CONSTRUCTION SPECIFICATION

VA-783. TIMBER FABRICATION AND INSTALLATION

1. SCOPE

The work will consist of the construction of timber structures and timber portions of composite structures.

2. MATERIALS

Structural timber and lumber will conform to the requirements of ASTM D245 or as shown on the construction drawings. When exposed to waste or elements, use preservative-treated wood that meets the requirements in the applicable American Wood Protection Association (AWPA) Standards or in an evaluation service report prepared by an organization recognized by the International Code Council (ICC).

All fasteners, connectors, and any other metal contacting treated wood will meet the requirements of the wood preservative manufacturer unless otherwise specified.

Steel bolts shall conform to the requirements of ASTM A307. Washers will be ogee gray iron castings or malleable iron castings unless washers cut from medium steel or wrought iron plate are specified on the construction drawings. Holes in washers will have a maximum diameter of 1/8 inch larger than the diameter of the bolt. Split ring connectors, tooth ring connectors, and pressed steel shear plate connectors will be manufactured from hot-rolled, low carbon steel conforming to the requirements of ASTM A711, Grade 1015. Malleable iron shear plate connectors and spike grid connectors will be manufactured in conformance with the requirements of ASTM A47, Grade No. 35018. All connectors will be of approved design and the type and size specified. Hot-dip galvanized fasteners will conform to ASTM standard A153 and hot-dip galvanized connectors will conform to ASTM A653 (Class G-185). Stainless steel hardware will by Type 304 or Type 316.

Structural shapes, rods, and plates will be structural steel as shown on the construction drawings. No welds are permitted in truss rods or other main members of trusses or girders.

Power driven nails will be 0.131” or larger, deformed shank, and helical (spiral) or annular (ring) type.

3. WORKMANSHIP

All framing will be true and exact. Timber and lumber will be accurately cut and assembled to a close fit and will have even bearing over the entire contact surfaces. No open or shimmed joints will be accepted. Nails and spikes will be driven with just sufficient force to set the heads flush with the surface of the wood. Deep hammer marks in wood surfaces will be considered evidence of poor workmanship and sufficient cause for rejection of the work. Power driven nails will be driven no more than 1/16” into the wood.

Holes for round driftpins and dowels will be bored with a bit 1/16 inch smaller in diameter than that of the driftpin or dowel to be used. The diameter of holes for square driftpins or dowels will be equal to one side of the driftpin or dowel. Holes for machine bolts and rods will be bored with a bit of the same diameter as that of the bolt. Holes for lag screws will be bored with a bit not larger than the body of the screw at the base of the thread.

Washers will be used in contact with all bolt heads and nuts that would otherwise be in contact with wood. All nuts will be checked or burred to effectively prevent nuts from removal with a pointed tool after being finally tightened.

Surfacing, cutting and boring of timber and lumber will be kept to the practical minimum where cutting of treated timber and lumber is required.

4. HANDLING AND STORING MATERIALS

All timber and lumber stored at the site of the work will be neatly stacked on supports a minimum of 12 inches above the ground surface and protected from the weather by suitable covering(s). Untreated material will be stacked and sticked to permit free circulation of air between the tiers and courses. Treated timber may be close-stacked. The ground surface for the stockpile of timber and lumber will be free of weeds and rubbish. One end of the pile should be raised to promote drainage. The use of cant hooks, peavies, or other pointed tools except end hooks is not permitted in the handling of structural timber and/or lumber. Treated timber will be handled with rope slings or by other methods that prevent the breaking or bruising of outer fibers or penetration of the surface in any manner.

5. TRUSSES

Wood trusses will be designed by a Virginia registered professional engineer to meet the plan requirements and to handle the loads shown on the construction drawings. The stamped truss design will be provided to and approved by the NRCS or SWCD representative prior to delivery of the trusses to the project site.

Manufactured trusses will be unloaded, stored, protected and installed in accordance with the manufacturer's instructions. All modifications of trusses must be approved in writing and stamped by the engineer who approved the truss design.

The truss anchorage, bracing and support will be as shown on the construction drawings or as approved by the engineer.