

1 ASSEMBLY - GENERAL

1.1 The work of this section includes the provision of all design, labour, materials, equipment and services required to fabricate and install special foundations as required for a complete project. The work includes, but is not necessarily limited to, the items referenced herein:

1.1.1 Piling and caissons

1.1.2 Bridge piers and foundations

1.1.3 Underpinning or dewatering

1.1.4 Special foundation conditions as required

1.2 Reference Standards: Design and do work in accordance with requirement of following codes and standards, latest edition and to requirements of local authority having jurisdiction:

1.2.1 Ontario Building Code, latest edition, errata, revisions and supplements

1.2.2 Local authorities having jurisdiction

1.2.3 CSA, CGSB, ASTM, ULC, CISC, CPCA and ACI

2 ASSEMBLY DESIGN CRITERIA

2.1 The *[Design Builder]* accepts responsibility for interpretation of factual information contained in the geotechnical report and for estimate of subsurface conditions based on linear interpolation of data between or beyond test boring locations.

2.2 The *[Design Builder]* accepts responsibility for type of pile, and casing or shell gauges required to install a satisfactory pile foundation.

3 ASSEMBLY COMPONENTS

3.1 Piles

3.1.1 **General:**

3.1.1.1 Submittals: Submittals: Submit shop drawings to Owner for record purposes only. Each shop drawing submitted to bear the stamp and signature of Qualified Professional Engineer licensed to practice in the Province of Ontario as required by local authorities.

3.1.1.2 Warranty: Guarantee, in writing, that all piles will support indicated loads with minimum safety factors and suitable maximum long-term settlement.

- 3.1.1.3 Testing/Inspections: Pile inspection, pile load test inspection and material testing shall be carried out by an inspection and testing agency appointed by the *[Design Builder]*. Cost of inspections will be paid by the *[Design Builder]*.
- 3.1.2 **Design:**
- 3.1.2.1 Pile types are to be determined by the Design Builder. The appropriate piling design, materials and construction is the responsibility of the Design Builder.
- 3.1.3 **Materials / Finishes:**
- 3.1.3.1 Reinforcing steel deformed bars to *[CAN/CSA- G30.18]*
- 3.1.3.2 Portland cement: to *[CAN/CSA-A5]*
- 3.1.3.3 Water: to *[CAN/CSA-A23.1]*, *[CAN3-A23.1 S2]*
- 3.1.3.4 Aggregates: to *[CAN/CSA-A23.1]*
- 3.1.3.5 Air entraining mixture: to *[CAN3-A266.1]*
- 3.1.3.6 Chemical admixtures: to *[CAN3-A266.2]*
- 3.1.3.7 Curing compound: to *[CAN/CSA-A23.1]*
- 3.1.3.8 Use only materials that conform to specifications in Subsection 4.2.7 of the Ontario Building Code, Ontario regulation 413/90.
- 3.1.4 **Fabrication / Installation:**
- 3.1.4.1 Do cast-in-place concrete work in accordance with *[CAN/CSA-A23.1]* and testing in accordance with *[CAN/CSA-A23.2]*, except where required otherwise. Observe all hot and cold weather requirements of *[CAN/CSA-A23.1]*.
- 3.1.4.2 Install all piling in presence of an inspector appointed by the *[Design Builder]* who is responsible to submit complete records of pile installation to Owner and *[Design Builder]*. Piling records shall include, but not be limited to driving resistance, driving energy, pile plumbness, pile location and pile cut-off.

End of Section