

## **1. General**

### **1.1. GENERAL INSTRUCTIONS**

1. Read and be governed by Conditions of the Contract and Sections of Division 1.
2. Review Designated Substances Report prior to any demolition work.

### **1.2. RELATED SECTIONS**

1. Section 01 00 10 - General Instructions.
2. Section 01 14 25 – Designated Substances
3. Section 01 35 16 – Special Project Procedures
4. Section 01 73 03 – Execution Requirements
5. Section 01 73 03.1- Data Centre Cleanliness

### **1.3. REFERENCES**

1. Canadian Standards Association (CSA International)
  1. CSA S350-M1980(R1998), Code of Practice for Safety in Demolition of Structures.

### **1.4. SUBMITTALS**

1. Submit shop drawings in accordance with Sections 01 00 10 General Instructions - Submittal Procedures.
2. Prior to any coring/drilling through walls or floors for services, submit for approval Ferrocans and/or Ground Penetrating Radar results showing all existing rebar locations and proposed coring locations.

### **1.5. SITE CONDITIONS**

1. Should material resembling spray or trowel-applied asbestos or other designated substance be encountered, stop work, take preventative measures, and notify Departmental Representative immediately.
  1. Do not proceed until written instructions have been received from the Departmental Representative.
2. Notify the Departmental Representative before disrupting building access or services.

## **2. Products**

### **2.1. NOT USED**

1. Not used.

### **3. Execution**

#### **3.1. PREPARATION**

1. Inspect building site with the Departmental Representative and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
2. Locate and protect utilities. Preserve active utilities traversing site in operating condition.
3. Disconnect, cap, plug or divert, as required, existing public utilities within the property where they interfere with the execution of the work, in conformity with the requirements of the authorities having jurisdiction. Mark the location of these and previously capped or plugged services on the site and indicate location (horizontal and vertical) on the record drawings. Support, shore up and maintain pipes and conduits encountered.
  1. Immediately notify the Departmental Representative and utility company concerned in case of damage to any utility or service, designated to remain in place.
  2. Immediately notify the Departmental Representative should uncharted utility or service be encountered, and await instruction in writing regarding remedial action.

#### **3.2. PROTECTION**

1. Protect existing surfaces indicated to remain during demolition Work with secure and durable coverings, barricades or guards suitable for the various conditions. Perform the demolition Work in a manner to avoid damage.
2. Keep noise, dust, and inconvenience to occupants to minimum.
3. Protect building systems, services and equipment.
4. Provide temporary dust screens, covers, railings, supports and other protection as required.
5. Personnel and the public will be occupying the existing building during demolition Work. Provide for the safety of occupants and for the security of occupied areas. Provide protection and keep clear areas that are required for access to, and exit from, occupied areas. Maintain clear and safe fire exit routes.
6. Do not use existing systems or services (i.e. piping, conduit, cable trays, etc...) as supporting platform or work platform during execution of work.
7. Data Centre to meet ISO Standard 14644 (Class 8) cleanliness standard.

#### **3.3. CONTINUITY OF EXISTING SERVICES**

1. Keep existing buildings in operation with minimum (no) shut-down periods.
2. Arrange the Work so that services to and physical access to existing building by Departmental Representative's personnel and other persons normally having access are not unduly interrupted. Have such interruptions approved by the Department Representative and time for same kept to a minimum.

3. Provide necessary piping and wiring so that existing building is kept in operation. Arrange and pay for overtime work that may be required to tie-in piping or wiring at night or on weekends.

### **3.4. WORK IN EXISTING BUILDINGS**

1. Do not commence Work until temporary dust containment barriers have been erected.
2. Conduct the Work in the existing buildings in a manner to minimize disturbance to the occupants by noise, dust and obstruction of passageways.
3. Carefully remove existing construction and finishes indicated on the drawings to be removed, employing personnel experienced in working with the products to be removed. Salvage, identify and store re-usable items.
4. Carefully route new pipes, ducts, conduits and other new services so that they do not interfere with existing installations. Relocate existing pipe, duct, conduit, bus duct or any other services required for the proper installation of part of the new Work.
5. Remove ceiling tiles, lighting fixtures, piping, ductwork, wiring, and equipment as necessary to suite new construction and alterations. Cut back and cap, drain, vent and water outlets, conduits and electrical outlets, not being used so that the finish is neat and clean. Carefully remove and stack existing ceiling tiles on the floor for reuse.
6. Avoid existing drain, vent and water piping, conduit and wiring as required to suit new electrical conduit runs.
7. Where Departmental Representative wishes to take over certain areas ahead of Project completion date and these areas are complete, make temporary connections to such areas using services existing in these areas. Re-connect these areas to the permanent services at a later date when new distribution systems are available.

### **3.5. SALVAGE**

1. Remove items to be reused, store as directed by the Departmental Representative, and re-install under appropriate section of specification.

### **3.6. CORING AND DRILLING**

1. Do not core or drill any masonry units. New services are to be attached at masonry joints.
2. Floor penetrations through slabs shall not cut existing reinforcing bars and the specific location must be determined using Non-Destructive Testing (NDT) methods. Ferrosensors and Ground Penetrating Radar systems are acceptable NDT methods. Penetrations through slabs shall not occur with a frequency exceeding 6mm of width per 300 mm of slab to wall interface. For a 50 mm penetration, 2.44 linear metres of floor to wall interface would be required or 1.22m to each side. This rule may be applied in absence of specific engineering calculations. Where specific engineering calculations are available from a licensed professional engineer suitably trained and qualified for such work, follow the written directions of the engineer once reviewed by the Departmental Representative.

### **3.7. DEMOLITION**

1. Remove parts of existing building to permit new construction.
2. Trim edges of partially demolished building elements to tolerances as defined by the Departmental Representative to suit future use.
3. Conduct demolition Work in a manner to minimize disturbance to adjacent building occupants by noise, dust and obstruction of passageways.
4. Carefully remove existing construction and finishes indicated on the drawings to be removed, employing personnel experienced in working with the products to be removed. Salvage, identify and store re-usable items.
5. Refer to Electrical Drawings for demolition Work required.
6. Do cutting and remedial Work required to make the several parts of the Work come together properly. Contractor shall coordinate this Work to ensure that this requirement is kept to a minimum. Perform cutting and remedial Work using specialists familiar with the Products affected and in a manner to neither damage nor endanger the Work.

### **3.8. DISPOSAL**

1. Dispose of removed materials, to appropriate recycling facilities or reuse facilities except where specified otherwise.

**END OF SECTION**

**Part 1           General**

**1.1               GENERAL INSTRUCTIONS**

- .1       Read and be governed by Conditions of the Contract and Sections of Division 1.

**1.2               RELATED SECTIONS**

- .1       Section 01 00 10 - General Instructions.
- .2       Section 01 14 25 - Designated Substance

**1.3               REFERENCES**

- .1       Canadian Environmental Protection Act,1999 (CEPA 1999).
  - .1       Export and Import of Hazardous Waste Regulations (SOR/2002-300).
- .2       Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1       Material Safety Data Sheets (MSDS).
- .3       National Fire Code of Canada 2010.
- .4       Transportation of Dangerous Goods Act (TDG Act) 1999, (c. 34).
- .5       Transportation of Dangerous Goods Regulations (T-19.01-SOR/2003-400).

**1.4               DEFINITIONS**

- .1       Dangerous Goods: Product, substance, or organism that is specifically listed or meets the 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 the 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 the workplace. Under WHMIS, information on hazardous materials is to be provided on container labels, material safety data sheets (MSDS), and worker education programs. WHMIS is put into effect by a combination of federal and provincial laws.

**1.5               SUBMITTALS**

- .1       Submit product data in accordance with Section 01 00 10 - Submittal Procedures.
- .2       Product Data:

- .1 Submit product data in accordance with Section 01 00 10 - Submittal Procedures.
  - .1 Submit to Departmental Representative current Material Safety Data Sheet (MSDS) for each hazardous material required prior to bringing hazardous material on site.

## **1.6 STORAGE AND HANDLING**

- .1 Co-ordinate storage of hazardous materials with the Departmental Representative and abide by internal requirements for labelling and storage of materials and wastes.
- .2 Store and handle hazardous materials and wastes in accordance with applicable federal and provincial laws, regulations, codes, and guidelines.
- .3 Store and handle flammable and combustible materials in accordance with current National Fire Code of Canada requirements.
- .4 Keep no more than 45 litres of flammable and combustible liquids such as gasoline, kerosene and naphtha for ready use.
  - .1 Store flammable and combustible liquids in approved safety cans bearing the Underwriters' Laboratory of Canada or Factory Mutual seal of approval.
  - .2 Storage of quantities of flammable and combustible liquids exceeding 45 litres for work purposes requires the written approval of the Departmental Representative.
- .5 Transfer of flammable and combustible liquids is prohibited within buildings.
- .6 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 litres for liquids:
  - .1 Store hazardous materials and wastes in closed and sealed containers.
  - .2 Label containers of hazardous materials and wastes in accordance with WHMIS.
  - .3 Store hazardous materials and wastes in containers compatible with that material or waste.
  - .4 Segregate incompatible materials and wastes.
  - .5 Ensure that different hazardous materials or hazardous wastes are 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.
- .12 Report spills or accidents immediately to Departmental Representative. Submit a written spill report to Departmental Representative within 24 hours of incident.

## **1.7 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 hazardous waste is generated on site:
  - .1 Co-ordinate transportation and disposal with Departmental Representative.
  - .2 Ensure compliance with applicable provincial laws and regulations for generators of hazardous waste.
  - .3 Use only a 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 only trained personnel handle, offer for transport, or transport dangerous goods.
  - .7 Provide a photocopy of all 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 any discharge, emission, or escape of hazardous materials immediately to the Departmental Representative and appropriate provincial authority. Take reasonable measures to control release.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Only bring on site the quantity of hazardous materials required to perform work.
- .2 Maintain MSDSs in proximity to where the materials are being used. Communicate this location to personnel who may have contact with hazardous materials.

**Part 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 in accordance with applicable provincial regulations.
- .7 Minimize generation of hazardous waste to maximum extent practicable. Take necessary precautions to avoid mixing clean and contaminated wastes.
- .8 Identify and evaluate recycling and reclamation options as alternatives to land disposal, such as:
  - .1 Hazardous wastes recycled in manner constituting disposal.
  - .2 Hazardous waste burned for energy recovery.
  - .3 Lead-acid battery recycling.
  - .4 Hazardous wastes with economically recoverable precious metals.

**END OF SECTION**