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 05 50 00 – Metal Fabrications.

1.2 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 – Submittal Procedures.

.2 Product Data: submit manufacturer's printed product literature, specifications and datasheet.

.3 Borehole data: when site conditions differ from those indicated, submit written notification to Departmental Representative and await further instructions.

.4 Submit schedule of planned sequence of advancing piles to Departmental Representative for review.

.5 Spliced piles: when authorized, submit design details of splice complete with signature and stamp of qualified professional engineer registered or licensed in Province of Newfoundland and Labrador, Canada.

.6 Equipment:

- .1 Submit prior to pile installation for approval by Departmental Representative, list and details of equipment for use in installation of piles.

.7 Submit driveability analysis as specified, to Departmental Representative for approval of hammers.

.8 Quality assurance submittals:

- .1 Test reports: If requested, submit 3 copies of certified test reports for piles from approved independent testing laboratories, indicating compliance with specifications

for specified performance characteristics and physical properties.

.2 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

1.3 DAMAGE OF PILES

.1 Protect piles from damage due to excessive bending stresses, impact, abrasion or other causes during delivery, storage and handling.

.2 Replace damaged piles as directed by Departmental Representative.

1.4 FABRICATION

.1 Fabricate structural steel for templates: to CAN/CSA-S16 and approved shop drawings.

.2 Welding: to CSA W59.

.3 Use welding companies qualified under CSA W47.1.

1.5 SEQUENCE

.1 Provide schedule of planned sequence of driving to Departmental Representative for review, not less than two weeks prior to commencement of pile driving.

1.6 GENERAL

.1 Supply or fabricate full length piles as indicated and provide equipment to handle full length piles without cutting and splicing.

.2 Splice piles only with written approval of Departmental Representative.

.1 When permitted, provide details for Departmental Representative review.

.2 Design details of splice to bear dated signature stamp of professional engineer registered or licensed in Province of Newfoundland and Labrador, Canada.

1.7 PROTECTION - GENERAL

.1 Protection:
- .1 Protect adjacent structures, services and work of other sections from hazards due to pile driving operations.
- .2 Arrange sequencing of pile driving operations and methods to avoid damages to adjacent existing structures.
- .3 When damages occur, remedy damaged items to restore to original or better condition at own expense.

.2 Make provision for access and support of piling equipment during performance of Work.

1.8 LEADS

.1 Leads: construct pile driver leads to provide free movement of hammer.
.2 Hold leads in position at top and bottom, with guys, stiff braces, or other means approved by Departmental Representative to ensure support to pile while being driven.
.3 Length: Provide sufficient length of leads to ensure that use of follower is unnecessary.
.4 Swing leads:
- .1 Obtain approval from Departmental Representative prior to using swing leads.
- .2 Firmly guy top and bottom to hold pile in position during driving operation.
- .3 Method to be approved by Departmental Representative.

.5 Installation of each pile will be subject to approval of Departmental Representative.
- .1 Departmental Representative will be sole judge of acceptability of each pile with respect to final tip elevation. All piles to be advanced to sound bedrock and beyond as noted on the drawings.
- .2 Departmental Representative to approve final installation of all piles prior to removal of pile driving rig from site.
- .3 Drill each pile to sound bedrock. Refer to Section 31 63 19 for additional requirements for piles with rock sockets.

Sound bedrock is defined as RQD>75.

1.9 CAPS

.1 Use driving caps/cushions or shoes to protect piles.

.2 Reinforce pile heads as required by Departmental Representative.

.3 Piles with damaged heads as determined by Departmental Representative will be rejected.

.4 Hold piles securely and accurately in position while advancing.

.5 Cut off piles neatly and squarely at elevations as indicated.

.6 Remove cut-off lengths from site on completion of work.

1.11 TOLERANCES

.1 Pile heads to be within 50 mm of locations as indicated.

.2 Piles not to be more than 0.4% of length out of vertical alignment

1.12 OBSTRUCTION

.1 Expect obstruction such as boulders to be encountered. Provide appropriate equipment to ensure piles can be advanced without damage to sound bedrock and beyond.

1.13 REJECTED PILES

.1 Pull out rejected piles and replace with new piles.

.2 No extra compensation will be made for removing and replacing or other work made necessary through rejection of defective piles.

1.14 RECORDS

.1 Maintain accurate records of driving for each pile.

.2 Provide Departmental Representative with three copies of records.