

## **PART 1 - GENERAL**

### **1.1. RELATED SECTIONS**

1. Section 01 00 10 – General Instructions.
2. Section 01 35 43 – Environmental Procedures.
3. Section 01 74 11 – Cleaning.
4. Section 09 97 19 – Painting Exterior Metal.
5. Section 32 01 12 – Removal of Road Markings.

### **1.2. REFERENCES**

1. Canadian Standards Association (CSA).
  1. CSA S350-M1980 (R2003) Code of Practice for Safety in Demolition of Structures.

### **1.3. SUBMITTAL PROCEDURES**

1. Not applicable.

### **1.4. QUALITY ASSURANCE**

1. Requirements of regulatory agencies: ensure that all work is carried out according to all relevant provincial regulations.

### **1.5. SITE PROTECTION**

1. Protect existing structures that must remain in place and those that must be recovered. If they are damaged, replace or repair them immediately to the satisfaction of the Departmental Representative, at no charge to the Departmental Representative.
2. Remove and store, without damaging them, the materials to be recovered.
3. Store and protect materials to ensure their maximum preservation.
4. Handle salvaged materials as if they were new.

### **1.6. VEGETATION PROTECTION**

1. Perform all site clearing and plant protection works according to the requirements of Section 01 35 43 – Environmental Procedures.
2. General
  1. Unless specifically stated on the plans for this purpose, all the trees and shrubs on the site are to be conserved and maintained, including the soil surrounding the trees.
  2. It is forbidden for the Contractor to fix any object whatsoever onto vegetation to be protected or to mark them with paint.

3. Any spilling on or into the soil of substances harmful to the health of the vegetation is prohibited at all times.
  4. To this end, it is the Contractor's responsibility to take full cognizance of the situation of site and the true location of the crown, trunk and roots of vegetation to be preserved. Under no circumstances, except for exceptional considerations, will the felling or pruning of vegetation to be protected be approved by the Departmental Representative.
3. Temporary protection fencing
1. Before commencing the work, stake with precision, on site, the protection zones, 1 meter beyond the trees' or shrubs' drip line. Have them approved by the Departmental Representative before erecting the protective fence.
  2. Plant the steel stakes vertically, 500mm in the soil, at regular intervals 3000mm center-to-center maximum.
  3. Brace the end-posts by means of posts planted at a 45 degree angle and firmly attached to the end-posts.
  4. Attach the fence to the stakes to make it taut over its entire height. Tie at least three (3) nylon fasteners to each post.
  5. Install the cable bracket by passing it through the mesh at the top of the fence and tying it tightly to each stake. Use turnbuckles as needed.
  6. Maintain the fences in place, in perfect condition, until completion of the works. Remove at the end of the works.

## **PART 2 - PRODUCTS**

### **2.1. NOT APPLICABLE**

1. Not applicable.

## **PART 3 - EXECUTION**

### **3.1. PREPARATION**

1. Inspect the project site and verify with the Departmental Representative, the location and extent of works to be removed, disposed of, upgraded, recycled, recovered, and those who must remain in place.
2. Mark and protect designated elements that should not be affected by construction.
3. Do not cut or damage utilities that are in service or under tension.

### **3.2. SAFETY**

1. It is forbidden to resort to blasting or explosives for the execution of demolition work.
2. At the end of each work day, check the stability and safety of the structure to prevent collapse or movement of one or other of its components.

3. Execute the works according to the requirements of CSA S350 standard.

### 3.3. REMOVAL

1. Remove the specified works, as indicated.
2. It is forbidden to move or otherwise disturb the structures designated to remain in place.
3. Limestone border removal.
  1. Remove existing limestone borders and their granular base course down to the level needed for new surfaces and their base course.
  1. Limestone borders in good condition may be used for new works, if approved by the Departmental Representative.
    1. Limestone borders in good condition that are not used for new works remain the property of the Departmental Representative. They must be ceded the Departmental Representative at the end of the project (delivered to PWGSC Storage Area in the National Capital Region).
    2. Otherwise damaged or unwanted limestone borders become the property of the Contractor and must be removed from the job site.
4. Concrete border removal.
  1. Remove existing concrete borders and their granular base course down to the level needed for new surfaces and their base course.
5. Cobblestone removal.
  1. Remove cobblestone and aggregate base courses (including concrete base, if existing) down to the level needed for new surfaces and their base courses.
    1. Cobblestone in good condition, as decided by the Departmental Representative, remain the property of the Departmental Representative. They must be ceded to the Departmental Representative at the end of the project (delivered to PWGSC Storage Area in the National Capital Region).
    2. Otherwise damaged or unwanted cobblestone become the property of the Contractor and must be removed from the job site.
6. Grass removal.
  1. Remove the layer of turf and the underlying soil, down to the level needed for new surfaces and their base courses.
7. Asphalt removal.
  1. Delineate, by right-angle cuts, the surfaces that must remain in place.
  2. Use a saw or other means approved by the Departmental Representative.
  3. Remove asphalt and aggregate base courses down to the level needed for new surfaces and their base courses.
  4. Protect adjacent surfaces and joints, as well as their granular base courses.
8. Granitic screening removal.
  1. Remove granitic screening down to the level needed for new surfaces.
9. Shrub removal.

1. Clearing.
  1. Rip out, down to ground level, designated brush and trees with trunks less than 100 mm in diameter.
2. Stumping.
  1. Remove the stumps and the roots down to at least 300mm below the ground level in the areas where landscaping is planned and 600mm in the areas that are to be paved.
  2. Remove the stones and visible rock fragments that have a volume less than 0.25 m<sup>3</sup>, but where the largest dimension is more than 300 mm.
3. Finishing
  1. Leave the ground surface in a condition that permits the immediate realization of grading works, to the satisfaction of the Departmental Representative.
  2. At the end of works, leave the area clean, to the satisfaction of the Departmental Representative.
10. Iron fence removal.
  1. Remove a section (approximately 4m) of the iron fence near the Summer Pavilion, including applicable concrete bases.
    1. Fence must be cut at the precise location instructed on-site by the Departmental Representative in a clean, accurate manner so that the new end of the fence retains an aesthetic and functional quality.
      1. Removed fence section must be ceded to the Departmental Representative at the end of the project (delivered to PWGSC Storage Area in the National Capital Region).
    2. Black rustproofing paint, approved by the Departmental Representative, shall be applied at the newly exposed area, according to the requirements of Section 09 97 19 – Painting Exterior Metal.
11. Road markings
  1. Remove road markings according to the requirements of Section 32 01 12 – Removal of Road Markings.
12. Disposal from job site.
  1. Remove demolition materials to authorized and approved facilities.
    1. Asphalt;
    2. Concrete;
    3. Undesirable pavers and limestone borders;
    4. Turf;
    5. Aggregate base courses;
    6. Underlying soil;
    7. Shrubs and roots;
    8. Other miscellaneous debris.

#### 3.4. RELOCATION

1. Lamppost.

1. Lamppost works to be performed as prescribed in Section 01 00 10 – General Instructions.
2. Lamppost stands will be removed from the job site by the Departmental Representative as indicated on the plans, after the Contractor has mobilized on site, except for the one lamppost to be relocated.
  1. For the relocated lamppost, the lamppost stand must be removed and safely stored by the Contractor.
  2. Lamppost base to be relocated, as shown on the plans, including granular base course, anchor, electrical conduits, etc.
    1. The depth of the existing concrete base is unknown. It is believed to be about 1700mm, based on standard practices, or would be down to bedrock with four (4) 15M pins grouted into bedrock. The concrete base is capped by a granite base approximately 150mm x 600mm.
    2. Contractor may reuse existing base if it is not damaged, otherwise Contractor shall replace it with a new base of similar dimensions and quality.
  3. Lamppost stand must be reinstalled and relocated lamppost must be reconnected to existing electrical conduits and shown to be functional upon completion of works.
3. All lamppost bases must be protected.
4. Excavations and holes that remain in the object's original location need to be filled-in and made good.
2. Sundial and Summer Pavilion plaque.
  1. Extra care must be taken to ensure full protection of objects during relocation work. Work cannot proceed without the presence of the Departmental Representative.
  2. To be relocated as shown on the plans, including granular base course, base, anchor, etc.
  3. Excavations and holes that remain in the object's original location need to be filled-in and made good.
  4. Bases
    1. The depth of the existing bases is unknown. It is believed to be about 300mm for the plaque and 1500mm for the Sundial, based on standard practices.
      1. Contractor may reuse existing bases if possible and if it not damaged, otherwise Contractor shall replace them with new bases of similar dimensions and quality.
3. Street signs.
  1. To be relocated as shown on the plans, including all granular base course, bases, anchor, etc.
  2. Excavations and holes that remain in the object's original location need to be filled-in and made good.
  3. Bases
    1. The depth of the existing bases is unknown. It is believed to be about 1500mm, based on standard practices.
    2. Contractor is required to reuse existing bases.

### 3.5. RESTORATION

1. Restore surfaces and structures located outside the areas of demolition to the state they were in before the work began.
2. Use only soil treatment methods and products are neither harmful to health nor harmful to vegetation, and that do not endanger wildlife, watercourses and groundwater.

### 3.6. CLEANING

1. Perform cleaning works as prescribed in Section 01 74 11 – Cleaning.
2. Progress cleaning: leave work area clean at end of each day.
3. Final cleaning: upon completion of works, remove surplus materials, rubbish, tools and equipment and proceed with cleaning.

**END OF SECTION**

**PART 1 GENERAL**

**1.1 RELATED SECTIONS**

- .1 Section 01 14 25 - Designated Substance Report
- .2 Section 02 41 13 - Selective Site Demolition.
- .3 Section 04 03 43 - Historic - Dismantling Stone Masonry.
- .4 Section 05 70 10 - Decorative Metal Restoration.

**1.2 UNIT PRICES**

- .1 Unit Prices
  - .1 Unit prices apply to removal of hazardous construction waste as determined by the leachate testing. Refer to section 01 14 25. The unit price will include all costs necessary to remove hazardous waste, including transport to designated facility.
- .2 Measurement and Payment
  - .1 The measurement and payment of hazardous construction waste will be on a unit price basis and will include all costs associated with supplying materials, and executing work as described herein and reflected in contract. All other demolition work is included in the lump sum price.
  - .2 The work for this Section will be paid based on the actual quantities measured on site and the unit prices stated in the Bid and Acceptance Form.
- .3 Unit rates apply to work above and beyond that indicated in documents.

**1.3 REFERENCES**

- .1 Federal Legislation.
  - .1 Canadian Environmental Assessment Act (CEAA), 2012, c. 37.
  - .2 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
  - .3 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.

**1.4 DEFINITIONS**

- .1 Alternate Disposal: reuse and recycling of materials by designated facility, user or receiving organization which has valid Certificate of Approval to operate. Alternative to landfill disposal.
- .2 Deconstruction: systematic dismantling of structure in a manner that achieves safe removal/disposal of hazardous materials and maximum salvage/recycling of materials.
  - .1 Ultimate objective is to recover potentially valuable resources while diverting from landfill what has traditionally been significant portion of waste system.
- .3 Demolition: rapid destruction of structure with or without prior removal of hazardous materials.
- .4 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities and hazardous products, including but not limited to: corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material that can endanger human health, well being or environment if handled improperly.
- .5 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .6 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form.

- .1 Recycling does not include burning, incinerating, or thermally destroying waste.
- .7 Reuse: repeated use of product in same form but not necessarily for same purpose. Reuse includes:
  - .1 Salvaging reusable materials from remodeling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
  - .2 Returning reusable items including pallets or unused products to vendors.
- .8 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.
- .9 Sound stone: stone that is free from imperfections; with no stylolytes (resembling faults or fissures), no clay, no iron or other inclusions, no holes and no cracks. Acceptable stylolytes are thin and discontinuous.
- .10 Source Separation: acts of keeping different types of waste materials separate, beginning from first time they became waste.
- .11 Waste Management Coordinator (WMC): contractor representative responsible for supervising waste management activities as well as coordinating related, required submittal and reporting requirements.

## **1.5 SUBMITTALS**

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Submit pre-demolition audit and deconstruction/disassembly plan/methodology, for review by the Departmental Representative, prior to starting work.
- .3 Comply with requirements of Section 01 35 43 – Environmental Procedures.
- .4 Submit bracing and shoring drawings, stamped and signed by a qualified Professional Engineer registered licensed in the Province of Ontario.

## **1.6 QUALITY ASSURANCE**

- .1 Ensure Work is performed in compliance with CEPA, CEAA, TDGA, and applicable provincial regulations.

## **1.7 SITE CONDITIONS**

- .1 Existing Conditions.
  - .1 Should materials or other designated substance listed as hazardous be encountered in course of deconstruction, stop work, take preventative measures, and notify Departmental Representative immediately. Do not proceed until written instructions have been received.
- .2 Protection.
  - .1 Prevent movement, settlement or damage to adjacent structures, services, paving, trees, landscaping, adjacent grades and parts of existing structure to remain.
    - .1 Provide bracing and shoring as required.
    - .2 Repair damage caused by deconstruction as directed by Departmental Representative.



- .2 Support affected structures and, if safety of structure being deconstructed or services appear to be endangered, take preventative measures. Cease operations and immediately notify Departmental Representative.
- .3 Ensure that selective demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
- .4 Keep noise, dust, and inconvenience to users to a minimum.
- .5 Protect existing structures, services and equipment, which are to remain.
- .6 Cutting torches or other high heat equipment will not be allowed. Note there is a severe risk of sparks from demolition operations leading to smoldering and combustion especially of very dry vegetation. Take all necessary precautions to minimize risk of fire from work. Inform Departmental Representative of all locations where any potential fire risk operations can take place.

## **PART 2 PRODUCTS**

### **2.1 EQUIPMENT**

- .1 Leave equipment and machinery running only while in use, except where extreme temperatures prohibit shutting down.
- .2 Equipment to be brought on existing structural slabs must be checked for conformance with the load limits by a professional engineer licensed in the Province of Ontario prior to use or installation on site.
- .3 Equipment or machinery that will apply loads to any elements other than existing structural slabs must be reviewed by a professional engineer licensed in the Province of Ontario prior to use or installation on site.
- .4 Demonstrate that tools are being used in manner which allows for salvage of materials in best condition possible.

## **PART 3 EXECUTION**

### **3.1 PREPARATION**

- .1 Work in accordance with Section 01 35 30 – Health and Safety Requirements.
- .2 Inspect site with Departmental Representative and verify extent and location of items designated for removal, disposal, recycling, salvage and items to remain.
- .3 Post warning signs on electrical lines and equipment which must remain energized to serve other products during period of demolition.
- .4 Do not disrupt active or energized utilities designated to remain undisturbed.

### **3.2 REMOVAL OF HAZARDOUS WASTE**

- .1 Prior to start of deconstruction work, remove contaminated or hazardous materials from site and dispose of in a safe manner in accordance with applicable regulations, and Section 01 14 25 – Designated Substance Report.

- .2 Prior to the disposal of waste material identified as containing designated substance in section 01 14 25 Designated Substances Report the contractor will allow the Departmental Representative to collect representative samples of the waste material and perform TCLP leachate test to determine if the waste is to be handled and hazardous or non-hazardous waste.

### **3.3 REMOVAL OPERATIONS**

- .1 Remove items as indicated. Extent of demolition and deconstruction shown on drawings.
- .2 Remove materials that cannot be salvaged for reuse or recycling and dispose of in accordance with applicable codes at licensed facilities.
- .3 Remove vegetation as designated by Departmental Representative.
- .4 Do not disturb items designated to remain in place.
- .5 Throughout course of deconstruction pay close attention to connections and material assemblies. Employ workmanship procedures which prevent damage to surrounding materials and equipment.
- .6 Ensure workers are trained to carry out work in accordance with appropriate deconstruction techniques.
- .7 Project supervisor with previous deconstruction experience must be present on site throughout demolition procedure.
- .8 Maintain structural integrity of structure designated to remain.
- .9 Where existing materials are to be reused in Work, use special care in removal, handling, storage and re-installation to assure proper function in completed work.
  - .1 Handle salvaged materials as new materials.
- .10 Stockpile materials designated for alternate disposal in location which facilitates removal from site and which does not impede disassembly, processing or hauling procedures.

### **3.4 DISASSEMBLY OF NORTH PERIMETER WALL FROM PIERS 33 TO 45 and Around Summer Pavilion**

- .1 Provide photographic record of current condition of face stones after excavation, face stone joint pattern, and of ironwork before disassembly of components. See Section 04 03 43 - Historic - Dismantling Stone Masonry and Section 05 70 10 – Decorative Metal Restoration for additional direction. Complete site survey by licensed surveyor to record position, height of wall and piers, to be used for preparing shop drawings. Use same surveyor for all project survey requirements.
- .2 Mark each salvaged sound stone on non-visible face with unique identifier number.
- .3 Transcribe stone number onto enlarged photographs. See Section 04 03 43 - Historic - Dismantling Stone Masonry for additional direction.

- .4 Use extreme care when dismantling, to prevent damage to delicate components.
- .5 Remove heritage ironwork before dismantling wall, see Section 05 70 10 – Decorative Metal Restoration for additional direction.
- .6 Salvage sound pieces of capstone and pier stones or other sound stone not identified for reuse to use as face stone material. Obtain Departmental Representative acceptance and approval for reuse of salvaged stone. Section 04 03 43 - Historic - Dismantling Stone Masonry for additional direction.
- .7 Store stone and railings on pallets and in crates, and transport to storage facility by truck, ensuring wooden boxes are secured and supported sufficiently to prevent movement on the truck bed.
- .8 Store boxes on skids or platforms under cover to protect from weather, preferably in a climate controlled environment.

### **3.5 CLEANING AND RESTORATION**

- .1 Keep site clean and organized throughout deconstruction.
- .2 Upon completion of project, remove debris, trim surfaces and leave work site clean.
- .3 Upon completion of project, make good landscaped areas, walkways, affected by Work to condition which is indicated on the documents or otherwise existed prior to beginning of Work.

**End of section**