

## **PART 1        GENERAL**

### **1.1            RELATED REQUIREMENTS**

- .1        Section 01 74 11 – Cleaning.
- .2        Section 01 74 21 – Construction/Demolition Waste Management and Disposal

### **1.2            REFERENCES**

- .1        Definitions:
  - .1        Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
  - .2        Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.

### **1.3            ACTION AND INFORMATIONAL SUBMITTALS**

- .1        Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2        Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
- .3        Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.
- .4        Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .5        Include in Environmental Protection Plan.
  - .1        Names of persons responsible for ensuring adherence to Environmental Protection Plan.
  - .2        Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
  - .3        Names and qualifications of persons responsible for training site personnel.
  - .4        Descriptions of environmental protection personnel training program.
  - .5        Erosion and sediment control plan identifying type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
  - .6        Drawings indicating locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
  - .7        Traffic Control Plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather.
    - .1        Plans to include measures to minimize amount of material transported onto paved public roads by vehicles or runoff.

### **1.3 ACTION AND INFORMATIONAL SUBMITTALS (cont'd)**

- .8 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
  - .1 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
- .9 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- .10 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- .11 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
- .12 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .13 Waste Water Management Plan identifying methods and procedures for management and discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.
- .14 Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.
- .15 Pesticide treatment plan to be included and updated, as required.
- .16 A copy of authorizations and permits from owners or managers of waste disposal facilities for demolition materials prior to authorization to remove from site.

### **1.4 FIRES**

- .1 Fires and burning of rubbish on site is not permitted.
- .2 Provide supervision, attendance and fire protection measures as directed.

### **1.5 DRAINAGE**

- .1 Develop and submit erosion and Sediment Control Plan (ESC) identifying type and location of erosion and sediment controls provided. Plan to include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- .2 Storm Water Pollution Prevention Plan (SWPPP) to be substituted for erosion and sediment control plan.
- .3 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .4 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .5 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

## **1.6 SITE CLEARING AND PLANT PROTECTION**

- .1 Protect trees and plants on site and adjacent properties as indicated by the supervisor on site.
- .2 Protect 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 minimum.
- .3 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage.
  - .1 Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .4 Minimize stripping of topsoil and vegetation.
- .5 Restrict tree removal to areas designated by Departmental Representative.

## **1.7 POLLUTION CONTROL**

- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant in accordance with local authorities' emission requirements.
- .3 Prevent sanding materials and other foreign matter from contaminating air and waterways outside the application zone.
  - .1 Provide temporary enclosures where indicated by Departmental Representative.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.
- .5 Maintain cleaning of streets adjacent to work site that are soiled by subcontractors' operations.

## **1.8 NOTIFICATION**

- .1 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
  - .1 Take action only after receipt of written approval by Departmental Representative.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

## **1.9 HISTORICAL/ARCHAEOLOGICAL CONTROL**

- .1 Particularities:
  - .1 Accordingly all excavation work in ground potentially containing vestiges must be supervised by an archeologist designated by the Departmental Representative.

## **1.9 HISTORICAL/ARCHAEOLOGICAL CONTROL (CONT'D)**

### **.2 Accesses and collaboration:**

- .1 The Contractor must cooperate and comply with all instructions given by the Departmental Representative during excavation work to avoid the loss of archeological information on the site.
- .2 The Contractor must facilitate access for and collaborate with the Archeologist. The Archeologist or the Archeologist's representative will be present on the Work site as needed for protecting and recording the finds. Their role will be to guide the Contractor to avoid the loss of archeological information and to collect information on the finds.
- .3 The Contractor must enable the archeological team to examine and take samples of the archeological finds.

### **.3 Archeological finds:**

- .1 The Contractor must notify the Departmental Representative of any archeological finds (construction and building vestiges, objects and fragments) on the site and await written instructions from the Departmental Representative before continuing work in the area of the find.
- .2 Vestiges, antiquities and other elements of historic, archeological or scientific interest (vestiges, objects or fragments) found on the site or areas to be excavated or demolished are the property of Canada. The Contractor must protect the finds and obtain instructions from the Departmental Representative in their regard.

### **.4 Work stoppage:**

- .1 The Contractor must provide five minute work stoppages per hour at the Contractor's expense for excavation work in areas requiring the Archeologist's presence. Unused work stoppages will be accumulated to be used at a later date if necessary. A time sheet for unused time will be maintained by the Departmental Representative in collaboration with the Contractor and Archeologist.
- .2 The Departmental Representative will evaluate work stoppages over 30 minutes and notify the Contractor accordingly. The Contractor may be required to reassign equipment to other areas to enable the archeological work to continue. If reassignment is not possible, the Contractor will be compensated via the time bank or as agreed at the start-up meeting if the time bank is empty.

### **.5 Manual excavation for archeological purposes:**

- .1 Given the possibility of archeological finds, the Contractor is advised that manual excavation may be required during operations as well as other work required to protect the finds. The Contractor will be compensated in accordance with the start-up meeting agreements.

### **.6 Protection of vestiges and work:**

- .1 The Contractor must take all reasonable precautions during excavations and other work to protect any vestiges that may be unearthed and enable their examination by the archeologists. The Departmental Representative will not tolerate any deviation from this practice. The Contractor will be liable for negligence causing the deterioration of a vestige and Canada will determine the consequences.

**1.9 HISTORICAL/ARCHAEOLOGICAL CONTROL (CONT'D)**

- .2 In the event that the Departmental Representative authorizes the demolition of elements on the site, the Contractor will take the necessary measures to protect adjacent work that are not to be demolished. If damage occurs during the Work immediately notify the Departmental Representative.

**PART 2 PRODUCT**

**2.1 NOT USED.**

- .1 Not used.

**PART 3 EXECUTION**

**3.1 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Bury rubbish and waste materials on site where directed after receipt of written approval from Departmental Representative.
- .3 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.
- .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

**END OF SECTION**