

**SECTION 315000 - EXCAVATION SUPPORT AND PROTECTION**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

**1.2 SUMMARY**

- A. This Section includes excavation support and protection systems.
- B. Related Sections include the following:
  - 1. Division 01 Section, "Construction Waste Management"
  - 2. Division 31 Section "Earth Moving" for excavating and backfilling.
  - 3. Division 31 Section "Dewatering" for dewatering system for excavations.

**1.3 PERFORMANCE REQUIREMENTS**

- A. Design, provide, monitor, and maintain an anchored and braced excavation support and protection system capable of resisting soil and hydrostatic pressure and supporting sidewalls of excavations.
  - 1. Work includes removing excavation support and protection systems when no longer needed.
  - 2. Prevent surface water from entering excavations by grading, dikes, or other means.
  - 3. Install excavation support and protection systems without damaging existing buildings, pavements, utility poles and other improvements adjacent to excavation.

**1.4 SUBMITTALS**

- A. Shop Drawings: Prepared by or under the supervision of a qualified professional engineer licensed in the State of New Jersey for excavation support and protection systems. System design and calculations must be acceptable to authorities having jurisdiction.
  - 1. Include Shop Drawings signed and sealed by the qualified professional engineer licensed in the State of New Jersey responsible for their preparation, except if a standard trench box is to be used.
- B. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by excavation support and protection systems

1.5 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by the Owner or others unless permitted in writing by the Owner and/or Engineer and then only after arranging to provide temporary utility services according to requirements indicated.
- B. Make test borings, test pits and/or conduct other exploratory operations as necessary.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Materials need not be new but must be in serviceable condition.
- B. Structural Steel: ASTM A 36.
- C. Steel Sheet Piling: ASTM A 328 or ASTM A 572
- D. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness of 3 inches.

PART 3 – EXECUTION

3.1 CONSTRUCTION WASTE MANAGEMENT

- A. The contractor, subcontractors, and their personnel shall follow the procedures and practices for waste separation, collection and transport as defined in the contractor's "Waste Management Plan" as required by Division 01 Section "Construction Waste Management."

PART 4 - PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.
  - 1. Shore, support, and protect utilities encountered.
- B. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- C. Locate excavation support and protection systems clear of permanent construction and to permit forming and finishing of concrete surfaces.
- D. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure excavation support and protection systems remain stable.
- E. Promptly repair damages to adjacent facilities caused by the use of excavation support and protection systems.

END OF SECTION 315000