

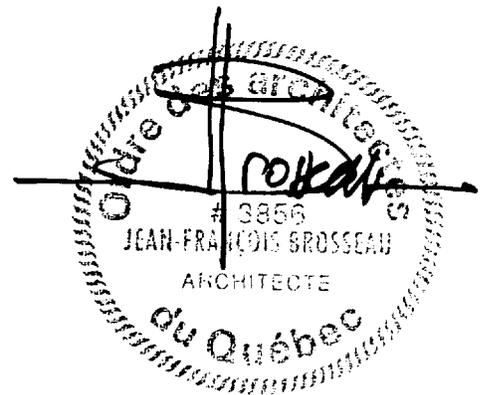
SPECIFICATIONS FOR TENDER
Canadian Space Agency

6767, route de l'Aéroport
Saint-Hubert (Québec) J3Y 8Y9

V/Ref : 2013-14-2
N/Ref : 09350-80
Mai 1st, 2014

**Demolition of greenhouse, wind turbine and photovoltaic cells
John H. Chapman Space Center**

CIMAISE



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***** END *****

PART 1 – GENERAL

- 1.1 Document priority** For all conflicting conditions or requirements between PWGSC's general conditions and complementary general conditions, general conditions prevail. Furthermore, sections from **Division 01** prevail on technical sections from other divisions in project specifications.
- 1.2 Work covered by contract documents** Project objective is to demolish greenhouse installations and systems at John H. Chapman Space Center. Non-limitative list of work:
- .1 Site preparation;
 - .2 Disconnection services and minor modifications of existing buildings;
 - .3 Demolition of structures;
 - .4 Dismantling wind turbines;
 - .5 Dismantling photovoltaic cells;
 - .6 Demolish concrete slabs and equipment bases;
 - .7 Site repair and finishing (leveling, sodding and paving, as required)
- * Refer to plans and specifications to determine the full scope of work.
*All systems will be evacuated per contractor.
- 1.3 Work scheduling** **Unless otherwise indicated,**
- .1 The work site is outside the main building. The area bounded by the site will be fully available to the contractor
 - .2 Since the site is still in operation, main building services must remain active at all times and free lanes for local traffic.
 - .3 Steps to foresee (list not exhaustive):
 1. Overall coordination and detailed.
 2. Submission of detailed work schedule for approval.
 3. Mobilization on the site according to the approved schedule.
 4. Install temporary services.
 5. Demolition according to the approved schedule.
 6. Detailed inspection work by the Contractor and correction of all defects apparent even before notify in writing the designated professionals of completion.
 7. Correction of defects identified by the Building owner and / or professional and other competent authorities, within the time required.
 - .4 Work will be performed in accordance with the requirements listed in other sections and to comply with the deadline imposed.

- .5 Always maintain access for the fight against fire; also maintain the means to fight against fire.
- 1.4 **Site use by contractor**
 - .1 **Except if otherwise noticed**, use of site by contractor is restricted to work, storage and access area. Work area needs to be surrounded by metal site fences.
 - .2 Site use must be protected and surrounded with metallic fences.
 - .3 Coordinate the use of the premises as directed by the Ministerial Representative.
- 1.5 **Site occupancy by ministerial representative**
 - .1 Work with Ministerial Representative to schedule work, minimize conflict with users and to facilitate the use of premises.
 - .2 The facilities to be demolish are no longer occupied. However, the adjacent services and facilities may require special precautions.
- 1.6 **Work schedule**
 - .1 Prepare a work schedule represented with a horizontal bar graph.
 - .2 Assign a separate bar for each operation or specialities.
 - .3 Show time on a horizontal linear scale identifying the first day of each week.

PART 2 – PRODUCTS

- 2.1 **Not applicable**
 - .1 Not applicable.

PART 3 – EXECUTION

- 3.1 **Not applicable**
 - .1 Not applicable.

***** FIN *****

Part 1 General

1.1 SECTION INCLUDES

- .1 Contractor shall manage his operations so that health and safety of the public and of site workers always take precedence over cost and scheduling considerations.

1.2 REFERENCES

- .1 Canada Labour Code - Part II, Canadian Occupational Safety and Health Regulations.
- .2 Canadian Standards Association (CSA)
- .3 Workplace Hazardous Materials Information System (WHMIS)
- .4 Act Respecting Occupational Health and Safety, R.S.Q. Chapter S-2.1.
- .5 Construction Safety Code, S-2.1, r.6.

1.3 SUBMITTALS

- .1 Submit to Departmental Representative, the site-specific safety program, as outlined in 1.8 at least 10 days prior to start of work. The Contractor must review his program during the course of the project if any change occurs in work methods or site conditions. The Departmental Representative may, after receiving the program or at any time during the project, ask the Contractor to update or modify the program in order to better reflect the reality of the construction site and activities. The Contractor must make the required changes before work begins.
- .2 Submit to Departmental Representative the site inspection sheet, duly completed, at the intervals indicated in 1.13.1.
- .3 Submit to Departmental Representative within 24 hours a copy of any inspection report, correction notice or recommendation issued by federal or provincial inspectors.
- .4 Submit to Departmental Representative within 24 hours an investigation report for any accident involving injury and any incident exposing a potential hazard.
- .5 Submit to Departmental Representative all safety data sheets for hazardous material to be used at the site at least three days before they are to be used.
- .6 Submit to Departmental Representative copies of all training certificates required for application of the safety program, in particular:
 - .1 General construction site safety and health courses;
 - .2 Safety officer attestations, if applicable;
 - .3 First aid in the workplace and cardiopulmonary resuscitation;
 - .4 Refrigeration mechanic professional certificate
 - .5 Each refrigeration mechanic, working on this project, must provide his accreditation certificate for the environmental awareness course (HRAI).
 - .6 Work in confined spaces;
 - .7 Lockout procedures;
 - .8 Safe work procedures at height;

- .9 Hot work procedures;
 - .10 Wearing and fitting of individual protective gear;
 - .11 Forklift truck safe driving practices;
 - .12 Positioning platform;
 - .13 Any other requirement of Regulations or the safety program.
- .7 Medical examinations : Wherever legislation, regulations, directives, specification or a safety program require medical examinations, Contractor must:
- .1 Prior to start-up, submit to Departmental Representative certificates of medical examination for all concerned supervisory staff and employees who will be on duty when the site opens.
 - .2 Thereafter, submit without delay certificates of medical examination for any newly hired concerned personnel as and when they start work at the site.
- .8 Emergency plan : The emergency plan, as defined in 1.8.3, shall be submitted to Departmental Representative at the same time as the site-specific safety program.
- .9 Notice of site opening : Notice of site opening shall be submitted to the *Commission de la santé et de la sécurité du travail* before work begins . A copy of such notice shall be submitted to Departmental Representative at the same time and another posted in full view at the site. During demobilization, a notice of site closing shall be submitted to the CSST, with copy to Departmental Representative.
- .10 Plans and certificates of compliance : Submit to the CSST and to Departmental Representative a copy signed and sealed by engineer of all plans and certificates of compliance required pursuant to the Construction Safety Code (S-2.1, r. 6), or by any other legislation or regulation or by any other clause in the specifications or in this contract. Copies of these documents must be on hand at the site at all times.
- .11 Certificate of compliance delivered by the CSST: The certificate of compliance is a document delivered by the CSST confirming that the contractor is in rule with the CSST, i.e. that he had pay out all the benefits concerning this contract. This document must be delivered to Departmental Representative at the end of the work.

1.4 HAZARDS ASSESSMENT

- .1 The contractor must identify all hazards inherent in each task to be carried out at the site.
- .2 The contractor must plan and organize work so as to eliminate hazards at source or promote mutual protection so that reliance on individual protective gear can be kept to a minimum. Where individual protection against falling is required, workers shall use safety harness that meets standard Can-CSA-Z-259.10-M90. Safety belts shall not be used as protection against falling.
- .3 Equipment, tools and protective gear which cannot be installed, fitted or used without compromising the health or safety of workers or the public shall be deemed inadequate for the work to be executed.
- .4 All mechanical equipment shall be inspected before delivery to the site. Before using any mechanical equipment, submit to Departmental Representative a certificate of compliance signed by a qualified mechanic. Whenever he suspects a defect or accident risk, Departmental Representative may at any time order the immediate shut-down of equipment and require a new inspection by a specialist of his own choosing.

1.5 MEETINGS

- .1 Contractor decisional representative must attend any meetings at which site safety and health issues are to be discussed
- .2 Set up a site safety committee, and convene meetings every in accordance with the Construction Safety Code (S-2.1, r.6).

1.6 LEGAL AND REGULATORY REQUIREMENTS

- .1 Comply with all legislation, regulations and standards applicable to the site and its related activities.
- .2 Comply with specified standards and regulations to ensure safe operations at site containing hazardous or toxic materials.
- .3 Regardless of the publication date shown in the construction safety code, always use the most recent version.

1.7 SITE-SPECIFIC CONDITIONS

- .1 The entrepreneur has to follow the instructions of the ministerial Representative in what concerned the internal and outside temporary installations and concerning the accesses to the site of the works.

1.8 SAFETY AND HEALTH MANAGEMENT

- .1 Acknowledge and assume all the tasks and obligations which customarily devolve upon a principal Contractor under the terms of the Act Respecting Occupational Health and Safety (R.S.Q., chapter S-2.1) and the Construction Safety Code (S-2.1, r.6).
- .2 Develop a site-specific safety program based on the hazards identified and apply it from the start of project work until close-out is completed. The safety program must take account of all information appearing in 1.7 and must be submitted to all parties concerned, in accordance with the provisions set forth in 1.3. At a minimum, the site-specific safety program must include :
 - .1 Company safety and health policy.
 - .2 A description of the work, total costs, schedule and projected workforce curve.
 - .3 Flow chart of safety and health responsibility.
 - .4 The physical and material layout of the site.
 - .5 First-aid and first-line treatment standards.
 - .6 Identification of site-specific hazards.
 - .7 Risk assessment for the tasks to be carried out, including preventive measures and the procedures for applying them.
 - .8 Training requirements.
 - .9 Procedures in case of accident/injury
 - .10 Written commitment from all parties to comply with the prevention program.
 - .11 A site inspection schedule based on the preventive measures.
- .3 The contractor must draw up an effective emergency plan based on the characteristics and constraints of the site and its surroundings. Submit the emergency plan to all parties concerned, pursuant to the provisions of 1.3. The emergency plan must include:

- .1 Evacuation procedure;
- .2 Identification of resources (police, firefighters, ambulance services, etc.);
- .3 Identification of persons in charge at the site;
- .4 Identification of those with first-aid training;
- .5 Training required for those responsible for applying the plan;
- .6 Any other information needed, in the light of the site characteristics.

1.9 RESPONSIBILITIES

- .1 No matter the size of the construction site or how many workers are present at the workplace, designate a competent person to supervise and take responsibility for health and safety. Take all necessary measures to ensure the health and safety of persons and property at or in the immediate vicinity of the site and likely to be affected by any of the work.
- .2 Take all necessary measures to ensure application of and compliance with the safety and health requirements of the contract documents, applicable federal and provincial regulations and standards as well as the site-specific safety program, complying without delay with any order or correction notice issued by the Commission de la santé et de la sécurité du travail.
- .3 Take all necessary measures to keep the site clean and in good order throughout the course of the work

1.10 COMMUNICATIONS AND POSTING

- .1 Make all necessary arrangements to ensure effective communication of safety and health information at the site. As they arrive on site, all workers must be informed of their rights and obligations pertaining to the site specific safety program. The Contractor must insist on their right to refuse to perform work which they feel may threaten their own health, safety or physical integrity or that of other persons at the site. The Contractor must keep and update a written record of all information transmitted with signatures of all affected workers.
- .2 The following information and documents must be posted in a location readily accessible to all workers:
 - .1 Notice of site opening;
 - .2 Identification of principal Contractor;
 - .3 Company OSH policy;
 - .4 Site-specific safety program;
 - .5 Emergency plan;
 - .6 Data sheets for all hazardous material used at the site;
 - .7 Minutes of site committee meetings;
 - .8 Names of site committee representatives;
 - .9 Names of those with first-aid training;
 - .10 Action reports and correction notices issued by the CSST.

1.11 UNFORESEEN CIRCUMSTANCES

- .1 Whenever a source of danger not defined in the specifications or identified in the preliminary site inspection arises as a result of or in the course of the work, immediately suspend work, take appropriate temporary measures to protect the workers and the public and notify Departmental

Representative, both verbally and in writing. Then the Contractor must modify or update the site specific safety program in order to resume work in safe conditions.

1.12 HEALTH/SAFETY/HYGIENE/ENVIRONMENTAL SPECIALISTS

- .1 As soon as work starts, hire one or several safety officer(s), pursuant to the provisions of sections 2.5.3 and 2.5.4 of the Construction Safety Code (S-2.1, r. 6) and give him/her/them the necessary authority to carry out the duties of this position, including authority to stop work on safety and health grounds.
- .2 As of [enter time], hire a qualified person whose duties will be to ensure compliance with and application of all legislation, regulations and standards and all contractual requirements pertaining to [specify area of expertise].
- .3 Provide this person with the authority, resources and tools needed for performance of his/her duties.
- .4 The person selected shall meet the following requirements:
 - .1 Possessed a minimum of five (5) years of experience in the domain.
- .5 The person selected shall:
 - .1 have in-depth knowledge of legislation and regulations applicable to the site pertaining to (specify area of expertise).
 - .2 develop and disseminate a safety orientation program for all site workers.
 - .3 ensure that no worker is admitted to the site without having taken the safety orientation program and met all the training requirements of the applicable legislation and the site-specific safety program.
 - .4 inspect the work and ensure compliance with all regulatory requirements and those of the contract documents or the site-specific safety program.
 - .5 keep a daily log of actions taken and submitting a copy to Departmental Representative each week.

1.13 INSPECTION OF SITE AND CORRECTION OF HAZARDOUS SITUATIONS

- .1 Inspect the work site and complete the site inspection sheet at least once a month if the work length exceeds 30 non working days. If the work length is less than 30 non working days, the frequency is at least once during the work length.
- .2 Immediately take all necessary measures to correct any lapses from legislative or regulatory requirements and any hazards identified by a government inspector, by the Departmental Representative, by the site safety and health coordinator or during routine inspections.
- .3 Submit to Departmental Representative written confirmation of all measures taken to correct lapses and hazardous situations.
- .4 Give the safety officer or, where there is no safety officer, the person assigned to safety and health responsibilities, full authority to order interruption and resuming of work as and when deemed necessary or desirable in the interests of safety and health. This person should always act so that the safety and health of the public and site workers and environmental protection take precedence over cost and scheduling considerations.

- .5 Without limiting the scope of sections 1.8 and 1.9, Departmental Representative may order cessation of work if, in his/her view, there is any hazard or threat to the safety or health of site personnel or the public or to the environment.

1.14 POWDER ACTUATED DEVICES

- .1 Use of power hammers and other explosive-actuated devices must be authorized by Departmental Representative.
- .2 Any person using a power hammer shall hold a training certificate and meet all requirements of Section 7 of the Construction Safety Code (S-2.1, r. 6).
- .3 Any other explosive-actuated device shall be used in accordance with the manufacturer's directions and applicable standards and regulations

***** END *****

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- 1. Material installation and removal**
 - .1 Provide, set-up or lay out necessary installation on site to allow for work to be done within the shortest time possible.
 - .2 As work progresses, dismantle material not needed and remove of the site.

- 2. On-site storage – Admissible charges**
 - .1 Ensure that work is done within the time limits stated in the contract. Do not clutter site unnecessarily with equipment and materials.
 - .2 Do not overload or allow overloading on any part of the work so as to not compromise its integrity.
 - .3 Provide and install weatherproof containers to store materials, tools and equipment sensitive to damage.
 - .4 Container's space must be determined by the ministerial representative.

- 3. Sanitary installation**
 - .1 Sanitary facilities must be provided inside the security perimeter of the site area. Contractor won't have access to facilities inside the main building.

- 4. Signposting**
 - .1 Install, in pertinent areas, sign panels to indicate site limits, the direction of temporary relocated exits or other pertinent information.

- 5. Removal of temporary installation**
 - .1 Remove from site all temporary installation when the Ministerial Representative will judge it appropriate.

***** END *****

- 1. Related requirements**
 - .1 To complement the general conditions, the contractor must comply with the requirements of the present section.

- 2. Cleanness of site**
 - .1 Ensure cleanliness of site and get rid of all piling up of rubbish and material for garbage.
 - .2 Remove from site debris and garbage materials and place them in garbage containers at the end of each work shift.
 - .3 Clean daily occupied areas soiled by work of the general contractor or his subcontractors. Cleaning must be done immediately after work so the good functioning of the building is not hinder by it.
 - .4 General contractor have to existing and new construction to minimize contamination of clean room. Coordinate all protection measures with decontamination experts.

- 3. Final cleaning**
 - .1 When work is almost entirely done remove surplus material, tools and equipment. Remove construction material that is not necessary to the unfinished work.
 - .2 Remove debris and scrap material other than the ones generated by the ministerial representative, other contractors or their employees and leave premises clean and ready to use.
 - .3 At the end of the work, remove surplus material, tools and equipment and also all construction material. Remove debris and scrap materials other than those generated by the ministerial representative or other contractors.
 - .4 Scrap materials must be removed from site at pre-established fixed intervals, or eliminate them according to the counseling-expert requirements. Do not burn scrap materials on site, unless you have an express approval from the consulting-expert.
 - .5 Take the necessary required arrangements to obtain licenses from competent authorities to eliminate debris and scrap materials according to section 01 74 19E – Management and removal of garbage.

***** END *****

PART 1 – GENERAL

1.1 Content and objective of this section

- .1 The present section states the requirements concerning the management and removal of garbage for the present project. It concerns in part demolition and construction works. It must include at the source sorting programs for certain demolition garbage.
2. Building, refurbishing and demolishing generate a good quantity of residues that are generally buried. The present section is for contributing to the good management of our environment. The goal of the present is to reduce the volume of garbage to be buried and to recuperate some materials that could be reused elsewhere.

1.2 Definitions

1. Audit of demolition garbage: Is applied to garbage generated by this work.
2. **Garbage management coordinator:** Designated person exercising these functions on site. All Ministerial Representatives must designate on person in their staff, to coordinate garbage management with the coordinator.
3. **Recyclability:** The ability of a product or material to be recovered or otherwise diverted from the solid waste stream for the purpose of recycling.
4. **To recycle:** Garbage and used material collect or transformation process, in order to reintroduce those materials in a consumption cycle as new products.
5. **Recycling:** A series of activities including collection, separation and processing by which products or materials are recovered from the solid waste stream for use in the form of raw materials in the manufacture of new products other than fuel for producing heat or power by combustion.
6. **Reuse / reemploy:** Repeated use of a product or a material in its original form, in order to use them in a different way if reused or in a similar way if reemployed. Reuse / reemploy includes the following:
 - a. Reusable product and material recovery, which are generated by modernization work of a structure, before their demolition, in order to resale, reuse, reemploy within the same project or stored for further use.
 - b. Return to suppliers, products and materials that can be reused / reemployed; skid and unused product for example.
7. **Recovery:** Removal of load-bearing and non-load-bearing construction components and material in the process of dismantling industrial, commercial or institutional structures, in order to be reused or recycled.
8. **Sorted garbage:** Garbage classified by type.

1.3 Use of premises and installations

- .1 Do the work without preventing normal use of premises.
- .2 Put in place provisory safety measures, approved by the counseling-expert.

1.4 Sorting program for demolition materials

- .1 Prepare sorting program for demolition material before beginning works.
- .2 Following approved methods by the Ministerial Representative and with his

- authorization, begin the sorting program of material to be recuperated for recycling.
- .3 On the site, anticipate necessary installations to collect, handle and transport projected quantities of recyclable garbage.
- .4 Material must be collected, handled and evacuated either at the sorting stage or to be sorted at an independent site. Recuperated materials must be transported towards approved installation and authorized for recycling.
- .5 Hold information and awareness meeting for workers that will be working on the site and give them written information on the procedure to be followed for recuperation.
- 1.6 Internet links on garbage treatment**
- .1 <http://www.mddep.gouv.qc.ca/matieres/valorisation.htm#debris>
Available documentations:
- Information sheet : « *Construction residue, renovation and demolition* »
- *Information guide on recycling of dry materials.*
- .2 <http://www.3rmcdq.qc.ca/>
- .3 <http://www.usqbc.org/>
- .4 <http://www.recyc-quebec.gouv.qc.ca>
- .5 <http://www.cca-acc.com>
- 1.7 Removal of garbage**
- .1 It is forbidden to burry debris and garbage on the site.
- .2 It is forbidden to throw garbage, mineral essences, oil, paint thinner in water ways, sanitary and rain sewers.
- 1.8 Demolition Waste Audit (DWA)**
1. Prepare DWA, ten (10) days prior to work start.
2. Fill DWA, (annex a)
3. Provide quantity inventory for recovered waste material intended to be reuse / reemployed, recycled or eliminated.
- 1.9 Stoking, Handling and protection of materials**
- .1 Stock, in designated areas on the site, material intended to be reused, recycled or recuperated.
- .2 If not stated otherwise, materials that must be disposed of, become the property of the contractor.
- .3 Protect, pile up, stock and list all components to be recuperated.
- .4 Separate non recoverable components from recoverable ones. Transport and deliver non recoverable components to authorized elimination installation.
- .5 Support all work affected by the works. Should the safety of the building become compromised, stop work and inform the consulting-expert immediately.
- .6 Protect superficial water evacuation works and all electrical and mechanical

installations to prevent damage or blockage.

- 1.10 Work schedule** .1 Coordinate management of garbage with other activities to ensure the good order of the works.

PART 2 – PRODUCTS

- 2.1 Without object** .1 Without object

PART 3 – WORK

- 3.1 General** .1 Do work as per garbage sorting program.
 .2 Handle as per pertinent codes and regulations for garbage that are not reusable, recoverable and or recyclable.
- 3.2 Cleaning** .1 Once work is done, remove all tools and garbage. Leave premises clean and in good order.
 .2 Clean work areas as work progresses.
 .3 Sort, at the source, all material that must be reused/recycled and place them in designated areas.
- 3.3 Waste value REUSE / REEMPLOY** 1. Value good shape material and systems with the objective to reuse them in their actual shape and form or following their modernization.
 2. These items become property of the contractor at contract signature; however they are constrained to the requirements of this section.
 3. On site selling for the purpose of reuse / reemploy or recovery for the purpose of recycling is forbidden.
 4. Fill table A in order to document reel percentage of reused material and equipment.

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Material / system	Description	Value - Minimal Percentage	Value - reel Percentage
Wind turbine	2 wind turbines	100%	
Photovoltaic cells	12 Photovoltaic cells	75%	
Storage and shelving		75%	
Acrylic panels		50%	
Propane reservoir		100%	
Other	<i>Specify:</i>		

3.4
Waste value
RECYCLING

1. Based on the following list, sort waste material from general waste on an independent site as required by the current section.

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- 1.1. Identify containers or area for piling.
- 1.2. Instructions for elimination method must be provided.
2. On site selling for the purpose of reuse / reemploy or recovery for the purpose of recycling is forbidden.
3. Fill table B in order to document reel percentage of recycled material and equipment.
4. Refer to section 02 42 13E – Carpet Recycling for requirements in regard to carpet to disposal.

TABLEAU B - RECYCLING			
Material / system	Description	Value - Minimal Percentage	Value - reel Percentage
Concrete	Concrete slab, pavement, etc	100 %	
Metal	Window frame, sun shade, flashing, etc.	100 %	
Insultation	Fiberglass insulation, rigid insulation panel, etc.	75 %	
Other	<i>Specify</i>		
Other	<i>Specify</i>		
Other	<i>Specify</i>		

**3.5
 Waste audit**

1. Prepare DWA prior to work start.
2. Fill DWA, (annex A)
3. Provide quantity inventory for recovered waste material intended to be reuse / reemployed, recycled or eliminated.

Annex A – Demolition Waste Audit

TABLE C – DEMOLITION WASTE AUDIT

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Material / system	Quantity	Units	Total	Total Volume	Weight	Notes and observations
Concrete						
Metal						
Insulation						
Wind turbine						
Photovoltaic cells						
Storage and shelving						
Acrylic panels						
Propane reservoir						

***** END *****

PART 1 – GENERAL

- 1.1 Section content**
- .1 Structure total demolition method and procedures
 - .2 Included work of this section includes total demolition of above ground structures linked to building.
 - .3 More specifically, demolish and get rid of the following structures:
 - 1. Greenhouse installations, John H. Chapman Space Center
 - 2. Supply and services up to connecting point.
- 1.2 References**
- Non-limitative list of reference standards, last in effect version :
- .1 Canadian Standard Association (CSA)/CSA International
 - .1 CSA S350-M1980, Code of Practice for Safety in Demolition of Structures.
 - .2 Department of Justice (JUS)
 - 1. Canadian Environmental Assessment Act (LCÉE 2012)
 - 2. Canadian Environmental Protection Act (CEPA), ch. 33.
- 1.3 Definitions**
- .1 Hazardous materials : Dangerous substances, goods and products that may contain, but not limited to, poisons, corrosive agents, flammable content, ammunitions, explosives, radioactive substances and any other materials that, if not properly used, might have harmful consequences on health and wellbeing, or environment,
 - .2 Refer to section 01 74 19E for definitions regarding waste management.
- 1.4 Documents / samples to submit**
- .1 Contractor must make sure that all requirements regarding required documents, samples and reports' transmissions are fulfilled.
 - .2 Before starting works, submit a detailed waste reduction plan as per section 01 74 19E – Management and removal of garbage. The plan must indicate:
 - 1. Nature and quantity for all the material that needs to be recovered, reused / reemployed, recycled and landfilled;
 - 2. Selective demolition plan;
 - 3. Number en location of recovery bins;
 - 4. Name and address of the waste management centers.
 - .3 For all materials shipped outside the worksite, provide weighing slip or certified voucher issued by authorized landfill, reuse / reemploy and recycle centers.
 - 1. Written authorization must be obtain from the Ministerial

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Representative before shipping materials elsewhere then waste management centers indicated in waste reduction plan.

- .4 If competent authority requires it, submit for approbation, drawings, sketches or details indicating demolition, shoring and sub-excavation work order as well as elements needed to do so.
 - .5 Drawings must be stamped and signed by a competent engineer recognized or authorized to practice in Canada, in the province of Quebec.
- 1.5 Quality assurance**
- .1 Regulatory requirements: Ensure that works are realised according to Canadian Environmental Protection Act (CEPA) as well as relevant provincial and municipal regulation.
- 1.6 Waste management and disposal**
- .1 Waste must be sort for reuse / reemploy and recycling as per section 01 74 19E – Management and removal of garbage.
 - .2 Ship exceeding materials to a site that is approved by the Ministerial Representative.
- 1.7 Environment protection**
- .1 Ensure that demolition works has no harmful effects on surrounding wildlife, groundwater and adjacent watercourse, and are not generating excessive acoustical and atmospheric pollution.
 - .2 It is forbidden to burn waste and materials on site.
 - .3 Do not spill waste or volatile materials, such as mineral fuels, oils, petroleum based lubricant or toxic cleaning substances, in watercourse or sanitary and storm sewers.
 - 1. Ensure that the proper methods are used to dispose of such products for the duration of the work.
 - .4 Do not discharge water containing suspended solids in watercourse, sanitary and storm sewers or adjacent lands, using a pump or any other methods.
 - .5 Ensure water evacuation and containment of runoff that contains suspended solids or any other harmful substances.
 - .6 Protect vegetation (trees, plants, bushes and their leaves) on site and adjacent properties.
 - .7 Dry materials and waste must be covered or proceed with wet felling to avoid dust and debris to lift. Apply dust suppressant on all temporary access way.
 - .8 Provide environmental protection plan, aiming to reduce work impacts on

users and vegetation, site and existing building. Must include the following:

- .1 Name of person in charge of the protection plan.
- .2 Name and skills of the person in charge of exit manifest for dangerous materials site evacuation.
- .3 Name and skills of the person in charge of onsite staff formation.
- .4 Program description for staff in charge of environmental protection.
- .5 Drawings showing temporary excavation location or backfilled site track, materials, constructions, sanitary installations, over materials or stained materials storage, drawing illustrating methods used to control runoff waters and for site materials confinement.
- .6 Circulation regulation plans, including erosion reduction measures, especially for rainy days.
- .7 These plans must include reduction measures for material transportation on public roads by vehicles and runoff waters.
- .8 This plan must include measures for usable area limits marking and protection methods for elements that must be preserved and located inside authorized working area, such as trees.
- .9 Emergency plan in case of spill must include procedures to apply, precautions to observe and reports to produce in case of unpredictable regulated substances spill.
- .10 Elimination plan for solid non-dangerous waste, including methods and elimination sites for these solid garbage and waste coming from clearing works.
- .11 Prevention plan for air pollution, indicating measures to retain dust, debris, materials and waste inside work site.
- .12 If need be, contamination prevention plan, indicating potential dangerous substances that might be used on site, safety measures to avoid these substances to transfer in the air or introduced in the ground, as well as detailed measures applied to make sure that storage and handling is made in accordance with federal, provincial and municipal laws and regulations.
- .13 Management plan for waste water, indicating methods and procedures to apply for site activities' waste water management and evacuation, per example water used for concrete cure, cleaning water, groundwater diversion and pipes disinfection and

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rinsing water.

- 1.8 Existing conditions .1 Existing conditions reflects structure to be demolished general shape as it is when site inspection is done, before tender deposit.
- .2 Refer to each disciplines' plans to learn about building and systems to be demolished or modified.
- 1.9 Existing conditions – Material to hand back to owner .1 N/A
- 1.10 Licences and autorisations .1 Contractor must obtain all specific licences and authorisations from competent authority prior to work start.
- .2 Refer to general conditions for additional clauses in regard to licences.

PART 2 – PRODUCTS

- 2.1 Material and equipment .1 Material and heavy machinery
 - .1 On-road vehicles must be in accordance with the On-Road vehicle and engine emission regulations emission requirements, DORS/2003-2, under CEPA.
 - .2 All-terrain vehicle must comply with EPA CFR 86.098-10 and EPA CFR 86.098-11 standards in regards to emission requirement.
- .2 Stop machinery as soon as use is over, except if extreme conditions requires non-stop running.

PART 3 – EXECUTION

- 3.1 Protection measure .1 All necessary measures must be taken to avoid structure, utility piping or trees movements or drop and prevent any damages.
 - .1 Provide and install necessary bracings and shoring.
 - .2 If need be, repair any damaged caused by demolition work according to Ministerial Representative instructions.
 - .3 Aimed structure and work must be adequately shored. If demolition work seems to be dangerous for adjacent structures and work or utility piping, adequate protection measure must be taken, work stopped and Ministerial Representative notified.

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- .2 Make sure that demolition work does not obstruct surface water draining system.
- 3.2 Preparation work**
- .1 Work must be executed according to effective Health and safety standards.
 - .2 Proceed with site preparation and temporary protection according to section 01 56 10E.
 - .3 Validate with onsite organisms to identify underground piping systems and any other services in order to avoid breakage and allow fast intervention in case of sinister. Complete connection before mobilisation and work starts.
 - .4 Contact concerned company and organisms to set electrical supply and communication system disconnection work.
 - .5 Disconnect electrical and phone connection piping from work and structure to be demolished.
 - .1 Warning plates must be installed on electrical material and piping which needs to be kept powered in order to feed other work while demolition occurs.
 - .6 If need be, unplug, cap and remove natural gas supply pipe as per gas company requirements.
 - .7 Septic Tank
 - .1 N/A.
 - .8 Do not interrupt powered or in operation utility pipes that crosses the site or that must not be moved.
 - .9 Exterminate rodents and vermin as per competent authority requirements.
- 3.3 Security**
- .1 Demolition work must be done according to section 01 56 10E – Site planning and temporary installations.
 - .2 It is forbidden to use blasting for demolition work.
- 3.4 Demolition**
- .1 Demolish structures, installations and systems as shown on drawings.
 - .2 Execute necessary demolition to allow site preparation and removal of any existing infrastructure.
 - .3 Wet dry materials and cover waste to avoid wind to lift dust and spread debris. Remove dust from temporary path.
 - .4 Do not fill floor drains if water evacuation pipes are still connected.

- .5 Remove material, piping and any other elements that hinder rehabilitation or reparation of existing surfaces, and put back in place as work progresses.
- .6 At the end of each labor day, make sure that work is safe and stable.
- .7 Demolition work must be done in order to lift as less dust as possible. Keep material wet as per Ministerial Representative requirements, with the proper humidifying equipment that avoids to waste water.
- .8 Demolish structure.
- .9 Confine fiber materials (ex : insulation) in order to reduce as much as possible fiber rejection in the air while carried inside the installations.
- .10 It is forbidden to eliminate prescribed materials otherwise then according to ecological methods or by using them for their original purpose.
 - .1 Regarding waste value, Ministerial Representative may suggest other elimination methods for demolition waste.
- .11 It is forbidden to ship those materials to landfill or to incorporate those to the waste flow which is landfilled.
- .12 Unless otherwise indicated, remove and evacuate demolition materials from work site according to competent authority requirements.
- .13 As often as possible, work must be done in daylight.
 - .1 At the end of each working day, shut off all lighting sources other than security lighting.
- 3.5 Materials evacuation**
 - .1 If they hinder work progression, evacuate all stored materials according to Ministerial Representative instructions.
 - .2 Evacuate stored material of similar nature and using the same ecological elimination methods, once these materials are all collected.
 - .3 If not intended to be ecologically eliminated, proceed with material and product elimination and transportation according to relevant regulation.
 - 1. Use approved landfill, indicated in waste reduction plan.
 - 2. Written authorisation must be obtained from Ministerial Representative if products and materials are intended to be shipped to any landfill other than the one indicated in the waste reduction plan.
- 3.6 Cleaning**
 - .1 Work site must be maintained clean and orderly for the demolition work duration.
 - .2 When work are completed, get the work site rid of debris, repair surfaces and clean work area. Walk through the site to make sure that no demolition debris are scattered.