

PART 1 - GENERAL

- 1.1 Description .1 This section covers the requirements for the installation of rock anchors (dowels), as detailed on the drawings and specified herein.
- 1.2 Measurement for Payment .1 No separate measurement for payment to be made for items under this section. Include all costs incidental to the unit price items for which rock anchors are required under Section 03 30 00 Cast-In-Place Concrete.
- .2 Each rock anchor is to be installed as per minimum embedment lengths (i.e in concrete and in rock) as detailed on the design drawings, including all bends and hooks.

PART 2 - PRODUCTS

- 2.1 Steel Rock Anchors .1 Rock anchors shall be billet steel deformed bars to CSA G30.18-M92.
- 2.2 Grout .1 Grout materials: 03 36 60 - Pressure Grouting. As per section.

PART 3 - EXECUTION

- 3.1 Drilling, Preparation, & Placing Rock Anchors .1 The Contractor shall mark the location of all rock anchors and have the Departmental Representative inspect the rock surface in these areas prior to drilling.
- .2 For all rock anchors drill holes 200 mm deeper than the require Anchor embedment depth indicated. The holes shall have the following dimensions or as required by Rock Anchor/Grout manufacturer:
- | <u>Rock Anchor</u> | <u>Hole Size (mm)</u> |
|--------------------|-----------------------|
| 45 M | 90 mm |
| 35 M | 70 mm |
| 30 M | 60 mm |
| 25 M | 55 mm |
| 20 M | 40 mm |
| 15 M | 35 mm |
| 10 M | 20 mm |
- .3 The hole sizes indicated above shall not be increased by more than 5mm and shall not be less than indicated.
- .4 Contractor shall determine the drilling method to be used and provide drilling equipment suitable for advancing the drill tools to the depths and alignment as indicated on the drawings. Additional drilling or re-drilling may be required based on the quality of rock encountered.
- .5 Prior to pressure grouting, all water and debris shall be blown from holes and immediately

thereafter grout shall be placed.

- .6 Rock anchors shall then be forced into hole to required depth of embedment.
- .7 Rock anchors shall be set at least 24 hours before cementing in area of rock anchors.
- .8 Complete pressure grouting as per Section 03 36 60 - Pressure Grouting.