

SECTION 06100
ROUGH CARPENTRY

06100.01 GENERAL

A. Description

Rough carpentry shall include, but not necessarily be limited to, furnishing and installing all rough carpentry for temporary and preparatory work, barricades, ladders, wood blocking, nailers, and similar items of carpentry in accordance with the Contract Documents or as directed by the Engineer.

B. Related Work Included Elsewhere

Painting; Section 09900.

C. Quality Assurance

1. The Engineer will inspect all materials and work to ensure compliance with the Contract Documents.
2. Grades and Stamps
 - a. All lumber shall be identified by appropriate grade stamps containing the symbol of the grading agency, mill name or number, grade of lumber, species, and condition of seasoning at time of manufacturing.
 - b. Plywood shall bear an appropriate grade mark of the inspection, testing, or grading agency.
3. Grading rules of Southern Pine Inspection Bureau, Northeastern Lumber Mfg. Association, Redwood Inspection Service, and Northern Hardwood and Pine Manufacturing Associations shall apply to materials furnished under this section. Lumber grading rules and species shall be in conformance with Product Standard 20.

D. Submittals

1. Shop Drawings

Shop drawings shall be submitted as specified in the "General Provisions" for all timber framing and fasteners connections and shall show method of connection and appropriate dimensions.

2. Certificates of Compliance

Certificates of compliance shall be submitted as specified in the "General Provisions" for all pressure, preservation, or fire retardant treated wood stating that the wood does not exceed a maximum moisture content of 19%.

06100.02 MATERIALS

A. Materials Furnished by the County

The County will not furnish any materials for rough carpentry.

B. Contractor's Options

Not applicable.

C. Detailed Material Requirements

1. Structural Timber and Lumber

Structural timber and lumber shall be of the species and grade specified in the Contract Documents and shall meet the requirements AASHTO M 168.

2. Framing Lumber

- a. All indicated lumber dimensions are S4S (surfaced four sides) nominal, actual dimensions conforming with Product Standard 20.
- b. Plates, blocking, furring, nailer, bracing, bulk heading, and general utility type lumber shall be Southern Pine No. 2; Douglas Fir No. 3; or Ponderosa, White, or Sugar Pine No. 3.
- c. Light general framing for bearing construction shall be commercial softwood species of standard grade.
- d. Structural light framing 2 to 4 inches thick and 2 to 4 inches wide shall be Southern Pine or Douglas Fir Number 1, 2, or 3 as shown on the Plans.
- e. Structural joists and planks 2 to 4 inches thick and 6 inches and wider and all connection pieces and appurtenances therefore shall be Douglas Fir, Southern Pine, or Spruce Number 1, 2, or 3 as shown on the Plans.
- f. Beams and stringers, posts and timbers 5 inches wide and greater shall be of select structural grade.

- g. Seasoning Condition
 - 1) S-Dry stamp shall be used on lumber having maximum 19% moisture.
 - 2) All 2 inch lumber shall have 15% or less moisture at the time of surfacing and shall carry a stamp of MC-15 or KD.

3. Plywood Sheathing

- a. Plywood sheathing shall meet the requirements of Product Standard PS-1 and be identified with the grade trademark of American Plywood Association (APA).
- b. All plywood having edge or surface permanently exposed to the weather shall be APA exterior grade.
- c. Panel thickness and I.D. index shall be as shown on Plans.
- d. Sheathing shall be C-D interior grade with exterior glue.
- e. Softwood plywood shall be Construction and Industrial grade in conformance to Product Standard PS-1 of the American Plywood Association.
- f. Hardwood plywood shall meet the requirements of Product Standard PS 51 of the American Plywood Association.

4. Timber Preservatives

Preservatives and pressure treatment for timber shall meet the requirements of AASHTO M 133. The kind of treatment and amount of preservative shall be as specified in the Contract Documents.

a. Creosote

Timber treated with creosote solutions shall retain the following minimum quantities of preservatives:

For lumber in water and up to 5 feet above mean low water	12 pounds per cubic foot
For lumber 5 feet or more above mean low water and at or below ground	8 pounds per cubic foot

b. Oil-Borne Treatment

Oil-borne preservative treatment (other than creosote) shall have the following minimum dry net retention except as otherwise required by the Contract Documents.

AWPA Standard P 8

Pentachlorophenol (Southern Pine)	0.60 pounds per cubic foot
Pentachlorophenol (Douglas Fir, Oak, or Gum)	0.50 pounds per cubic foot

c. Water-Borne Treatment

Water-borne preservative treatment shall have the following minimum dry net retention except as otherwise required by the Contract Documents.

AWPA Standard P 5

Chromated Copper Arsenate Type A, B, or C	0.40 pounds per cubic foot
Ammoniacal Copper Arsenate	0.50 pounds per cubic foot

d. Field Cuts

Lumber cut or drilled after treatment shall have cut surfaces brushcoated with the same preservative that was used at the plant.

5. Fire Retardant Treatment

Wood or plywood members shall be pressure treated with fire retardant, labeled AWPA C20 or AWPA C27, and shall carry Underwriter's Laboratories fire hazard classification label.

6. Rough Hardware

- a. Furnish rough hardware required to complete work of connections to metal studs or other materials.
- b. Bolts, nuts, nails, and washers shall be hot dip galvanized conforming to ASTM A 153.
- c. Rough hardware shall conform to the following:
 - 1) Nuts shall conform to requirements of FSS FF-N-836.
 - 2) Toggle bolts shall conform to requirements of FSS FF-B-588.
 - 3) Lag screws and bolts shall conform to requirements of FSS B-561.
 - 4) Wood screws shall conform to requirements of FSS FF-S-111.
 - 5) Nails and staples shall conform to requirements of FSS FF-N-105.

- 6) Joist hanger shall be 18 gauge zinc coated steel.
- 7) Metal cross bridging shall be 16 gauge zinc coated steel.
- 8) Strap anchors shall conform to requirements of ASTM A 525, 16 gauge zinc coated steel.

06100.03 EXECUTION**A. Storage of Material**

Timber shall be open-stacked in piles at least 12 inches above the ground surface in such a manner to shed water and prevent warping. It shall be protected from the weather by suitable covering.

The storage site shall be cleared of weeds and rubbish before placing material and so maintained during the storage period. The site selected shall not be subject to flooding.

B. Workmanship

Only competent carpenters shall be employed. All framing shall be true and exact. Unless otherwise specified, nails and spikes shall be driven with sufficient force to set the heads flush with the surface of the wood. Deep hammer marks in wood surfaces shall be considered evidence of poor workmanship and cause for removal and replacement of the damaged member at the Contractor's expense.

C. Handling

Timber shall be carefully handled to prevent the breaking of outer fibers, bruising, or penetrating the surface with tools. Timber shall be handled with rope slings. Cant hooks, peaveys, pikes, or hooks shall not be used for handling.

D. Installation**1. General**

Framing lumber and other rough carpentry shall be fitted closely, set accurately to the required lines and levels, and shall be secured in place in a rigid and substantial manner.

2. Wood Blocking and Framing

Wood blocking and framing shall be of proper sizes, shapes, and locations as necessary for the installation and attachment of wood and other items indicated or specified

3. Temporary Closures

Temporary closures shall be provided with hinged doors and padlocks, installed during construction at exterior doorways that are not otherwise closed. Other unprotected openings shall be covered with polyethylene or other approved material, stretched on wood frames.

E. Painting

Painting shall be in accordance with Section 09900.03.

06100.04 METHOD OF MEASUREMENT

Rough carpentry will not be measured.

06100.05 BASIS OF PAYMENT

Rough carpentry will not be paid for as a separate item but the materials and their installation are considered incidental to the work required in the construction of specific structures that will be paid for under various items indicated in the Proposal. Payment will constitute full compensation for all labor, equipment, tools, and incidentals necessary to complete the required work.