

SECTION 02161

EXCAVATION SHORING OR UNDERPINNING

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Section includes the design and installation of temporary [excavation shoring or underpinning](#) required for construction of the structure. Shoring system may be Temporary or Permanent depending on the system provided by the contractor.

1.02 RELATED SECTIONS

- A. Section 01310 – Structural Submittals.
- B. Section 02221 - Excavating, Backfilling, and Compacting for Structures.

1.03 BASIS OF PAYMENT

- A. Bid price shall include the design, installation, any performance testing required, and any other incidentals necessary to the successful performance of the temporary excavation shoring or underpinning.

1.04 DESIGN REQUIREMENTS

- A. Design of temporary excavation shoring or underpinning shall be by a qualified Engineer licensed in the project state.
- B. Excavation shoring or underpinning shall be designed to resist the influence of any surcharge loads from adjacent existing structures, roadways, etc. shown on the Contract Drawings, and shall be designed to prevent damage to the adjacent existing structures, roadways, etc.
- B. Temporary shoring components shall be removed to 5' below grade when no longer needed. Notify the Architect/Structural Engineer prior to removing shoring. Permanent shoring shall be properly treated for environmental and termite concerns.

1.05 SUBMITTALS

- A. Submit certification letter that the design of the excavation shoring meets the requirements of this section. Submit design calculations and drawings of shoring signed and sealed by a qualified engineer in the project state.

- B. Submit certification letter that the Contractor's qualifications meet the requirements of this section.
- C. Architect/Structural Engineer will not be responsible for review shoring design. Furnish record copy for Architect and Structural Engineer.

1.06 QUALITY ASSURANCE

- A. Execute work in accordance with local and state regulations and codes and in accordance with the regulations of regulatory agencies having jurisdiction over the work.

1.07 QUALITIFICATIONS

- A. Contractor shall be experienced in the successful design and installation of excavation shoring or underpinning of similar size and scope, as evidenced by at least 5 years of applicable experience and the completion of at least 10 similar projects.

1.08 SUBSURFACE CONDITIONS

- A. Copies of a subsurface investigation of the site will be made available upon request. The data is not intended as a representation or warranty of the continuity of such conditions. Owner will not be responsible for interpretation or conclusions drawn therefrom by the Contractor. The data is made available for the convenience of the Contractor and is not guaranteed to represent all conditions that may be encountered.
- B. Contractor may examine the site and make his own subsurface explorations at no additional cost to the Owner. Notify Owner prior to making subsurface exploration.

1.09 EXISTING UTILITIES

- A. Locate existing underground utilities by careful hand excavation. If utilities are to remain in place, provide protection from damage during construction operations.
- B. Cooperate with Owner and utility companies in keeping their respective services and facilities in operation. Do not interrupt existing utility service to facilities occupied and used by Owner or others, unless written permission is given by the Architect and then only after temporary utility services have been provided.
- C. Should uncharted or incorrectly charged piping or other utilities be encountered during excavation, consult Architect immediately for directions.

D. Repair damaged utilities to satisfaction of utility owner.

1.10 EXISTING STRUCTURES OR ROADWAYS

- A. Make complete examination and survey of any existing adjacent structures or roadways to determine all facts necessary to design, install and monitor the temporary excavation shoring.
- B. Contractor shall be responsible for and shall repair any damage to the existing structures or roadways that is related to excavation and shoring.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

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