

PART 1 - GENERAL

- 1.1 RELATED SECTIONS
- .1 Section 31 09 16.01 - Pile Driving Template.
  - .2 Section 31 63 19 - Bored and Socketed Piles.
  - .3 Section 31 61 13 - Pile Foundation, General Requirements.
  - .4 Section 05 50 00 - Metal Fabrications.

- 1.2 GENERAL
- .1 Drill sockets into sound bedrock as noted on the drawings.
  - .2 Drill socket to minimum depth as indicated.
  - .3 After drilling is completed, clean out socket.
  - .4 After socket has been cleaned out and inspected, allow to stand for 24 h and inspect again for intrusion of material.
  - .5 If required, redrill pile, as required to seal socket and repeat drilling, cleaning out and inspection process.
  - .6 Install fabricated rebar cage in drilled socket and in pile in accordance with Section 31 63 19 - Bored and Socketed Piles.
  - .7 Grout inside pipe piles, in drilled socket and up to elevation as indicated, as soon as possible after installing rebar cage.
  - .8 Use grout mix that has been demonstrated to produce required strength at temperature prevailing in socket and pile in specified time.
  - .9 Grout mix and grouting pressure to approval of Departmental Representative.
  - .10 Hold pile securely in position so that it does

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not move during grouting and until grout has attained specified strength.

.11 Place grout in one continuous operation to fill socket and pile up to specified level.

1.3 MEASUREMENT FOR  
PAYMENT

.1 Rock sockets - bearing piles: Rock sockets for the bearing pipe piles, including removal of material from the interior of the piles, cleaning to top of pile, will be measured by the unit installed.

.2 Rock sockets - batter piles: Rock sockets for the batter pipe piles, including removal of material from the interior of the piles, cleaning to top of pile, will be measured by the unit installed.

.3 Socket clean-out, sounding and pile redriving will be considered incidental to work and will not be measured separately.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Grout: to Section 03 37 26 - Underwater Placed Concrete.
- .2 Underwater concreting: to Section 03 37 26 - Underwater Placed Concrete.
- .3 Material for anchor dowels: bars, structural shapes to CAN/CSA-G40.20, and CAN/CSA-G40.21, type 300W or deformed bars to CAN/CSA-G30.18, Grade 400 W.
- .4 Anchor dowels: as indicated in drawings.
- .5 Additional material, such as spiders, spacers and anchor dowels installation guides: to approval of Departmental Representative.

2.2 EQUIPMENT

- .1 Submit to Departmental Representative, for approval, a list of equipment for installation of anchor dowels before commencing work. Provide details sufficient to evaluate performance of equipment. Include details of equipment

for excavating, drilling, cleaning out piles and rock sockets, installation of anchor dowels and grouting of sockets.

### PART 3 - EXECUTION

#### 3.1 PILE CLEAN-OUT

- .1 After pile is driven to bedrock, remove overburden inside pile down to tip of pile. Thoroughly clean out material adhering to inside surface of pile by high pressure water jets or airlifts.
- .2 Bedrock ledges and sloping requiring special procedures for pile clean-out may exist.
- .3 Protect open piles from intrusion of foreign materials.

#### 3.2 SOCKETS

- .1 Secure equipment in position during drilling.
- .2 Drill sockets into sound bedrock as indicated.
- .3 Departmental Representative will determine elevation of top of sound rock.
- .4 Drill socket to minimum depth as indicated.
- .5 After drilling is completed, clean out socket.
- .6 After socket has been cleaned out and inspected, allow to stand for 24 h and inspect again for any intrusion of material. If necessary redrive pile to seal socket and repeat drilling, cleaning out and inspection process.
- .7 Do not place reinforcing cage in socket unless written acceptance of socket condition has been obtained from the Departmental Representative.
- .8 Bedrock ledges and sloping requiring special procedures for socketing may be encountered at the site.

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- 3.3 ANCHOR DOWELS .1 Install fabricated anchor dowels in drilled socket and in pile. Locate relative to pile tip as indicated.
- .2 Use locating devices for centering anchor dowels in pile and rock socket.
- 3.4 GROUTING .1 Grout in accordance with Section 03 37 26 - Underwater Placed Concrete.
- .2 Grout anchor dowels inside pipe piles, in drilled socket and up to elevation as indicated, as soon as possible after installing anchor dowels.
- .3 Use grout mix that has been demonstrated to produce required strength at temperature prevailing in socket and pile in specified time. Grout mix and grouting pressure to approval of Departmental Representative.
- .4 Hold pile securely in position so that it does not move during grouting and until grout has attained specified strength.
- .5 Place grout in one continuous operation to fill socket and pile up to specified level. Grout is to set (harden completely) before concrete is placed.
- 3.5 TESTING .1 Provide method and equipment for inspection of each pile to ensure that pile and socket are properly cleaned out. Cooperate with and assist Departmental Representative to inspect each pile and socket.