**CITY OF BILOXI**

**SPECIAL PROVISION NO. 907-823-1**

**DATE: 11/21/2017**

**SECTION 823 - TIMBER STRUCTURES FOR PIERS**

**Subsection 823.01 -Description**

This work shall consist of the installation of all timber framing, including caps, stringers, decking, railing, connectors and wood accessories, as detailed on the plans and/or in these specifications.

The Contractor shall furnish all labor, equipment, tools, transportation, and supplies required to install the various structures in accordance with the plans, specifications, and terms of the contract.

**Subsection 823.02 - Materials**

**823.02.1- Timber and Dimension Lumber**

All timber shall be Southern Pine, medium grained or better, shall be well manufactured, and shall conform in all respects to applicable requirements of SPIB Grading Rules for white lumber and AWPA for treating standards.

All structural members, including pile beams, stringers, balusters and decking, shall be full cut, No.2 or better, graded and grade stamped by an ALSC approved grading agency, and cut to final shape before treatment.

All pile beams and stringers shall be S2E, decking handrail and balusters shall be S4S FULL. All timber members shall be full cut or will be rejected by the Engineer.

823.02.2- Treatment

Structural members, including beams and stringers shall be treated with Chromated Copper Arsenate (CCA, Type C) to a retention not less than 2.5 pounds per cubic foot (use Category AWPA-UCSC).

Decking and handrail shall be treated with Micronized Copper Azole to a retention not less than

0.23 pounds per cubic foot, Micronized or .23 μCA-C Dispersed (use Category AWPA-UC4B).

Balusters with Micronized Copper Azole to a retention not less than 0.06 pounds per cubic foot, Micronized or .05 μCA-C Dispersed (use Category AWPA-UC3B).

**823.03- Wood Preservative Chemicals**

Chromated Copper Arsenate (CCA) - CCA solution shall contain a sufficient concentration of the water-borne preservative to produce the minimum specified retention. The preservative shall meet the requirements of AWPA P-5, CCA Type B or C. The test methods shall be either AWPA or Mississippi Test Methods.

**823.04- Connectors**

All connectors, excluding screws, shall be hot-dip galvanized in conformance with ASTM-153. Ogee washers shall be utilized throughout.

Beam plates and stringer brackets may be supplied by Collier Welding and Fabrication, 13701 Highway 57, Vancleave, MS 39565, (228) 826-5000 or equal.

Decking screws shall be #10 x 4", 316 stainless. Screws shall be counter sunk approximately 1/8".

**Subsection 823.03 -Construction Requirements**

Treated timber shall be carefully handled without sudden dropping, breaking of outer fibers, bruising or penetrating the surface with tools. Cant hooks, peaveys, spikes, or hooks shall not be used.

All cutting, framing and boring of treated timber shall be done before treatment insofar as practicable. Untreated cuts, borings, or other joins framing shall be avoided.

All cuts in treated timbers, and all abrasions, after having been carefully trimmed, shall be covered with two (2) applications of COP-R-TOX solution containing 20% Copper Naphthnate, after the pier has been constructed.

Holes for matching bolts shall be bored with a bit the same diameter as the bolt.

An ogee washer shall be used under all bolt heads and nuts which would otherwise come in contact with wood.

The nuts of all bolts shall be effectively locked after having been tightened.

All lumber and timber shall be accurately cut and framed to a close fit in such a manner that the joints will have even bearing over the entire surface. Deck Boards shall fit snug with sheet pile walls (within Y2") and shall be notched around sheet pile joints.

Workmanship shall be first-class throughout. All framing shall be true and exact.

Stringers shall be fastened at laps with 1-3/8" hot dip galvanized bolt with ogee washer. Interior stringers shall be secured to cap with 1/2" galvanized lag bolts 12" long (8 per bent).

The Contractor shall secure an approved treated products testing company to provide material testing of all treated timbers used on this project. The Engineer shall be provided test records before any treated materials can be used. The Contractor will be responsible for payments of testing.

**Subsection 823.04 - Method of Measurement**

Pier framing including beams, braces, stringers, and decking for construction will be measured per linear foot of actual board length and shall include the cost for all fasteners.

Handrail system, complete including all posts, rails, and connectors shall be measured by the linear foot.

Wooden benches, complete and installed per plans will be measured as a unit, per each.

**Subsection 823.05 - Basis of Payment**

Payment will be made under Pay Item No.

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| 907-823-A: | 2" x 8" Cross Bracing | - per linear foot |
| 907-823-B: | 3" x 14" Joist, Complete in Place | - per linear foot |
| 907-823-C: | 2" x 12" Stringer, Complete in Place | - per linear foot |
| 907-823-D: | 2" x 8" Decking, Complete in Place | - per linear foot |
| 907-823-E: | 3'-6" High Handrail System | - per linear foot |
| 907-823-F: | Wooden Benches, Complete in Place | -per each |