

## **PART 1 - GENERAL**

### **1.1 DESCRIPTION**

- .1 This section specifies supply, placement and compaction of rock and gravel fill as required or as directed by Departmental Representative.
- .2 The rock fill to be used for this project is to be obtained during cribseat and berthing depth excavation operations, at no additional cost to the Owner. The material is to be stockpiled on site, and material deemed suitable by the Departmental Representative is to be utilized as required for fill. Unsuitable material is to be removed from site and transported to an approved disposal site. Any additional imported rock fill required will be paid for as per the unit price for imported rock fill.

### **1.2 MEASUREMENT FOR PAYMENT**

- .1 Imported Rock Fill: Supply, placement, and compaction of imported rock fill will be measured by the cubic meter (CMPM). The volume of material will be determined in place from measurements taken prior to and at completion of the work. Include the cost of all plant, labour, equipment, and materials required to complete the work as specified. Include incidental to the unit price for imported rock fill, all costs associated with the supply and installation of the new HDPE sewer pipe, fittings and new sewer cleanout c/w concrete support slab and 600 mm Ø manhole frame and cover.

## **PART 2 - PRODUCTS**

### **2.1 ROCK FILL**

- .1 Rock fill will be of hard, durable, evenly graded blasted stone having a maximum diameter of 300 mm in major portion of fill and a maximum diameter of 150 mm in upper 600 mm of rock fill. Fill material will contain not more than 6 percent by weight passing the 25.4 mm sieve. Rock fill to be evenly graded within the limits specified.
- .2 Use of shale rock or slate will not be permitted.

### **2.2 MANHOLE FRAME AND COVER**

- .1 Frames and covers to plan dimensions and following requirements:
  - .1 Metal covers to bear evenly on frames. A frame with cover to constitute one unit. Assemble and mark unit components before shipment.

**PART 2 - PRODUCTS**  
**(CONT'D)**

**2.2 MANHOLE FRAME AND COVER**  
**(CONT'D)**

- .1 (Cont'd)
- .2 Grey iron castings to ASTM A 48, strength class 30B.
- .3 Castings to be coated with two applications of asphalt varnish, sand blasted or cleaned and ground to eliminate surface imperfections.
- .4 Manholes frames and covers: Heavy duty municipal type for road service. Cover cast without perforations and complete with two 25 mm lifting holes. Clear opening to be 580 minimum, or such larger size as indicated on the Drawing. 170 kg per set.

**2.3 SEWER PIPE**

- .1 HDPE Sewer Pipe:
  - .1 DR 17 Polyethylene pressure pipe: to AWWA C906, AWWA C901, CSA B137.1, ASTM D3035 & ASTM F714.
  - .2 HDPE TO HDPE joints: to be thermal butt fusion welded to C207, AWWA C906 or flanges with backing flanges when necessary.
  - .3 Polyethylene fittings: to CSA B137.1 or AWWA C906.

**PART 3 - EXECUTION**

**3.1 PLACING ROCK FILL**

- .1 Only rock fill material approved by Departmental Representative will be placed. Material will be placed uniformly across full cross-section in layers not exceeding 300 mm loose depth.
- .2 Use suitable earth moving and surface grading equipment to place and spread rock fill in continuous and uniform horizontal layers.
- .3 Compact rock fill after each 300 mm lift.
- .4 Place rock fill to 300 mm below bottom of gravel base material.
- .5 All side slopes to be one (1) vertical to one and one half (1.5) horizontal, unless noted otherwise.