
Part 1 General

1.1 REFERENCES

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

1.2 SUBMITTALS

- .1 Submit shop drawings in accordance with Sections 01 33 00 - Submittal Procedures.
- .2 Before proceeding with demolition of load bearing walls or of other walls and where required by authority having jurisdiction submit for review by Departmental Representative shoring and underpinning drawings prepared by qualified professional engineer registered or licensed in the Province of Saskatchewan, showing proposed method.
- .3 Prior to beginning of Work on site submit detailed Waste Reduction Workplan in accordance with Sections 01 74 21 - Construction/Demolition Waste Management and Disposal and indicate:
 - .1 Descriptions of and anticipated quantities of materials to be salvaged reused, recycled and landfilled.
 - .2 Schedule of selective demolition.
 - .3 Number and location of dumpsters.
 - .4 Anticipated frequency of tipping.
 - .5 Name and address of haulers, waste facilities, and waste receiving organizations.

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.4 SITE CONDITIONS

- .1 Review "Designated Substance Report" and take precautions to protect environment.
- .2 Should material resembling spray or trowel-applied asbestos or other designated substance listed as hazardous be encountered, stop work, take preventative measures, and notify Departmental Representative immediately.
 - .1 Do not proceed until written instructions have been received from Departmental Representative.
- .3 Notify Departmental Representative before disrupting building access or services.
- .4 Fuel tank removal refer to Section 02 65 00 - Underground Storage Tank Removal.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 PREPARATION

- .1 Inspect building and site with 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 Notify and obtain approval of utility companies before starting demolition.
- .4 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 Departmental Representative and utility company concerned in case of damage to any utility or service, designated to remain in place.
 - .2 Immediately notify the Engineer should uncharted utility or service be encountered, and await instruction in writing regarding remedial action.

3.2 PROTECTION

- .1 Prevent movement, settlement, or damage to adjacent structures, utilities, landscaping features, and parts of building to remain in place. Provide bracing and shoring required.
- .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.

3.3 SALVAGE

- .1 Refer to demolition drawings and specifications for items to be salvaged for reuse.
- .2 Remove items to be reused, store as directed by Departmental Representative, and re-install under appropriate section of specification.

3.4 SITE REMOVALS

- .1 Remove items as indicated.
- .2 Removal of Pavements, Curbs and Gutters:
 - .1 Square up adjacent surfaces to remain in place by saw cutting or other method approved by Departmental Representative.
 - .2 Protect adjacent joints and load transfer devices.
 - .3 Protect underlying and adjacent granular materials.

3.5 DEMOLITION

- .1 Remove parts of existing building to permit new construction. Sort materials into appropriate piles for salvage, reuse and recycling.
- .2 Trim edges of partially demolished building elements to tolerances as defined by Departmental Representative to suit future use.

3.6 DISPOSAL

- .1 Dispose of removed materials, to appropriate recycling facilities except where specified otherwise, in accordance with authority having jurisdiction.

END OF SECTION

Part 1 General

1.1 WORK INCLUDED

- .1 Excavate, load, haul and dispose Additional Earth Excavation from the perimeter and bottom of the basic underground tank excavation at locations defined by the Consultant.
- .2 Dispose of Additional Earth Excavation as if it were petroleum product contaminated.

1.2 REFERENCE

- .1 All work is to be completed to meet Federal requirements as outlined in the Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations (2009) and Provincial requirements including the Risk Based Corrective Actions for Petroleum Hydrocarbon Impacted Sites (2009) and the Hazardous Substances and Waste Dangerous Goods Regulations.

1.3 SCHEDULE

- .1 Excavate additional earth, as directed by Consultant after completion of testing.

1.4 COORDINATE WITH OTHERS

- .1 Coordinate the schedule and details of additional earth excavation with the Consultant.

1.5 MEASUREMENT

- .1 The total volume of material excavated and hauled will be based on tonnage hauled. All trucks hauling material will require weighing and receipt of weighing must be provided to the Consultant before payment can be made. Volumes (m³) will be calculated from the weigh receipts based on densities of the excavated material determined by the Consultant's laboratory.

1.6 PAYMENT

- .1 Payment for Additional Earth Excavation will be at the Contract Unit Price for actual volume of Additional Earth Excavation. Payment is full compensation for all excavating, loading, hauling and disposal of soil, including all disposal fees and permit costs including tipping fees, and for all labour, supply of materials, use of equipment, tools and incidentals necessary to complete the Work.

Part 2 Products

2.1 MATERIALS

- .1 Additional Earth Excavations are mineral soils and fill materials designated for excavation from the perimeter and bottom of the basic underground tank removal excavation by the Consultant.

Part 3 Execution

3.1 EXCAVATION

- .1 Excavate, load, haul and dispose additional earth excavation materials from locations defined by the Consultant.
- .2 Monitor excavation slopes for early signs of instability; take corrective action and advise Consultant immediately of any sign of slope instability.
- .3 Dispose of all material removed from site in accordance with Saskatchewan Ministry of Environment guidelines.
- .4 Assist the Consultant to facilitate in-situ testing and sampling.

END OF SECTION

Part 1 General

1.1 WORK INCLUDED

- .1 Purge tanks and pipes of sludge, liquids and vapours prior to removal.
- .2 Excavate, load, haul and dispose of existing granular tank bed fill, soil, underground petroleum storage tank, associated piping and bedding materials, and concrete pump island.

1.2 REFERENCE

- .1 All work is to be completed to meet Federal requirements as outlined in the Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations (2009) and Provincial requirements including the Risk Based Corrective Actions for Petroleum Hydrocarbon Impacted Sites (2009) and the Hazardous Substances and Waste Dangerous Goods Regulations.

1.3 SCHEDULE

- .1 Coordinate start of excavation with Consultant at least seven (7) days before start of excavation.
- .2 Erect safety fences and barricades before start of excavation.
- .3 Plan for a delay(s) in the work after the excavation is open and soil samples are taken to allow time for laboratory analysis before further excavations, further sampling and testing, and possibly further delays before backfill work.

1.4 APPROVALS

- .1 Ensure that a copy of the Saskatchewan Ministry of Environment approval to remove the tank has been received and is present on site throughout the entire duration of the work.
- .2 Provide documentation to Consultant to verify the site supervisor for the tank removal is certified by Saskatchewan Ministry of Environment to perform Petroleum Product Storage Tank Installations and Decommissioning.

1.5 COORDINATION WITH OTHERS

- .1 Advise Consultant of schedules when parts of excavation sides or bottoms will be exposed and ready for testing and sampling of vapours, groundwater and/or soil.
- .2 Assist Consultant staff while doing testing and sampling in excavation.

1.6 DEFINITIONS

- .1 Basic Excavation for removal of underground tanks and associated piping means that excavation is required for the safe removal of underground tanks and associated piping. It does not include the potential larger excavation required to remove petroleum contaminated soil as Additional Earth Excavation from beyond the Basic Excavation.
- .2 Removal and disposal of underground fuel tanks includes rendering the tanks unusable in the future but puncturing/cutting the tank and disposing of it appropriately. An affidavit of destruction must be provided by the approved tank disposal facility or company.

- .3 Excavate, load, haul and dispose of existing granular fill means all the fill material placed around the tanks when they were installed. All fill material is to be considered impacted with hydrocarbons and hauled and disposed of accordingly.
- .4 Additional Earth Excavation means the maximum excavation that includes the Basic Excavation plus the additional excavation required to remove petroleum contaminated soils, if the additional Earth Excavation work is done as a continuous extension of the Basic Excavation work.

1.7 MEASUREMENT

- .1 The total volume of material excavated and hauled will be based on tonnage hauled. All trucks hauling material will require weighing and receipt of weighing must be provided to the consultant before payment can be made. Volumes (m³) will be calculated from the weigh receipts based on densities of the excavated material determined by the Consultant's laboratory.

1.8 PAYMENT

- .1 Payment for purging the tanks of all liquids/sludge will be at a unit rate (per litre) as stipulated in the contract.
- .2 Payment for the underground tank removal and disposal will be at the lump sum price stipulated in the contract.
- .3 Payment for Excavation, loading and hauling of granular tank bed fill material will be based on tonnage derived from weigh bills for all materials removed from the site. All tank bed material is assumed to be impacted with hydrocarbons and hauled and disposed of accordingly.
- .4 Landfill tipping fees and / or land farming costs will be based on unit rates (tonnage) as stipulated in the contract. Tipping receipts / weigh bills must be provided to the consultant for payment verification and approval.

Part 2 Execution

2.1 PURGE UNDERGROUND TANKS AND PIPES

- .1 Purge underground tanks and pipes of liquids and vapours under supervision of the Saskatchewan Ministry of Environment certified supervisor.

2.2 EXCAVATE AND REMOVE TANKS AND PIPES

- .1 Confirm to Consultant that required approval to remove underground petroleum product storage tanks has been received from Saskatchewan Ministry of Environment and the local Fire Department.
- .2 Excavate, load, haul and dispose existing granular tank bed fill, soil, underground petroleum storage tank, associated piping and bedding materials, and concrete pump island.
- .3 Monitor excavation slopes for early signs of any instability; take corrective action and advise Consultant immediately of any signs of slope instability.
- .4 Dispose of all material removed from site in accordance with Saskatchewan Ministry of Environment guidelines.

- .5 Advise Consultant of completion of basic excavation or parts of excavation to allow soil, vapour and/or groundwater sampling or testing, and surveying to be scheduled.
- .6 Provide Contractor's assistant to Consultant to facilitate in-situ testing and sampling.

END OF SECTION

Part 1 General

1.1 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).

1.2 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): 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.

1.3 SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit product data in accordance with Section 01 33 00 - 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.
 - .2 Submit hazardous materials management plan to Departmental Representative that identifies hazardous materials, their use, their location, personal protective equipment requirements, and disposal arrangements.

1.4 DELIVERY, STORAGE, AND HANDLING

- .1 Co-ordinate storage of hazardous materials with 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 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.

1.5 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. Take reasonable measures to control release.

Part 2 Products

2.1 MATERIALS

- .1 Only bring on site quantity of hazardous materials required to perform work.
- .2 Maintain MSDS in proximity to where 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