

PART 1 - GENERAL

- |  |    |   |
|--|----|---|
| <u>1.1 RELATED REQUIREMENTS</u>                | .1 | Section 31 23 33.01 - Excavating, Trenching and Backfilling.  |
| <u>1.2 REFERENCES</u>                          | .1 | ASTM International<br>.1 ASTM D 698-07e1, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft <sup>3</sup> (600 kN-m/m <sup>3</sup> )).  |
|  | .2 | Canada Green Building Council (CaGBC)<br>.1 LEED Canada-NC-2009, LEED (Leadership in Energy and Environmental Design): Green Building Rating System for New Construction and Major Renovations 2009.  |
|  | .3 | CSA International<br>.1 CSA A23.1/A23.2-09, Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete.<br>.2 CSA A23.4-09, Precast Concrete-Materials and Construction.<br>.3 CSA B66-10, Design, Material and Manufacturing Requirements for Prefabricated Septic Tanks and Sewage Holding Tanks. |
|  | .4 | Newfoundland and Labrador Department of Municipal Affairs.<br>.1 Municipal Water, Sewer and Roads Construction Specifications, latest revision.   |
| <u>1.3 ACTION AND INFORMATIONAL SUBMITTALS</u> | .1 | Submit in accordance with Section 01 33 00 - Submittal Procedures.  |
|  | .2 | Product Data:<br>.1 Submit manufacturer's instructions, printed product literature and data sheets for utility septic tanks and include product characteristics, performance criteria, physical size, finish and limitations.   |
-

1.3 ACTION AND  
INFORMATIONAL  
SUBMITTALS  
(Cont'd)

---

- .3 Shop Drawings:
    - .1 Submit drawings stamped and signed by professional engineer registered or licensed in the Province of Newfoundland and Labrador, Canada.
    - .2 Shop Drawings: to CSA A23.4.
      - .1 Indicate on drawings:
        - .1 Design calculations for items designed by manufacturer.
        - .2 Tables and bending diagrams of reinforcing steel.
        - .3 Camber.
        - .4 Formwork.
        - .5 Finishing schedules.
        - .6 Methods of handling and erection.
        - .7 Storage facilities.
        - .8 Openings, sleeves, inserts and related reinforcement.
  - .4 Sustainable Design Submittals:
    - .1 LEED Canada submittals: in accordance with Section 01 35 21 - LEED Requirements.
    - .2 Construction Waste Management:
      - .1 Submit project Waste Management Plan highlighting recycling and salvage requirements.
      - .2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating that 75% of construction wastes were recycled or salvaged.
      - .3 Recycled Content:
        - .1 Submit listing of recycled content products used, including details of required percentages of recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
      - .4 Regional Materials: submit evidence that project incorporates required percentage 20% of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
      - .5 Erosion and Sedimentation Control: submit copy of erosion and sedimentation
-

1.3 ACTION AND  
INFORMATIONAL  
SUBMITTALS  
(Cont'd)

- .4 Sustainable Design Submittals: (Cont'd)
- .2 Construction Waste Management: (Cont'd)
- .5 (Cont'd)  
control plan in accordance with  
authorities having jurisdiction and  
Section 01 35 21 - LEED Requirements.

1.4 QUALITY  
ASSURANCE

- .1 Manufacturers and erectors of precast  
concrete elements are to be certified by CSA  
as meeting requirements of CSA A23.4.

1.5 DELIVERY,  
STORAGE AND  
HANDLING

- .1 Deliver, store and handle materials in  
accordance with Section 01 61 00 - Common  
Product Requirements and with manufacturer's  
written instructions.
  - .2 Delivery and Acceptance Requirements: deliver  
materials to site in original factory  
packaging, labelled with manufacturer's name  
and address.
  - .3 Storage and Handling Requirements:
    - .1 Store materials and in accordance with  
manufacturer's recommendations in clean, dry,  
well-ventilated area.
    - .2 Store and protect utility septic tanks  
from nicks, scratches, and blemishes.
    - .3 Replace defective or damaged materials  
with new.
  - .4 Develop Construction Waste Management Plan  
related to Work of this Section and in  
accordance with Section 01 35 21 - LEED  
Requirements.
  - .5 Packaging Waste Management: remove for reuse  
or return of pallets, crates, padding,  
banding, and packaging materials as specified  
in Construction Waste Management Plan in  
accordance with Section 01 74 21 -  
Construction/Demolition Waste Management and  
Disposal and Section 01 35 21 - LEED  
Requirements.
-

## PART 2 - PRODUCTS

- 2.1 MATERIALS .1 Supply and install prefabricated septic tank in accordance with CSA B66, and to carry handling stresses and indicated service loads.
- .2 Tank to have minimum total working capacity of 5,000 L.
- 2.2 ACCESS .1 Include access holes to surface to facilitate cleaning and inspection.
- 2.3 TANK BEDDING AND SURROUND MATERIAL .1 Type 1 bedding in accordance with Section 02223 of the Newfoundland and Labrador Municipal Water, Sewer and Roads Master Construction Specifications.
- .1 Crushed or screened stone, gravel or sand.
- 2.4 BACKFILL MATERIAL .1 As indicated.
- .2 Type 3, in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.

## PART 3 - EXECUTION

- 3.1 EXAMINATION .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for utility septic tank installation in accordance with manufacturer's written instructions.
- .1 Visually inspect substrate in presence of Departmental Representative.
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
-

- .1 Place bedding and surround material in unfrozen condition.
- .2 Do excavation in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.
- .3 Place tank bedding material in accordance with details as indicated.
  - .1 Compact to 95% maximum dry density to ASTM D 698.
- .4 Make inlet and outlet joints of septic tank watertight, using modular wall seals.
- .5 Conduct leakage test on septic tank in presence of Departmental Representative, before backfilling.
  - .1 Fill tank to level of effluent pipe, and allow to stand for 24 hours.
  - .2 Allowable leakage is zero.
  - .3 If leakage occurs, remove seal materials and reseal as directed by Departmental Representative.
- .6 Do backfilling in accordance with Section 31 23 33.01 - Excavating, Trenching and Backfilling.
  - .1 Compact to 90% maximum dry density to ASTM D 698.

  

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

- 3.3 CLEANING  
(Cont'd)
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal and Section 01 35 21 - LEED Requirements.
- .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.