual health risks and safety hazards identified by hazard assessments.
  .2 Part 2: List specific measures to control or mitigate each hazard and risk identified in part one of Plan. State engineering controls, personal protective equipment and safe work practices to be used for work having identified hazards(s) or risk(s).
  .3 Part 3: Emergency and Communications Measures as follows:
    .1 Emergency Procedures: standard operating procedures, evacuation measures and emergency response implemented on site during an accident or incident. State step by step procedures, applicable to each identified hazard.
    .2 Emergency Communications: list names and telephone numbers of officials, to be contacted if incident, accident or emergency situation occurs, including:
    .3 General Contractor and all Subcontractors.
    .4 Provincial Departments and resources from local emergency organizations, based on type of hazard, incident or accident which might occur and as stipulated in applicable laws and regulations.
.3 Submit 2 copies of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative.
.4 Submit copies of incident and accident reports.
.5 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 02 61 00 - Hazardous Facility Remediation.
.6 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 within 2 days after receipt of comments from Departmental Representative.
.7 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.
.8 On-site Contingency and Emergency Response Plan:address standard operating procedures to be implemented during emergency situations.
.9 Maintain Worker's Compensation Coverage for duration of contract. Submit Letter of Good Standing to Departmental Representative.

1.4 SITE CONTROL AND ACCESS

.1 Control work site and entry points. Grant and allow entry to only workers and other persons so authorized. Immediately stop non-authorized persons from circulating within construction areas and remove from site.
.2 Prior to gaining access to the site, all contractors, subcontractors and suppliers shall file with the General Contractor their proof of Workers Compensation coverage, proof of required Insurance

and proof of contract. Upon request, proof of these documents will be provided to the Owner and Departmental Representative.

.3 Delineate and isolate construction areas from other areas of site by use of appropriate means. Erect barricades, fences, hoarding and temporary lighting as required.

.4 Erect signage at entry points and at other strategic locations around site, clearly identifying construction area(s) as being "off limits" to non-authorized persons. Signage must be professionally made.

.5 Ensure persons granted access are fitted and wear appropriate personal protective equipment (PPE).

1.5 PROTECTION

.1 Provide temporary facilities for protection and safe passage of building occupants, public pedestrian and vehicular traffic around and adjacent to work site.

.2 Provide safety barricades, lights and signage on work site as required to provide a safe working environment for workers.

1.6 PERMITS

.1 Obtain permits, licenses and compliance certificates, at appropriate times and frequency as stipulated by authorities having jurisdiction.

.2 Post all permits on site. Submit copies to Departmental Representative.

1.7 FILING OF NOTICE

.1 File Notice of Project and other Notices with Provincial authorities prior to commencement of Work.

1.8 SAFETY ASSESSMENT

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

.2 Perform on-going hazard assessments during the progress of Work identifying new or potential health risks and safety hazards not previously known. As a minimum hazard assessments shall be carried out when:

.1 New subtrade work, new subcontractor(s) or new workers arrive at the site to commence another portion of work.

.2 The scope of work has been changed by Change Order.

.3 Potential hazard or weakness in current health and safety practices are identified by Departmental Representative or by an authorized safety representative.

.3 Each hazard assessment to be made in writing. Keep copies of all assessments on site for duration of Work. Upon request, make available to Departmental Representative for inspection.

.4 Contractor to conduct a hazard assessment in conjunction with the Owner's maintenance staff as part of the planning process including isolating existing equipment where applicable and identification of hidden services where anchoring is required. Hazard Assessments to conform with requirements of Health and Safety Section 01 35 29.

1.9 MEETINGS

.1 Prior to commencement of work hold Health and Safety meeting. Have Contractor's Site Superintendent in attendance.

.2 Provide site safety orientation session to all workers and other authorized persons prior to granting them access to work site. Brief persons on site conditions and on the minimum site safety rules in force at site.

.3 Conduct site specific occupational health and safety meetings during the entire work as follows:

.1 Formal meetings on a minimum monthly basis.

.2 Informal tool box meetings on a regular basis from a predetermined schedule.

.4 Keep workers informed of anticipated hazards, on safety practices and procedures to be followed and of other pertinent safety information related to:

.1 Progress of Work;

.2 New sub-trades arriving on site and;
.3 Changes in site and project conditions.

.5 Record and post minutes of meetings. Make copies available to Departmental Representative upon request.

1.10 COMPLIANCE REQUIREMENTS

.1 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.
.2 Comply with Occupational Health and Safety Act, Occupational Health and Safety Act Regulations, PEI.
.3 Provide Departmental Representative with Material Safety Data Sheets (MSDS).
.4 Observe and enforce construction safety measures required by National Building code, 2010 Part 8, Provincial Government, Worker's Compensation Board and municipal statutes and authorities.

1.11 WHMIS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Labour Canada and Health and Welfare Canada and Provincial Department of Labour.
.2 Submit WHMIS data sheets to Departmental Representative in accordance with Section 01 33 00 Submittal Procedures.
.3 Maintain WHMIS information station and ensure designated personnel are trained in its use.
.4 Submit copies of all Tool Box or Safety Meeting notes.
.5 Submit copies of all Worksite Safety Inspections.

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 of Province 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-coordinator. Health and Safety Co-coordinator must:
  .1 Have minimum 2 years site-related working experience specific to activities associated with Construction.
  .2 Have working knowledge of occupational safety and health regulations.
  .3 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.
  .4 Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.

1.14 CONSTRUCTION SAFETY MEASURES

.1 Observe and enforce construction safety measures required by National Building Code, 2010 Part 8, Provincial Government, Worker's Compensation Board and municipal statutes and authorities.
.2 In event of conflict between any provisions of above authorities the most stringent provision governs.
.3 PEI Occupational Health and Safety Act and regulations, guidelines and code practice, stipulate standard equipment applicable to construction sites such as protective clothing, safety hats and boots, gloves, eye protection.
.4 Provide and maintain first aid equipment, supplied and medications appropriate to the work and its location in accordance with the First Aid Regulations. Obtain and implement recommendations from Occupational Health and Safety Division specific to the project work site.

1.15 FIRE SAFETY REQUIREMENTS

.1 Comply with requirements of latest standard for Building Construction Operations issued by the Fire Commissioner of Canada and Fire Safety Regulations of Local Authority.

1.16 OVERLOADING

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

1.17 SCAFFOLDING

.1 Design and construct scaffolding in accordance with CSA S269.2-M87 and maintain in a secure and safe manner.

1.18 WELDING AND CUTTING

.1 Use noncombustible shields for electric and gas welding or cutting executed within two (2) metes of combustible material or in occupied space.
.2 Place tanks supplying gases as close to work as possible. Fix in upright position, free from exposure to sun or high temperatures.
.3 Locate fire extinguishing equipment near all welding and cutting operations.

1.19 TESTING AND MONITORING

.1 Test and monitor for hazardous conditions, as required to demonstrate compliance with provincial regulations.
.2 If multiple locations are being worked simultaneously, provide monitoring at all locations where work is being carried out, including providing additional monitoring instruments.

1.20 RECORD KEEPING

.1 ALL activities associated with Health and Safety shall be recorded daily in a bound notebook. Include as a minimum; activity date, time, location of occurrence, mitigation action taken and results. Records shall be assessed by the Departmental Representative.

1.21 OPEN FLAMES, SPARKS, EXPLOSION PROTECTION

.1 Keep open flames and sparks to minimum. When flame or sparks are required, follow proper procedures to prevent fire or explosion.

1.22 FIRE SAFETY

.1 The Sub-Contractors are to participate on the Fire Safety Committee under the Joint Health and Safety Committee. The Fire Safety Committee under the direction of the Contractor is responsible for implementation and maintenance of the Construction Fire Safety Plan.
.2 Construction Fire Safety Plan:
    .1 The Construction Fire Safety Plan will include the following:
        .1 Introduction of plan and purpose.
        .2 Fire Safety Committee.
        .3 Terms of reference.
    .2 Committee composition.
    .3 Emergency Procedures.
    .4 Fire protection equipment:
        .1 Building description:
            .1 Provisions for fire fighting.
            .2 Portable extinguishers.
            .3 Exits.
            .4 Emergency Lighting.
            .5 Reduced drawings.
    .5 Fire safety maintenance schedule:
        .1 General.

.2 Maintenance levels.
.3 Skill categories.
.4 Frequency.
.5 Checklists.
.6 Other information:
.1 Instruction on use of fire extinguishers.
.2 Emergency Fire Drill procedures.

.3 Portable Fire Extinguishers:
.1 During construction, Contractor is to provide and maintain on the site at all times, ULC listed 25 lb ABC dry chemical type portable fire extinguishers.

.4 Blockage of Roadways:
.1 The Fire Department shall be advised of any work that would impede fire apparatus response. This includes violation of minimum overhead clearance, as prescribed by the Fire Department, erecting of barricades and the digging of trenches.

.5 Rubbish and Waste Materials:
.1 Rubbish and waste materials are to be kept to a minimum.
.2 The burning of rubbish is prohibited.
.3 Removal:
.1 All rubbish shall be removed from the work site at the end of the workday or shift or as directed by Departmental Representative.
.4 Storage:
.1 Extreme care is required where it is necessary to store oily waste in work areas to ensure maximum possible cleanliness and safety.
.2 Greasy or oily rags or materials subject to spontaneous ignition shall be deposited and kept in an approved receptacles.

.6 Flammable Liquids:
.1 The handling, storage and use of flammable liquids are to be governed by the current National Fire Code of Canada.
.2 Flammable liquids such as gasoline, kerosene and naphtha may be kept for ready use in quantities not exceeding 45 liters provided they are stored in approved safety cans bearing the Underwriter's Laboratory of Canada or Factory Mutual seal of approval. Storage of quantities of flammable liquids exceeding 45 liters for work purposes, requires the permission of the Fire Department.
.3 Transfer of flammable liquids having a flash point below 38ºC is prohibited within buildings.
.4 Transfer of flammable liquids shall not be carried out in the vicinity of open flames or any type of heat-producing devices.
.5 Flammable liquids having a flash point below 38ºC, such as naphtha or gasoline, shall not be used as solvents or cleaning agents.
.6 Flammable waste liquids, for disposal, shall be stored in approved containers located in a safe ventilated area. Quantities are to be kept to minimum and the Fire Department is to be notified when disposal is required.

.7 Fire Inspection:
.1 The Fire Department shall be allowed unrestricted access to the work site.
.2 The Contractor shall cooperate with the Fire Department during routine inspections of the work site.
.3 The Contractor shall immediately remedy all unsafe fire situations observed by the Fire Department.

1.23 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 Province having jurisdiction, and in consultation with Departmental Representative.

1.24 CORRECTION OF NON-COMPLIANCE

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

1.25 BLASTING

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

1.26 POWDER ACTUATED DEVICES

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

1.27 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.

1.28 SITE SAFETY MEETINGS

.1 An orientation meeting shall be held with all workers at the start-up of the work, with the presence of the Departmental Representative to review the Health and Safety aspects of the work.
.2 An orientation meeting shall be held by the Contractor for each new worker on the site following the initial orientation meeting.
.3 Attend Health and Safety meetings as directed by Departmental Representative.

1.29 HANDLING AND TRANSPORTATION OF DANGEROUS GOODS

.1 Observe and enforce all measures required by the regulatory agencies including but not limited to Environment Canada, Prince Edward Island Department of Environment, and Transport Canada.
.2 Most current regulatory guidelines and Acts will apply to the work.
.3 In case of any conflict, the more stringent requirements will apply.

1.30 OPEN EXCAVATIONS

.1 If open foundations or demolition areas are to be left at the end of a work day, protective fencing must be placed around the entire perimeter to limit access by others. Fencing to be self-supporting, approved by the Department of Labour and the Construction Safety and Industrial Safety Regulations.

1.31 POTENTIAL HAZARDS

.1 Hazards include, but are not limited to, toxic, flammable and explosion hazards associated with cleaning solvents.
.2 The Contractor shall become familiar with all potential hazards associated with the work, and shall take necessary measures to avoid injury or damage of any kind.

1.32 HEALTH AND SAFETY PLAN

.1 Prior to commencement of the work, submit to the Site Inspector a detailed Health and Safety Plan for review. The Health and Safety Plan shall comply with the provisions of this section, and shall illustrate the Contractor's knowledge and understanding of health and safety aspects of the work, the Contractor's intention to maintain a high level of safety on-site, and shall include, but not be limited to:
    .1 Description of Work
    .2 Description of Site-specific hazards:
        .1 Physical

.2 Chemical
.3 Environmental
.3 Protective Equipment:
.1 Respiratory
.2 Contact
.4 Decontamination Procedures:
.1 Personal protective equipment (PPE)
.2 Equipment
.3 Infection Control personal protective equipment required by CSA Z317.13-03.
.5 Medical - Monitoring:
.1 Workers medical profile and suitability to work at the site.
.6 Air - Monitoring Procedures:
.1 Action levels
.2 Site monitoring
.3 Perimeter monitoring
.7 Emergency Procedures:
.1 Emergency Equipment
.2 Contingency Plans:
.1 Spill control
.2 Fire
.3 Ventilation
.4 Medical Emergency
.8 General Safety:
.1 Designation of site-safety officer
.2 Safety log
.3 Trenching, digging, excavations
.4 Storage of flammables, compressed gases
.5 Safety inspections
.9 Site Training:
.1 Initial hazard
.2 Daily safety

.2 All workers shall be trained and be familiar with the Health and Safety Plan and the use of personal protective equipment.

1.33 SITE SAFETY OFFICER

.1 Each Trade Contractor shall appoint a responsible member of the work force as Site Safety Officer (SSO). The selection of the SSO will be subject to the approval of the Departmental Representative, and changes shall be made as requested by the Departmental Representative. The SSO shall be responsible for ensuring that all provisions of the Health and Safety Plan and relevant legislation are implemented. The SSO shall ensure that all monitoring and testing, as specified and at the direction of the Departmental Representative, are conducted. The SSO shall maintain records of all readings that are taken by the Contractor report and any abnormal or dangerous situation to the Departmental Representative and the Municipality, after having implemented emergency measures, as required, work shall not continue or proceed until the situation has been rectified.

.2 The SSO shall be authorized to act on behalf of the Contractor on all matters related to Health and Safety.

1.34 PERSONAL PROTECTIVE EQUIPMENT

.1 Use personal protection equipment as required by Occupational Health and Safety Act.

.2 Training of workers in the proper use, fitting, inspection and storage of personal protective equipment shall be done prior to use of the equipment.

1.35 SANITATION/DECONTAMINATION PRACTICES

.1 After each use, all disposable protective equipment shall be collected in a dedicated container for disposal.
.2 All respiratory equipment shall be decontaminated daily after use.
.3 All tools, pumps and equipment used during cleanup should be dedicated to the handling of contaminants and labeled as such and thoroughly decontaminated at the completion of the project.
.4 Contaminated work clothing shall not be worn outside of regulated areas.
.5 Workers shall wash their hands and exposed skin before eating, drinking, smoking or using toilet facilities during work shift, and at the completion of a work shift.
.6 Food, drink and tobacco products shall not be permitted in regulated areas.

1.36 WORK PRACTICES AND ENGINEERING CONTROLS

.1 Access to work areas shall be regulated and limited to authorized persons. A daily roster shall be kept of persons entering such ares.
.2 Handling Contaminants and General Work Practices.
  .1 Transportation and handling of contaminants to meet applicable local, provincial and federal regulations.
  .2 Emergency respiratory equipment shall be located in readily accessible locations which will remain minimally contaminated with contaminants in an emergency.
  .3 Containers and systems shall be handled and opened with care. Approved protective clothing shall be worn by all employees engaged in regulated areas.
  .4 All wastes and residues containing contaminants shall be collected in appropriate containers.
.3 Confined or Enclosed Spaces
  .1 Entry into confined or enclosed spaces, where there is limited egress, shall be controlled by a permit system. Permits shall be signed by an authorized representative of the employer and shall certify that appropriate measures have been taken to prevent adverse effects on the worker's health as a result of his or her entry into such space.
  .2 Confined or enclosed spaces which have contained contaminants shall be thoroughly ventilated to assure an adequate supply of oxygen, tested for contaminants, and inspected for compliance with these requirements prior to each entry. Adequate ventilation shall be maintained while workers are in such spaces. Each individual entering such confined or enclosed space shall be furnished with appropriate personal protective equipment and clothing and be connected by a lifeline harness to standby worker stations outside of the space. The standby worker shall also be equipped for entry with approved personal protective equipment and clothing and have contact with a third person. The standby person shall maintain communication (visual, voice, signal line, telephone, radio, or other suitable means) with the employee inside the confined or enclosed space.
  .3 Workers entering confined spaces and standby workers shall be trained at a recognized confined space training program.

1.37 SUSPENSION OF ACTIVITIES

.1 Exposure to contaminants shall be controlled so that no worker is exposed to contaminants at a concentration greater than the Time Weighted Average (TWA) concentration for the contaminant, for up to a 10 hour workday, 40 hour work week.
.2 The Contractor will halt activities immediately during unsafe conditions. All costs relating to suspension of work for Contractor's failure to maintain Health and Safety procedures shall be borne by the Contractor.

End of Section

1 General

1.1 FIRES

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

1.2 DISPOSAL OF WASTES

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

1.3 DRAINAGE

.1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
.2 Do not pump water containing suspended materials into waterways, sewer or drainage systems.
.3 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

1.4 SITE CLEARING AND PLANT PROTECTION

.1 Protect trees and plants on site and adjacent properties.
.2 Wrap in burlap, trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m.
.3 Protect roots of designated trees to drip line during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.
.4 Restrict tree removal to areas indicated or designated by Departmental Representative.

1.5 WORK ADJACENT TO WATERWAYS

.1 Do not operate construction equipment in waterways.
.2 Do not use waterway beds for borrow material.
.3 Do not dump excavated fill, waste material or debris in waterways.
.4 Design and construct temporary crossings to minimize erosion to waterways.

1.6 POLLUTION CONTROL

.1 Maintain temporary erosion and pollution control features installed under this contract.
.2 Control emissions from equipment and plant to local authorities emission requirements.
.3 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
.4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.7 SMOKING RESTRICTIONS

.1 Smoking is not permitted inside the building at any time or at any stage of construction.

1.8 ENVIRONMENTAL PERMIT APPROVAL

.1 Comply with requirements contained in the Environmental Assessment (CEAA) attached in Appendix "A".

End of Section

1 General

1.1 SITE ACCESS AND PARKING

.1 The Departmental Representative will designate Contractor's access to project site as well as parking facilities for equipment.

.2 Parking facilities at site are limited but within reason may be used by Contractor. Make arrangements elsewhere for Contractor's vehicles including those of subcontractors and workers, as necessary.

.3 The Contractor will maintain adjacent roads free from mud and debris tracked from construction site, on a daily basis, at no additional cost to Owner.

.5 The Contractor will provide snow removal within the site fence during period of work as required to maintain access to building, at no additional cost to the Owner.

.6 The Contractor will provide and maintain signs, barricades and other devices required to indicate construction activities or other temporary and unusual conditions resulting from project work, at no additional cost.

1.2 SITE SAFETY

.1 Contractor to post notices for both construction zone and personal protective equipment requirements.

1.3 PARKING

.1 Parking space for workers' vehicles will be available on site under the Contractor's control.

.2 Parking for delivery and service vehicles for the supply and removal of construction materials and debris will be restricted to within the limit of contract and security fencing.

1.4 SNOW REMOVAL

.1 This Contractor is responsible for access to all buildings and snow removal off of provincial roads.

.2 General snow removal to the building site inside limit of Contract by the Contractor.

.3 All snow removal to access Contractor's construction trailers and storage, and to perform own work by the Contractor.

1.5 MATERIAL STORAGE

.1 Locate site storage trailers where directed by Departmental Representative. Place in location of least interference with existing facility operations.

.2 Material storage space on site is limited. Coordinate delivery to minimize storage period on site before being needed for incorporation into work.

1.6 REMOVAL OF TEMPORARY FACILITIES

.1 Remove temporary facilities from site when directed by Departmental Representative.

1.7 WASTE REMOVAL

.1 The Contractor will provide bins as required. Contractor responsible for placement and sorting of waste in the collection bins and removal of waste from site and in accordance with Final Modified Phase I Environmental Site Assessment and Hazardous Materials Survey for each individual location.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 01 50 00 - Temporary Facilities

1.2 REFERENCES

.1 Canadian General Standards Board (CGSB)
  .1 CGSB 1-GP-189M-84, Primer, Alkyd, Wood, Exterior.
  .2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.
.2 Canadian Standards Association (CSA International)
  .1 CAN3-A23.1-/A23.2-94, Concrete Materials and Methods for Concrete Construction/Method of Test for Concrete.
  .2 CSA-0121-M1978, Douglas Fir Plywood.
  .3 CAN/CSA-Z321-96, Signs and Symbols for the Occupational Environment.

1.3 INSTALLATION AND REMOVAL

.1 Provide construction facilities in order to execute work expeditiously.
.2 Remove from site all such work after use.

1.4 SCAFFOLDING

.1 Provide and maintain scaffolding.
.2 Design, construct and maintain scaffolding in rigid, secure and safe manner in accordance with CAN/CSA-S269.2-M87(R1998).
.3 Erect scaffolding independent of walls. Remove when no longer required.

1.5 HOISTING

.1 Provide, operate and maintain hoists and cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for use thereof.
.2 Hoists and cranes shall be operated by qualified operator.

1.6 ELEVATORS

.1 Designated elevators may be used by construction personnel and transporting of materials. Co-ordinate use with Departmental Representative.
.2 Provide protective coverings for finish surfaces of cars and entrances.

1.7 SITE STORAGE/LOADING

.1 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
.2 Do not load or permit to load any part of Work with a weight or force that will endanger the Work.

1.8 SECURITY

.1 Provide and pay for any responsible security personnel to guard site and contents of site after working hours and during holidays, as directed by Departmental Representative.

1.9 EQUIPMENT, TOOL AND MATERIALS STORAGE

.1 Provide and maintain, in a clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
.2 Locate materials not required to be stored in weatherproof sheds on site in a manner to cause least interference with work activities.
.3 Provide adequate weather tight, heat and ventilation appropriate for the use and storage of equipment, tools and materials.

End of Section

1 General

1.1 RELATED SECTIONS

.1 All sections

1.2 PROJECT CLEANLINESS

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Owner or other Contractors.
.2 Remove waste materials from site at regularly scheduled times or dispose of as directed by Departmental Representative.
.3 Clear snow and ice from access to construction, bank/pile snow in designated areas only.
.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
.5 Provide on-site containers for collection of waste materials and debris.
.6 Provide and use clearly marked separate bins.
.7 Remove waste and debris from site and deposit in waste container at end of each working day.
.8 Store volatile waste in covered metal containers, and remove from premises at end of each day.
.9 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
.10 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

1.3 CLEANING DURING CONSTRUCTION

.1 Maintain work site in a tidy condition, free from accumulations of waste material and debris. Clean areas on a daily basis.
.2 Keep existing building entrances, corridors and stairwells used by workers in clean dust free condition at all times. Conduct thorough cleaning of these areas at end of each work shift.
.3 Provide and employ dust barriers, dividers, seals on doors and other dust control measures as required to ensure dust and dirt generated by work are not transmitted to other existing areas of building. Should dust accidentally migrate into areas under use by building occupants or public, employ such means as may be necessary to immediately clean all contaminated surfaces within these area(s) to the satisfaction of the Departmental Representative.

1.4 FINAL CLEANING

.1 Prior to final review, remove surplus products, tools, construction machinery and equipment.
.2 Remove waste products and debris.
.3 Broom clean and wash asphalt roadways; rake clean other surfaces of grounds.
.4 Remove snow and ice from access to construction.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

1.2 DEFINITIONS

.1 Recyclable: Ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse by others.
.2 Recycle: Process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
.3 Recycling: Process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
.4 Reuse: Repeated use of product in same form but not necessarily for same purpose. Reuse includes:
    .1 Returning reusable items including pallets or unused products to vendors.
.5 Waste Reduction Work plan (WRW): Written report which addresses opportunities for reduction, reuse, or recycling of materials.

1.3 DOCUMENTS

.1 Maintain at job site, one copy of following documents:
    .1 Waste Reduction Work plan.

1.4 SUBMITTALS

.1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
.2 Prepare and submit following prior to project start-up:
    .1 Submit 2 copies of completed Waste Reduction Work plan (WRW):

1.5 WASTE AUDIT (WA)

.1 Conduct WA prior to project start-up.
.2 Prepare WA: Schedule A.
.3 Record, on WA - Schedule A, extent to which materials or products used consist of recycled or reused materials or products.

1.6 WASTE REDUCTION WORKPLAN (WRW)

.1 Prepare WRW prior to project start-up.
.2 WRW should include but not limited to:
    .1 Material types, relative to Island Waste Management Protocols, including.
        .1 Steel/Metals
        .2 Brick/Block/Concrete
        .3 Topsoil
        .4 Subsoil
        .5 Asphalt
        .6 Gypsum products
        .7 Glass
        .8 Mechanical/Electrical equipment
        .9 Asbestos/Hazardous Materials
        .10 Wood
        .11 Destination of materials listed
        .12 Deconstruction/disassembly techniques and sequencing.
        .13 Clear labeling of storage areas.
        .14 Details on materials handling and removal procedures.
.3 Structure WRW to prioritize actions and follow 3R's hierarchy, with Reduction as first priority, followed by Reuse, then Recycle.

.4 Describe management of waste, during demolition and construction, including:
  .1 Daily/Weekly cleaning protocol.
  .2 Source separation of packaging materials/surplus materials.
  .3 Trade participation in waste management.
  .4 Waste containers, quantity and types (by content) on site.
.5 Identify opportunities for reduction, reuse, and recycling of materials. Based on information acquired from WA.
.6 Post WRW or summary where trades and workers at site are able to review content.
.7 Set realistic goals for waste reduction.

1.7 DISPOSAL OF WASTES

.1 Do not bury rubbish or waste materials.
.2 Do not dispose of waste into waterways, storm, or sanitary sewers.

1.8 USE OF SITE AND FACILITIES

.1 Execute work with least possible interference or disturbance to normal use of premises.
.2 Maintain security measures.

1.9 SCHEDULING

.1 Coordinate Work with other activities at site to ensure timely and orderly progress of Work.

2 Products

2.1 NOT USED

.1 Not Used.

3 Execution

3.1 APPLICATION

.1 Do Work in compliance with WRW.
.2 Handle waste materials not reused, salvaged, or recycled in accordance with applicable regulations and codes.

3.2 CLEANING

.1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
.2 Clean-up work area as work progresses.
.3 Source separate materials to be reused/recycled into specified sort areas.

3.3 DIVERSION OF MATERIALS

.1 From following list, separate materials from general waste stream and stockpile in separate piles or containers, as reviewed by Departmental Representative, and consistent with applicable fire regulations.
  .1 Mark containers or stockpile areas.
  .2 Provide instruction on disposal practices.
.2 On-site sale of salvaged materials.

Demolition Waste

.1	Material Type	Recommended Diversion %	Actual Diversion %
.2	Acoustic Tile	50	___
.3	Acoustical Insulation	100	___
.4	Carpet	100	___

.5	De-mountable Partitions	80	___
.6	Doors and Frames	100	___
.7	Electrical Equipment	80	___
.8	Furnishings	80	___
.9	Mechanical Equipment	100	___
.10	Metals	100	___
.11	Rubble	100	___
.12	Wood (uncontaminated)	100	___
.13	Other		___

Construction Waste

.1	Material Type	Recommended Diversion %	Actual Diversion %
.2	Cardboard	100	___
.3	Plastic Packaging	100	___
.4	Rubble	100	___
.5	Steel	100	___
.6	Wood (uncontaminated)	100	___
.7	Other		___

3.4 WASTE AUDIT (WA)

.1 Schedule A - Waste Audit (WA)
.2 (1) Material Category, (2) Material Quantity Unit, (3) Estimated Waste %, (4) Total Quantity of Waste (unit), (5) Generation Point, (6) % Recycled, (7) % Reused.
.3 Wood and Plastics Material Description.
.4 Off-cuts
.5 Warped Pallet Forms
.6 Plastic Packaging
.7 Cardboard Packaging
.8 Other
.9 Doors and Windows Material Description.
.10 Painted Frames
.11 Glass
.12 Wood
.13 Metal
.14 Other

3.5 WASTE REDUCTION WORKPLAN (WRW)

.1 Schedule B
.2 (1) Material Category, (2) Person(s) Responsible, (3) Total Quantity of Waste (unit), (4) Reused Amount (units) Projected Actual, (5) Recycled Amount (unit) Projected Actual, (6) Material (s) Destination.
.3 Wood and Plastics Material Description.
.4 Chutes.
.5 Warped Pallet Forms.
.6 Plastic Packaging.
.7 Card- board Packaging.
.8 Other.
.9 Doors and Windows Material Description
.10 Painted Frames
.11 Glass
.12 Wood
.13 Metal
.14 Other

3.6 DEMOLITION WASTE AUDIT (DWA)

.1 Schedule C - Demolition Waste Audit (DWA)
.2 (1) Material Description, (2) Quantity, (3) Unit, (4) Total, (5) Volume (cum), (6) Weight (cum), (7) Remarks and Assumptions.
.3 Wood.
.4 Wood Stud.
.5 Plywood.
.6 Baseboard-Wood.
.7 Door Trim - Wood.
.8 Cabinet.
.9 Doors and Windows.
.10 Panel Regular.
.11 Slab Regular.
.12 Wood Laminate.
.13 Bi-fold - Closet.
.14 Glazing.

3.7 COST/REVENUE ANALYSIS WORKPLAN (CRAW)

.1 Schedule D - Cost/Revenue Analysis Work plan (CRAW)
.2 (1) Material Description, (2) Total Quantity (unit), (3) Volume (cum), (4) Weight (cum), (5) Disposal Cost/Credit $(+/-), (6) Category Sub-Total $(+/-).
.3 Wood.
.4 Wood Stud.
.5 Plywood.
.6 Baseboard - Wood.
.7 Door Trim - Wood.
.8 Cabinet $.
.9 Doors and Windows.
.10 Panel Regular.
.11 Slab Regular.
.12 Wood Laminate.
.13 Bi-fold - Closet.
.14 Glazing $.
.15 (7) Cost (-) / Revenue (+) $

3.8 CANADIAN GOVERNMENTAL DEPARTMENTS CHIEF RESPONSIBILITY FOR THE ENVIRONMENT

.1 Prince Edward Island Department of Environmental Resources, 11 Kent Street, 4 th Floor, PO Box 2000, Charlottetown, PE C1A 7N8 (902) 368-5000 (902) 368-5830

End of Section

1 General

1.1 RELATED WORK SPECIFIED ELSEWHERE

.1 Stripping of existing sodding and topsoil: Section 31 14 13

1.2 PROTECTION

.1 Protect existing items designated to remain. In event of damage, immediately replace such items or make repairs to approval of Departmental Representative and at no additional cost to Owner.

1.3 DESCRIPTION OF WORK

.1 Perform all demolition and removal as specified in this Section.

1.4 DEMOLITION

.1 Demolish the following items:
  .1 As shown and where indicated.

1.5 SALVAGE

.1 No salvage.

End of Section

1 General

1.1 DESCRIPTION OF WORK

.1 Perform all demolition, and restitution as indicated and required to properly complete the work of the contract, as specified in this section and indicated on the drawings.
.2 All demolition work is to be fully coordinated with the Departmental Representative.
.3 All mechanical and electrical work must be carried out by the Mechanical and Electrical subcontractors.
.4 All items indicated to be removed either for re-installation elsewhere under the Work of this Contract, or to be salvaged and turned over to the Departmental Representative or to be removed with care to avoid damage to the items. All damage to be made good the contractors expense.

1.2 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures
.2 Section 01 35 29 - Health and Safety Requirements.
.3 Section 01 35 43 - Environmental Procedures.
.4 Section 01 50 00 - Temporary Facilities.
.5 Section 01 52 00 - Construction Facilities,
.6 Section 01 74 00 - Cleaning and Waste Management,
.7 Section 01 74 19 - Construction Waste Management and Disposal,
.8 Section 31 23 00 - Excavating Trenching and Backfilling

1.3 REFERENCES

.1 Canadian Standards Association (CSA International).
    .1 CSA S350-M1980(R1998), Code of Practice for Safety in Demolition of Structures.
.2 Department of Justice Canada (Jus).
    .1 Canadian Environmental Assessment Act (CEAA), 1995, c. 37.
    .2 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
        .1 SOR/2003-2, On-Road Vehicle and Engine Emission Regulations.
    .3 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.
    .4 Motor Vehicle Safety Act (MVSA)
    .5 Workers Compensation Act
    .6 National Building Code of Canada

1.4 DEMOLITION AND REMOVAL

.1 For information purposes, this generally includes but is not necessarily limited to the following work:
    .1 Refer to scope of work and in accordance with Final Modified Phase I and Phase II ESIA and Hazardous Materials Survey prepared for site specific locations for further information.
.2 Prior to demolition, the owner will have salvaged loose furnishings and wall hung equipment for their reuse.
.3 Any remaining existing furniture, fittings and equipment is to be removed and disposed of by the Contractor, subject to the Departmental Representative's final review.
.4 The existing structures contain large amounts of waste and other contents. The removal and disposal of all waste and building contents is the responsibility of this Contractor.

1.5 MECHANICAL AND ELECTRICAL SUBCONTRACT RESPONSIBILITIES

.1 All Mechanical and Electrical work must be carried out by the Mechanical and Electrical Subcontractors, except for related cutting and patching which is the responsibility of the General Contractor.

1.6 SALVAGE

.1 No salvage.

1.7 REMOVED MATERIALS

.1 All removed material, with the exception of items designated under Par. 1.6 Salvage become the property of the Contractor and are to be removed from the site in accordance with the requirements of paragraph 3.3 Disposal.

.2 Notwithstanding this requirement the Owner reserves the right to inspect all materials following removal and retain any item that the Owner deems useful for the Owner's future use. The Owner will be responsible for the removal of these materials from the site.

1.8 PROTECTION

.1 Ensure Work is done in accordance with Section 01 35 43 - Environmental Procedures.

.2 Take all necessary precautions and provide all bracing, shoring, and underpinning to support adjacent structures, structures undergoing demolition, adjacent services, roads and walks, landscaping and grading in accordance with section 31 23 10 - Excavation, Trenching and Backfilling

.3 If during the demolition work a situation should develop or a condition be exposed which has the potential to endanger the safety of workers or other persons in the building or structure in which demolition work is being carried out, the Contractor will cease operations, take whatever emergency action in the Contractor's opinion is required to ensure the immediate safety of workers, other persons in the building or structure, and notified the Departmental Representative before continuing to work.

.4 Prevent debris from blocking, damaging or otherwise interfering with Mechanical and Electrical systems which must remain active and/or in place

1.9 ASBESTOS DISCOVERY

.1 Demolition of spray or trowel applied asbestos can be hazardous to health. The presence of asbestos is anticipated as identified in the hazardous material report. Should material resembling spray or trowel applied asbestos being encountered in the course of demolition work, stop work and notify the Departmental Representative immediately. Do not proceed until written instructions have been received from the Departmental Representative.

1.10 SUBMITTALS

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

.2 Where required by Authorities Having Jurisdiction, submit for approval drawings, diagrams or details showing sequence of demolition work and supporting structures and underpinning.

.3 Submit drawings stamped and signed by qualified Professional Engineer registered or licensed in Provinces of Prince Edward Island, Canada, where complexity of work requires structural dis-assembly.

1.11 QUALITY ASSURANCE

.1 Regulatory Requirements: Ensure Work is performed in compliance with CEPA.

.2 Meetings:

- .1 Prior to start of Work arrange for site visit with Departmental Representative to examine existing site conditions adjacent to demolition work.
- .2 Hold project meetings weekly.
- .3 Ensure key personnel attend.

1.12 SAFETY CODE

.1 Carry out demolition work in accordance with the requirements of the National Building Code of Canada, Part 8, the Provincial Occupational Health and Safety Act and regulations and/or other regulations having force of law.

.2 In the case of conflict or discrepancy between regulations the more stringent requirements shall apply.

1.13 WASTE MANAGEMENT AND DISPOSAL

.1 Collect and separate for off site disposal waste material in accordance with Waste Management Plan.
.2 Divert excess materials from landfill.
.3 Dispose of waste at appropriate disposal facilities.

2 Products

2.1 NOT APPLICABLE

3 Execution

3.1 PREPARATION

.1 Ensure the following work has been properly completed before beginning demolition and removal:
  .1 Disconnect and cap all Mechanical and Electrical services at the face of foundation / exterior wall.

3.2 DEMOLITION

.1 At the end of each day's work, leave work in a safe and secure condition so that no part is in danger of toppling or falling or unlawful entry.
.2 Demolish in a manner to minimize dusting. Keep dusty material wetted.

3.3 DISPOSAL

.1 All demolished materials become the property of the Contractor and are to be removed from the site and in a manner and in a location acceptable to the Provincial Authority governing such disposal.
.2 Pay all fees that may be charged to dispose of materials at licensed disposal sites.
.3 All structures shall be demolished on-site and removed from the site in accordance with Provincial regulations. The removal of portions of building structure for re-use or re-sale is **strictly forbidden**.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

1.2 REFERENCES

.1 Export and Import of Hazardous Waste Regulations SOR/2002-300.
.2 National Fire Code of Canada 2010 .
.3 Transportation of Dangerous Goods Act (TDG Act) 1999, (c. 34).
.4 Transportation of Dangerous Goods Regulations (T-19.01-SOR/2003-400).
.5 Workers Compensation Act.

1.3 DEFINITIONS

.1 Dangerous Goods: product, substance, or organism that is specifically listed or meets hazard criteria established in Transportation of Dangerous Goods Regulations.
.2 Hazardous Material: product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to environment or adversely affect health of persons, animals, or plant life when released into the environment.
.3 Hazardous Waste: any hazardous material that is no longer used for its original purpose and that is intended for recycling, treatment or disposal.
.4 Workplace Hazardous Materials Information System (WHMIS): a Canada-wide system designed to give employers and workers information about hazardous materials used in workplace. Under WHMIS, information on hazardous materials is provided on container labels, material safety data sheets (MSDS), and worker education programs. WHMIS is put into effect by combination of federal and provincial laws.

1.4 SUBMITTALS

.1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.
.2 Submit to Departmental Representative current Material Safety Data Sheet (MSDS) 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, their use, their location, personal protective equipment requirements, and disposal arrangements.

1.5 STORAGE AND HANDLING

.1 Co-ordinate storage of hazardous materials with Departmental Representative and abide by internal requirements for labeling 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 current National Fire Code of Canada requirements.
.4 Keep no more than 45 liters 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 liters for work purposes requires the written approval of the Departmental Representative.
.5 Transfer of flammable and combustible liquids is prohibited within buildings.
.6 Do not transfer of flammable and combustible liquids in vicinity of open flames or heat-producing devices.
.7 Do not use flammable liquids having flash point below 38 degrees C, such as naphtha or gasoline as solvents or cleaning agents.
.8 Store flammable and combustible waste liquids for disposal in approved containers located in safe, ventilated area. Keep quantities to minimum.

.9 Observe smoking regulations, smoking is prohibited in areas where hazardous materials are stored, used, or handled.

.10 Storage requirements for quantities of hazardous materials and wastes in excess of 5 kg for solids, and 5 liters 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 not mixed.

.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 Ensure personnel have been trained in accordance with Workplace Hazardous Materials Information System (WHMIS) requirements. Report spills or accidents immediately to Departmental Representative. Submit a written spill report to Departmental Representative within 24 hours of incident.

1.6 TRANSPORTATION

.1 Transport hazardous materials and wastes in accordance with federal Transportation of Dangerous Goods Act, Transportation of Dangerous Goods Regulations, and applicable provincial regulations.

.2 If exporting hazardous waste to another country, ensure compliance with federal Export and Import of Hazardous Waste Regulations.

.3 If hazardous waste is generated on site:

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

.2 Ensure compliance 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 Prior to shipping material obtain written notice from intended hazardous waste treatment or disposal facility that it will accept material and that it is licensed to accept this material.

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

.6 Ensure that trained personnel handle, offer for transport, or transport dangerous goods.

.7 Provide photocopy of shipping documents and waste manifests to Departmental Representative.

.8 Track receipt of completed manifest from consignee after shipping dangerous goods. Provide a photocopy of completed manifest to Departmental Representative.

.9 Report discharge, emission, or escape of hazardous materials immediately to Departmental Representative and appropriate provincial authority.

2 Products

2.1 MATERIALS

.1 Only bring on site quantity of hazardous materials required to perform work.

.2 Maintain MSDS sheets in proximity to where materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

3 Execution

3.1 DISPOSAL

.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 and in accordance with applicable provincial regulations.
.7 The contractor is responsible to provide the Departmental Representative with a copy of any and all receipts for the disposal of hazardous waste materials.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 31 23 00 Excavation Trenching and Backfilling.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM)
- .1 ASTM C127-88(2001), Standard Test Method for Specific Gravity and Absorption of Coarse Aggregate.
- .2 ASTM D698-00a, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3)).
- .3 ASTM D 1557-00, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
- .4 ASTM D4253-00, Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.

1.3 DEFINITIONS

.1 Corrected maximum dry density is defined as:
- .1 D =D1xD2/(F1 x D2) + (F2 x D1)
- .2 D = (F1 x D1) + (0.9 x D2 x F2)
- .3 Where: D = corrected maximum dry density kg/m3.
  - .1 F1 = fraction (decimal) of total field sample passing 19 mm sieve
  - .2 F2 = fraction (decimal) of total field sample retained on 19 mm sieve (equal to 1.00 - F1)
  - .3 D1 = maximum dry density, kg/m3of material passing 19 mm sieve determined in accordance with Method A of ASTM D698.
  - .4 D2 = bulk density, kg/m3, of material retained on 19 mm sieve, equal to 1000G where G is bulk specific gravity (dry basis) of material when tested to ASTM C127.
- .4 For free draining aggregates, determine D1 (maximum dry density) to ASTM D4253 dry method when directed by Engineer.

2 Products

2.1 NOT USED

.1 Not Used.

3 Execution

3.1 NOT USED

.1 Not Used.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 31 14 13 - Stripping And Stockpiling.
.2 Section 31 23 00 - Excavation, Trenching and Backfilling
.3 Section 31 22 13 - Rough Grading

1.2 DEFINITIONS

.1 Clearing consists of cutting off trees and brush vegetative growth to not more than specified height above ground and disposing of felled trees, previously uprooted trees and stumps, and surface debris.
.2 Close-cut clearing consists of cutting off standing trees, brush, scrub, roots, stumps and embedded logs, removing at, or close to, existing grade and disposing of fallen timber and surface debris.
.3 Clearing isolated trees consists of cutting off to not more than specified height above ground of designated trees, and disposing of felled trees and debris.
.4 Underbrush clearing consists of removal from treed areas of undergrowth, deadwood, and trees smaller than 50 mm trunk diameter and disposing of fallen timber and surface debris.
.5 Grubbing consists of excavation and disposal of stumps and roots boulders and rock fragments of specified size to not less than specified depth below existing ground surface.

1.3 QUALITY ASSURANCE

.1 Do construction in accordance with Section 01 35 30 - Health and Safety Requirements.
.2 Safety Requirements: worker protection.
    .1 Workers must wear personal protective equipment at all times.

1.4 STORAGE AND PROTECTION

.1 Prevent damage to site features which are to remain.
.2 Repair damaged items to approval of Departmental Representative. Replace trees designated to remain, if damaged, as directed by Departmental Representative.

1.5 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse in accordance with Waste Management Plan.
.2 Consider felled timber from which saw logs, pulpwood, posts, poles, ties, or fuel wood can be produced as saleable timber.
    .1 Trim limbs and tops, and saw into saleable lengths of 2.4 m for saw logs, 2.4 m for pulpwood, 2.8 m for poles, 1.2 m for ties, and 1.2 m for fuel wood.
    .2 Stockpile adjacent to site.

2 Products

2.1 MATERIALS

.1 Soil Material for Fill:
    .1 Excavated soil material: free of debris, rock, roots, wood, scrap material, vegetable matter, refuse, soft unsound particles, deleterious, or objectionable materials.
    .2 Remove and store soil material for reuse.

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 requirements of authorities having jurisdiction.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 PREPARATION

.1 Inspect site and verify with Departmental Representative, items designated to remain.
.2 Locate and protect utility lines: preserve in operating condition active utilities traversing site.
  .1 Notify Departmental Representative immediately of damage to or when unknown existing utility lines are encountered.
  .2 When utility lines which are to be removed are encountered within area of operations, notify Departmental Representative a minimum of 48 hours prior to minimize interruption of service.
.3 Notify utility authorities before starting clearing.
.4 Keep roads and walks free of dirt and debris.

3.3 CLEARING

.1 Clearing includes felling, cutting of trees into sections and satisfactory disposal of trees and other vegetation designated for removal, including downed timber, occurring within cleared areas.
.2 Clear as indicated by Departmental Representative, by cutting at height of not more than 300 mm above ground. In areas to be subsequently grubbed, height of stumps left from clearing operations to be not more than 1000 mm above ground surface.
.3 Cut off branches overhanging area cleared as directed by Departmental Representative.
.4 Cut off unsound branches on trees designated to remain as directed by Departmental Representative.

3.4 CLOSE CUT CLEARING

.1 Close cut clearing to ground level.
.2 Perform close cut clearing by hand so that existing muskeg is not damaged.
.3 Cut off branches overhanging area cleared as directed by Departmental Representative.
.4 Cut off unsound branches on trees designated to remain as directed by Departmental Representative.

3.5 ISOLATED TREES

.1 Cut off isolated trees as indicated by Departmental Representative at height of not more than 300 mm above ground surface.
.2 Grub out isolated tree stumps.
.3 Prune individual trees as indicated or directed by Departmental Representative.
.4 Trim trees designated to be left standing within cleared areas of dead branches 40 mm or more in diameter; and trim branches to heights as indicated.
.5 Cut limbs and branches to be trimmed close to bole of tree or main branches.
.6 Paint cuts more than 3 cm in diameter with approved tree wound paint.

3.6 UNDERBRUSH CLEARING

.1 Clear underbrush from areas as indicated at ground level.

3.7 GRUBBING

.1 Remove and dispose of roots larger than 75 mm in diameter, matted roots, and designated stumps from indicated grubbing areas.
.2 Grub out stumps and roots to not less than 200 mm below ground surface.
.3 Grub out visible rock fragments and boulders, greater than 300 mm in greatest dimension, but less than 0.25 m^3.
.4 Fill depressions made by grubbing with suitable material and to make new surface conform with existing adjacent surface of ground.

3.8 REMOVAL AND DISPOSAL

.1 Cut timber greater than 125 mm diameter to 2400 mm lengths and stockpile as indicated. Stockpiled timber becomes property of Contractor.
.2 Dispose of cleared materials by removal from site.
.3 Burning on site is prohibited.
.4 Remove diseased trees identified by Departmental Representative and dispose of this material to approval of Departmental Representative.

3.9 FINISHED SURFACE

.1 Leave ground surface in condition suitable for immediate grading operations to approval of Departmental Representative.

3.10 CLEANING

.1 On completion and verification of performance of activity, remove surplus materials, excess materials, rubbish, tools and equipment.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 31 11 00 Clearing and Grubbing.
.2 Section 31 23 00 Excavation Trenching and Backfilling
.3 Section 31 22 13 Rough Grading

2 Products

2.1 NOT USED

.1 Not Used.

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 to adjacent properties and waterways, according to requirements of authorities having jurisdiction.
.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 PROTECTION

.1 Prevent damage to trees, landscaping, natural features, bench marks, property pins, surface or underground utility lines and appurtenances which are to remain. Make good any damage.
.2 Provide protection required to prevent disturbance of the legal survey markers which define the boundaries of the site. If legal survey markers must be moved for the normal execution of the work, arrange and pay for their replacement by a Land Surveyor licensed in the province of work.

3.3 STRIPPING OF SITE

.1 Remove sodding and rootmat to allow for rough grading as shown on plan.

3.4 PREPARATION OF GRADE

.1 Verify that grades are correct and notify Departmental Representative if discrepancies occur.

3.5 CLEANING

.1 On completion and verification of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 31 22 19 - Spreading & Grading Topsoil
.2 Section 31 23 00 - Excavation, Trenching and Backfilling.

1.2 REFERENCES

.1 American Society for Testing and Materials (ASTM)
  .1 ASTM D698-91(1998), Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (600 kN-m/m 3).

1.3 EXISTING CONDITIONS

.1 Known underground and surface utility lines and buried objects exist on-site.
.2 Refer to dewatering in Section 31 23 00 - Excavating Trenching and Backfilling.

1.4 PROTECTION

.1 Protect existing fencing, landscaping, natural features, bench marks, buildings, pavement, surface or underground utility lines which are to remain as directed by Departmental Representative. If damaged, restore to original or better condition unless directed otherwise.
.2 Maintain access roads and sidewalks to prevent accumulation of construction related debris on roads.

2 Products

2.1 MATERIALS

.1 Fill material: In accordance with of Section 31 23 00 - Excavating, Trenching and Backfilling.
.2 Excavated or graded material existing on site may be suitable to use as fill for grading work if approved by the Departmental Representative.

3 Execution

3.1 GRADING

.1 Rough grade to levels, profiles, and contours allowing for surface treatment as indicated.
.2 Rough grade to following depths below finish grades:
  .1 500 mm for topsoil.
.3 Prior to placing fill over existing ground, scarify surface to depth of 500 mm. Maintain fill and existing surface at approximately same moisture content to facilitate bonding.
.4 Compact fill areas to corrected maximum dry density to ASTM D698, as follows:
  .1 85% under landscaped areas.
.5 Remove surplus material and material unsuitable for fill, grading or landscaping off site.

End of Section

1 General

1.1 RELATED SECTIONS

.1 Section 31 22 13 - Rough Grading.

1.2 SUBMITTALS

.1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
  .1 Submit MSDS sheets for all products

1.3 QUALITY ASSURANCE

.1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
.2 Pre-Installation Meetings: conduct pre-installation meeting to verify project requirements, installation instructions and warranty requirements.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Remove unused soil amendments from site.
.2 Do not dispose of unused soil amendments into sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.
.3 Separate waste materials and place in on site containers in accordance with Waste Management Plan.

2 Products

2.1 TOPSOIL

.1 Topsoil for planted areas : mixture of particulates, micro organisms and organic matter which provides suitable medium for supporting intended plant growth.
  .1 Soil texture based on The Canadian System of Soil Classification, to consist of 20 to 70 % sand, minimum 7 % clay, and contain 2 to 10 % organic matter by weight.
  .2 Contain no toxic elements or growth inhibiting materials.
  .3 Finished surface free from:
    .1 Debris and stones over 50 mm diameter.
    .2 Course vegetative material, 10 mm diameter and 100 mm length, occupying more than 2% of soil volume.
  .4 Consistence: friable when moist.
  .5 Existing topsoil is acceptable for reuse, subject to selection of material free from deleterious material.

2.2 SOURCE QUALITY CONTROL

.1 Contractor is responsible for amendments to supply topsoil as specified.
.2 Soil testing by recognized testing facility for PH, P and K, and organic matter.
.3 Testing of topsoil will be carried out by testing laboratory paid by Trade Contractor. Soil sampling, testing and analysis to be in accordance with Provincial standards.

3 Execution

3.1 PREPARATION OF EXISTING GRADE

.1 Final grades shall match surrounding elevations.
.2 Grade soil, eliminating uneven areas and low spots, ensuring positive drainage.
.3 Remove debris, roots, branches, stones in excess of 50 mm diameter and other deleterious materials. Remove soil contaminated with calcium chloride, toxic materials and petroleum

products. Remove debris which protrudes more than 75mm above surface. Dispose of removed material.

.4 Cultivate entire area which is to receive topsoil to minimum depth of 150 mm. Cross cultivate those areas where equipment used for hauling and spreading has compacted soil.

3.2 PLACING AND SPREADING OF TOPSOIL/PLANTING SOIL

.1 Spread topsoil in uniform layers not exceeding 150 mm.
.2 For sodded areas keep topsoil 150 mm below finished grade.
.3 Spread topsoil as indicated to following minimum depths after settlement.
  .1 150 mm.

3.3 FINISH GRADING

.1 Grade to eliminate rough spots and low areas and ensure positive drainage. Prepare loose friable bed by means of cultivation and subsequent raking.
.2 Consolidate topsoil to required bulk density. Leave surfaces smooth, uniform and firm against deep footprinting.

3.4 CLEANING

.1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.
.2 Remove surplus topsoil & dust from adjacent hard surfaces.

End of Section

1 General

1.1 SCOPE OF WORK

.1 The work of this Section comprises the furnishing of all equipment, labour and materials necessary for the excavation, trenching and backfilling, as specified in this Section and indicated on the drawings, which includes, but is **NOT** necessarily limited to:
  .1 Building:
    .1 All excavation, as required, through compacted structural fill and/or undisturbed in-situ material for building foundations, including all related backfilling and compaction.

.2 The requirements of the following Prince Edward Island, Department of Transportation and Infrastructure Renewal Specifications are to be followed for all work relating to the material specifications for fill materials and bedding sand within the foundation walls for the Building.
  401 - Aggregate

1.2 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.
.2 Section 01 35 29 - Health and Safety Requirements.
.3 Section 01 35 43 - Environmental Procedures.
.4 Section 02 41 16 - Structure Demolition.
.5 Section 31 05 10 - Corrected Maximum Dry Density for Fill.
.6 Section 31 22 19 - Spreading and Grading Topsoil

1.3 REFERENCES

.1 American Society for Testing and Materials International (ASTM)
  .1 ASTM C117-03, Standard Test Method for Material Finer Than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
  .2 ASTM C136-01, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  .3 ASTM D422-632002, Standard Test Method for Particle-Size Analysis of Soils.
  .4 ASTM D698-00ae1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft 3) (600 kN-m/m 3).
  .5 ASTM D1557-02e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft 3) (2,700 kN-m/m 3).
  .6 ASTM D4318-00, Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
.2 Canadian General Standards Board (CGSB)
  .1 CAN/CGSB-8.1-88, Sieves, Testing, Woven Wire, Inch Series.
  .2 CAN/CGSB-8.2-M88, Sieves, Testing, Woven Wire, Metric.
.3 Canadian Standards Association (CSA International)
  .1 CAN/CGSB-51.20-M87, Thermal Insulation, Polystyrene, Boards and Pipe Covering.
  .2 CAN/CGSB-51.34-M86, Vapor Barrier, Polyethylene Sheet for Use in Building Construction.

1.4 DEFINITIONS

.1 Rock : any solid material in excess of 1.00 m 3 and which cannot be removed by means of heavy duty mechanical excavating equipment with 0.95 to 1.15 m3 bucket. Frozen material not classified as rock.
.2 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.
.3 Topsoil:
  .1 Material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
  .2 Material reasonably free from subsoil, clay lumps, brush, objectionable weeds, and other litter, and free from cobbles, stumps, roots, and other objectionable material larger than 25 millimeters in any dimension.

.4 Waste material: excavated material unsuitable for use in Work or surplus to requirements.
.5 Borrow material: material obtained from locations outside area to be graded, and required for construction of fill areas or for other portions of Work.
.6 Cohesionless soil: For compaction purposes, cohesionless soil is:
  .1 Materials having less than 20% passing 75 micrometres sieve, regardless of plasticity of fines.
.7 Cohesive soil: For compaction purposes, cohesive soil is soil not having properties to be classified as cohesionless.
.8 Unsuitable materials:
  .1 Weak, chemically unstable, and compressible materials.
  .2 Frost susceptible materials:
    .1 Fine grained soils with plasticity index less than 10 when tested to ASTM D4318, and gradation within limits specified when tested to ASTM D422 : Sieve sizes to CAN/CGSB-8.1.
    .2 Table:

Sieve Designation	% Passing
2.00 mm	100
0.10 mm	45 - 100
0.02 mm	10 - 80
0.005 mm	0 - 45

1.5 PROTECTION OF EXISTING FEATURES

.1 Existing buried utilities and structures:
  .1 Prior to commencing any excavation work, notify applicable Utility or authorities, establish location and state of use of buried utilities and structures. Clearly mark such locations to prevent disturbance during work.
  .2 Confirm locations of buried utilities by careful test excavation.
  .3 Maintain and protect from damage, water, sewer, gas, electric or other utilities encountered. Obtain direction of Departmental Representative before moving or otherwise disturbing utilities or structures.
.2 Existing surface features:
  .1 Protect existing surface features, which may be affected by work from damage while work is in progress and repair damage resulting from work.
  .2 Where excavation necessitates root or branch cutting do so only under direct control of Departmental Representative.
  .3 Provide protection around bench markers, layout markers, survey markers, geodetic monuments and signage.

1.6 SHORING BRACING AND UNDERPINNING

.1 Comply with Section 01 35 30 - Health and Safety Requirements and applicable local regulations and to protect existing features.
.2 Whenever shoring, sheeting, timbering and bracing of excavations or underpinning is required engage services of a Professional Engineer registered in Prince Edward Island, Canada, to design and assume responsibility for adequacy of shoring, bracing and underpinning.
.3 Design and supporting data submitted to bear the stamp and signature of qualified Professional Engineer registered in the Province of Prince Edward Island.

1.7 COMPACTION DENSITIES

.1 Compaction densities indicated are Standard Proctor Maximum Dry Densities.

1.8 GENERAL REQUIREMENTS

.1 For bidding purposes include for the removal of all existing in-situ material within the limits of the foundation walls down to the bottom of the new footings. Not all buildings have foundation walls/footings. Contractor to confirm site conditions at all locations.
.2 For bidding purposes include for the supply, installation and compaction of Type 5 fill from the bottom of the new footings, as described under Par. 1.8.1 above, up to the underside of topsoil.

1.9 SUBMITTALS

.1 Samples:
  .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
  .2 Inform Departmental Representative at least 2 weeks prior to beginning Work, of proposed source of fill materials and provide analysis if requested.

1.10 QUALITY ASSURANCE

.1 Engage services of qualified professional Engineer registered in Province of Prince Edward Island, Canada to design and inspect shoring, bracing and underpinning required for Work.
.2 Health and Safety Requirements:
  .1 Do construction occupational health and safety in accordance with Section 01 35 30 - Health and Safety Requirements.

1.11 DELIVERY, STORAGE AND HANDLING

.1 Storage and Protection:
  .1 Protect existing features in accordance with Section 01 50 00 - Temporary Facilities and applicable local regulations.

1.12 WASTE MANAGEMENT AND DISPOSAL

.1 Collect and separate for disposal waste material in appropriate on-site bins in accordance with Waste Management Plan.
.3 Place materials defined as hazardous or toxic in designated containers.
.4 Ensure emptied containers are sealed and stored safely.
.5 Divert excess aggregate materials from landfill for reuse.

2 Products

2.1 MATERIALS

.1 Type 3 Fill: classified as Common Fill, or material from excavation or other sources, approved by Departmental Representative for use intended, unfrozen, free from rocks larger than 75mm, cinders, ashes, sods, refuse or other deleterious materials. Provide sieve analysis to Departmental Representative for approval prior to placement.
.2 Type 5 Fill: to requirements of Prince Edward Island, Department of Transportation and Infrastructure Renewal 1998 Specification #206.02.02 - Select Borrow as follows:
  .1 Borrow shall be non-plastic and composed of clean, uncoated particles free from lumps of clay or other deleterious material with a maximum particle size of 100mm, and a maximum of 30% of the material passing the 4.75 sieve shall pass the 0.075 mm sieve.

3 Execution

3.1 SITE PREPARATION

.1 Remove obstructions, excess materials from building demolition, ice and snow, from surfaces to be excavated within limits indicated.

3.2 SHORING, BRACING AND UNDERPINNING

.1 Maintain sides and slopes of excavations in safe condition by appropriate methods and in accordance with Section 01 35 30 - Health and Safety Requirements.
.2 Obtain permit from authority having jurisdiction for temporary diversion of water course.
.3 Construct temporary Works to depths, heights and locations as indicated.
.4 Upon completion of substructure construction:
  .1 Remove shoring and bracing.
  .2 Remove excess materials from site.

3.3 DEWATERING AND HEAVE PREVENTION

.1 Keep excavations free of water while Work is in progress.
.2 Protect open excavations against flooding and damage due to surface run-off.
.3 Dispose of water in accordance with Section 01 35 43 - Environmental Procedures to approved collection and in manner not detrimental to public and private property, or portion of Work completed or under construction.
.4 Provide settling basins, or other facilities to remove suspended solids or other materials before discharging to storm sewers, watercourses or drainage areas.

3.4 EXCAVATION

.1 Excavate to lines, grades, elevations and dimensions as indicated and recommended by Departmental Representative.
.2 Remove concrete and other obstructions encountered during excavation, including footings where found.
.3 Excavation must not interfere with normal 45° bearing splay of adjacent foundations.
.4 Following completion of excavation work and prior to placement of any structural fill material proof roll existing sub-grade exposed by excavation with a large vibratory roller (CAT CS-563E or equivalent). Remove 'soft' material and replace with new structural fill in accordance with requirements of this Section compacted to 100% density.
.5 Do not disturb soil within branch spread of trees or shrubs that are to remain.
    .1 If excavating through roots, excavate by hand and cut roots with sharp axe or saw.
.6 Keep excavated and stockpiled materials safe distance away from edge of trench.
.7 Restrict vehicle operations directly adjacent to open trenches.
.8 Dispose of surplus and unsuitable excavated material in approved location on site.
.9 Do not obstruct flow of surface drainage or natural watercourses.
.10 Earth bottoms of excavations to be undisturbed soil, dry, level, free from loose, soft or organic matter.
.11 Notify Departmental Representative when bottom of excavation appears unsuitable.
.12 Obtain Departmental Representative's approval of completed excavation.
.13 Remove unsuitable material from trench bottom including those that extend below required elevations to extent and depth as directed by Departmental Representative.
.14 Rock excavation:
    .1 For the purpose of bidding it is to be assumed that solid sandstone bedrock, as defined under Par. 1.4 above, will not be encountered during the work of this Section.

3.5 FILL TYPES AND COMPACTION

.1 Dimensions specified in following paragraphs are minimum dimensions of fill after compaction.
.2 Excavated material may be used if uncontaminated and approved by testing laboratory.
.3 Underground services and excavations:
    .1 Use Type 3 Fill as required at all other locations to underside of topsoil at landscaped areas compacted to density at least equal to adjacent undisturbed soil or minimum 95%.

3.6 BACKFILLING

.1 Do not proceed with backfilling operations until Departmental Representative has inspected and approved installations.
.2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.
.3 Do not use backfill material which is frozen or contains ice, snow or debris.
.4 Backfilling around site installations.
    .1 Place backfill material in uniform layers not exceeding 150mm up to grades indicated. Compact each layer before placing succeeding layer. Use methods to prevent damage to installations.

3.7 TESTING AND INSPECTION

.1 Testing of materials and inspection and testing of placement and compaction will be carried out by testing laboratory appointed and paid for by the Departmental Representative. Frequency of tests will be determined by the testing laboratory and Departmental Representative.

3.8 RESTORATION

.1 Upon completion of work, remove surplus materials and debris, trim slopes and correct defects noted by Departmental Representative.

.2 Clean and reinstate areas affected by work to satisfaction of Departmental Representative.

3.9 SURPLUS MATERIAL

.1 Remove all surplus material from site, and pay all fees as may be charged at disposal site.

.2 Remove all soil contaminated with oil, gasoline, calcium chloride or other toxic or dangerous materials resulting from the work of this contract and dispose of in manner to minimize danger at site and in a manner and to a location off site approved by Provincial Authority governing such disposal.

End of Section

APPENDICES