SECTION 06195
CONTINUOUS THREADED ROD SYSTEM

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Pre-engineered continuous rod seismic holdown system that compensates for wood shrinkage and building settlement. Provide all materials, equipment, labor, supervision, tools and items necessary for the construction, installation and connection of the continuous rod system for wood framed buildings.

1.2 RELATED WORK

A. Section 03300 – Cast-In-Place Concrete.

B. Section 06100 – Rough Carpentry – Wood supported by fastenings or providing support or anchorage.

1.3 REFERENCES

A. AISC - American Institute of Steel Construction

B. ASTM A36 – Standard Specification for Carbon Structural Steel

C. ASTM A307 – Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength

D. ASTM A193-B7 – Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications

E. ASTM A449 – Standard Specification for Hex Cap Screws, Bolts and Studs, Steel, Heat Treated, 120/105/90 ksi Minimum Tensile Strength, General Use

F. ASTM A572 – Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel

G. ASTM F1554 – Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength

H. 2015 NDS – National Design Specification 2015

1.4 SUBMITTALS

A. Product and Design Data: Provide submittal data on all materials within 30 days after award of contract. Do not fabricate or install until shop drawings have been approved by the Structural Engineer. Include descriptive bulletins, report approvals, data sheets, catalog cuts, diagrams, complete installation drawings,

and other additional information as required.

B. Shop Drawings: Provide minimum 20 days prior to starting fabrication or installation work. Do not fabricate or install until approved by the Structural Engineer. Include complete rod system component sizes and installation information as required. Shop Drawings shall also include size and amount of wood compression support members needed to equal the tension (or additional download) required by the structural plans. Compressive member wood design shall be in accordance to 2015 NDS.

C. Acceptance: The acceptance of a manufacturer's name or product by the Structural Engineer does not relieve the Contractor of the responsibility for providing materials and equipment which comply in all details with the requirements of the contract documents.

1.5 DEFINITIONS AND ABBREVIATIONS

A. The word "provide", as used in these specifications, means "furnish and install".

B. The word "Contractor", as used in these specifications, means the Seismic Holdown System Installation Subcontractor or Wood Framing Subcontractor.

C. The word "approved", as used in these specifications, means approval of the Structural Engineer of Record.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to job site in manufacturers or distributor’s packaging, undamaged, complete with installation instructions.

B. Protect and handle materials in accordance with manufacturer’s recommendations to prevent damage or deterioration.

PART 2 – PRODUCTS

2.1 MANUFACTUERS

A. EARTHBOUND CORPORATION, MONROE, WA. 360-863-0722

2.2 SEISMIC HOLDOWN SYSTEM AND COMPONENTS

A. General: The seismic holdown system shall be fully self-compensating or self-tightening for wood shrinkage or building settlement. The seismic holdown system shall be the Earthbound System featuring Minijack™, Slackjack® or HeavyJack™

Shrinkage Devices (IAPMO ES ER-429) and be supplied by Earthbound Corporation, Monroe, Washington (Phone: 360-863-0722). Substitutions for the Earthbound Holdown System must be pre-approved in writing by the Structural Engineer of Record.

B. Shrinkage Fastener: The compensating mechanism in which the seismic holdown system actuates for shrinkage or building settlement shall be in the axial direction along the direction of the threaded rod. The shrinkage compensating device mechanism system shall allow for minimum 1-inch travel for wood levels one through three and 2-inch travel for levels four and five and 3-inch travel for 6th and 7th levels. The tightening mechanism shall be the SlackJack® Device which is included in the Earthbound Holdown System and evaluated under IAPMO ER-0429.

C. Threaded Rod and Nuts: Standard Strength Rod shall be ASTM A36, ASTM A307, ASTM F1554 GR36, UNC thread, 60 ksi ultimate strength (min). High Strength threaded rod shall be ASTM F1554 GR105, ASTM A449, ASTM A193 B7, UNC thread. Threaded rods shall conform to AISC Table 1-B and designed in accordance to AISC 360. Supplier shall provide traceable material heat numbers for high strength threaded rod.

D. Rod Couplers: All standard strength rod couplers shall be zinc plated. All high strength rod couplers may be black steel. Straight, non-reducing rod size couplers shall have a sight hole. Supplier shall provide domestically manufactured couplers. Imported rod couplers shall not be accepted. The ultimate capacity of the couplers shall exceed 125% of connected rod yield strength.

E. Bearing Plates: ASTM A36 or ASTM A572-50. Bearing plates shall be color coded in accordance to manufacturer's requirements to assist in installation and inspection.

PART 3 - EXECUTION

3.1. EXAMINATION

A. Concrete and Framing Contractors shall coordinate and verify proper anchor bolt location sizes and layout with seismic system shop drawings and structural plans prior to concrete pour.

B. Verify the provided rod system components are at the locations shown in the shop drawings or structural plans.

C. Framing contractor shall provide all wood compression members at locations shown on the shop drawings. Verify nailing requirements with the approved shop drawings.

3.2. INSTALLATION

A. Install the seismic holdown system per approved shop drawing and manufacturer's instructions

B. Field Welding: If the holdown run starts at a steel beam, provide welding per approved shop drawings or structural plans. Welding shall be in accordance with the American Welding Society (AWS) standards.

C. Bolt holes: Bolt holes shall be per the drilled hole schedule on the approved shop drawings or structural plans.

D. Installer of continuous rod system to cut rods to length as required.

E. Modifications to products or changes in installation procedures should only be made by a qualified designer. The performance of such modified products or an altered installation procedure is the sole responsibility of the designer.

3.3 FIELD QUALITY CONTROL

A. Determine that the proper part is being used in the correct location per the shop drawings and has been fabricated by the approved manufacturer by observation of the packaging, color code or field labeling of the product denoting part and manufacturer name.