SECTION 06 05 30 - WOOD, PLASTIC, AND COMPOSITE FASTENERS

This version is the most current revision as of September 2015, City of West Linn's Bolton Reservoir Replacement Project.

Some of the paragraphs may be deleted. When deleting, do not renumber all the paragraphs. Simply leave the section number and title as is, delete the text, and add the words "Not Used".

PART 1 GENERAL

1.1 SUMMARY

A. This Section includes the requirements for fasteners and adhesives used in the construction of the Buildings.

B. Section includes:

1. Rough carpentry hardware
2. Nails
3. Bolts and screws
4. Framing anchors
5. Joist, rafter, and beam hangers
6. Adhesives

C. Related Sections:

1. Section 06 10 00 - Rough Carpentry

1.2 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit Manufacturer's data on all materials.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

D. Manufacturer's handling, delivery, storage, and installation requirements.

PART 2 PRODUCTS

2.1 ROUGH CARPENTRY HARDWARE

Edit for State. i.e., California, Oregon, Washington.

Rough carpentry hardware used in building construction shall conform to the latest provisions of the <_____> State Structural Specialty Code, the International Building Code (IBC), and to any local codes and ordinances.

2.2 NAILS

A. Steel Common Nails: For framing, appropriately sized for the materials being joined.

B. Hot-Dipped Galvanized Nails: Wherever exposed.

C. Stainless Steel Nails: At locations where stainless steel hardware is specified. Do not mix dissimilar materials without approval of the Engineer.

D. Treated Wood: Hot-dipped galvanized or stainless steel nails are required at all locations where they are in contact with treated wood.

E. The number and size of nails connecting wood members shall be per the Contract Documents but shall not be less than that set forth in Table 2304.9.1 of the IBC for any members.

2.3 BOLTS AND SCREWS

A. Conforming to ASTM A307, appropriately sized for the materials being joined.

B. Use galvanized bolts and screws where exposed or in contact with treated wood or embedded into concrete.

2.4 FRAMING ANCHORS / JOIST, RAFTER, AND BEAM HANGERS

A. Use galvanized, minimum 18-gauge steel of the size and type required for the materials connected.

B. Post hot-dip galvanize all connection hardware in contact with pressure treated wood, or use stainless steel connectors.

C. Manufacturers: Simpson “Strong-Tie,” Teco “Lumber Lok,” Silver Metal Products, or equal.

2.5 ADHESIVES

Use gun grade adhesive suitable for bonding various metals and non-metallic materials such as wood, plastic, and glass without primer.

PART 3 EXECUTION

3.1 GENERAL

A. Use only skilled workers and the highest standards of the craft.

B. Lay out, cut, fit, and install all rough carpentry items.

C. Anchor sufficiently to ensure rigidity and permanence as noted on the Drawings.

END OF SECTION

SECTION 06 10 00 - ROUGH CARPENTRY

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PART 1 GENERAL

1.1 SUMMARY

A. This Section includes the work necessary to furnish materials, labor, equipment, and services necessary to provide rough framing as shown on the Drawings and as specified herein.

B. Section includes:

1. Lumber
2. Plywood
3. Building paper
4. Plastic lumber

C. Related Sections:

1. Section 06 05 30 - Wood, Plastic, and Composite Fasteners
2. Section 06 17 53 – Shop Fabricated Wood Trusses

1.2 SUBMITTALS

A. In accordance with Section 01 33 00, Submittal Procedures.

B. Submit a complete list of products, product information, type, and grade for prior to beginning building construction.

1.3 QUALITY ASSURANCE

A. All work specified herein shall conform to the latest provisions of the International Building Code (IBC), the Plastic Lumber National Evaluation Service, NER-508, and the local Codes and Ordinances of all Governmental agencies having jurisdiction over the Project.

B. Where a Quality Assurance Plan is provided as part of the Contract Documents, the Contractor shall provide a written statement of responsibility to the building official and to the Owner prior to the commencement of work on the system(s) of component(s) so designated within the Quality Assurance Plan. The Contractor shall acknowledge awareness of the special requirements contained in the quality assurance plan; control will be exercised to obtain conformance with the construction documents approved by the building official. Also included shall be procedures for exercising control within the Contractor's organization, the method and

frequency of reporting and the distribution of reports and identification and qualifications of the person(s) exercising such control and their position(s) in the organization.

C. Where special inspection of wood structural elements is required in the Contract Documents, an independent testing agency or laboratory shall perform special inspection of the elements indicated in the Contract Documents. The Owner or agent of the Owner will engage a testing laboratory acceptable to the Engineer to perform the required Special Inspections and/or Material Tests.

D. Materials and installed work may require testing and retesting, as directed by the Engineer, at any time during the progress of the work. Allow free access to material stockpiles and facilities at all times. All testing required by the contract documents shall be done at the Owner's expense. Testing expenses for the retesting of rejected materials and installed work will be charged back to the Contractor.

1.4 DELIVERY, HANDLING, AND STORAGE

A. Immediately upon delivery to Site, place materials in an area protected from weather.

B. Store materials a minimum of 6 inches above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation or ventilation.

C. Do not store seasoned materials in wet or damp portions of building.

D. Protect sheet materials from breaking corners and damaging surfaces while unloading.

PART 2 PRODUCTS

2.1 MATERIALS

A. Lumber grading rules and wood species shall be in conformance with the latest edition of U.S. Department of Commerce, National Institute of Standards and Technology, Product Standard DOC PS 20 and the National Forest Products Association.

B. Wood members shall conform to the requirements above and provide design values equal to those published in the "Design Values for Wood Construction," a supplement to the 2012 edition of the National Design Specification for Wood Construction, published by the National Forests Products Association.

C. Plywood grading rules shall be in conformance with the latest edition of U.S. Product Standards PS 1 and PS 2 and be Engineered Wood Association (APA) rated Exposure 1.

D. Lap siding, soffit panels and trim shall be as specified in Section 07 46 46, Fiber Cement Siding of these Specifications.

2.2 GRADE MARKS

A. Each piece of lumber shall be stamped or branded with the grade as determined by an approved grading association indicating conformance with the latest edition of U.S. Product Standard DOC PS 20.

B. Each panel of plywood shall be identified with the appropriate grade trademark of the American Plywood Association.

C. Moisture content shall not exceed 19 percent, unless otherwise specified.

2.3 LUMBER

A. Dimensions given are nominal. Surface four sides (S4S), unless specified otherwise.

B. Unless otherwise noted, lumber shall be as follows:

Use	Minimum Grade
General framing, studs, plates, blocking, furring, braces, and nailers	Douglas Fir-Larch No. 2
Structural light framing, 2 inches to 4 inches thick, 2 inches to 6 inches wide	Douglas Fir-Larch No. 2
Structural joists, rafters, and planks, 2 inches to 4 inches thick, 5 inches and wider and headers	Douglas Fir-Larch No. 2
Beams, stringers, posts, timber	Douglas Fir-Larch No. 1
Fascia Board	Fiber cement board manufactured by James Hardie or equal
Sills and Plates	Douglas Fir-Larch No. 2, Treated in accordance with IBC 2303.1.8

2.4 PLYWOOD

A. Roof Sheathing:

1. Conform to APA-rated sheathing and shall be identified with the appropriate trademark.

2. Minimum sheathing shall be Exposure 1, 1/2-inch or greater, grade CDX. Span rated 32/16 per APA.

B. MDO -- APA rated Medium Density Overlay exterior glue.

2.5 BUILDING PAPER

A. Asphalt-saturated felt conforming to ASTM D 226 or D 250, Type I, plain non-perforated.

2.6 PLASTIC LUMBER

A. "TREX" wood polymer lumber as manufactured by TREX LLC. Plastic lumber shall conform with ASTM E84 (Flame Spread) and ASTM D1413 (Fungus Resistance).

PART 3 EXECUTION

3.1 GENERAL

A. Use only skilled workers and the highest standards of the craft.

B. Plan work in advance and perform in proper sequence to facilitate prompt and continuous progress of the work.

C. Lay out, cut, fit, and install all rough carpentry items.

D. Anchor sufficiently to ensure rigidity and permanence and as noted on Drawings.

E. Provide for installation and support of other work.

3.2 CONDITIONS OF SURFACES

A. Verify that surfaces to receive rough carpentry materials are prepared to exact grades and dimensions.

3.3 INSTALLATION

A. Plates

1. Set level and flush with outside face of concrete or masonry unit walls or as shown on the Drawings.

2. Anchor into concrete or masonry unit walls with specified anchors.

3. Location and spacing of plate anchorages shall be as shown or if not shown in conformance with current local building codes.

B. Stud Framing

1. Plates and Stud Members

a. Unless shown otherwise in the Drawings, provide single pressure-treated bottom plates for the tops of all concrete or masonry unit walls, 1-1/2 inches thick by 5-1/2 inches wide (2 x 6). Provide double top plates for the tops of the wood framed interior partition wall, 1-1/2 inches thick by 5-1/2 inches wide (2 x 6). Splice top plates at corners and intersections with an appropriate framing anchor as specified in Section 06050.

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b. Provide studs in continuous lengths without splice.

c. End nail studs to bottom plate and end nail to lower top plate where required.

d. Facenail upper top plate to lower top plate.

e. Anchor plates to concrete or CMU walls as shown on Drawings.

2. Blocking

a. Install continuous, staggered horizontal row where shown on Drawings or required by code.

b. Locate blocking to facilitate installation of finishing materials, fixtures, specialty items, hardware, and trim.

C. Engineered Trusses: See Drawings for requirements and Section 06 17 53, Shop-Fabricated Wood Trusses.

D. Roof Sheathing

1. Install plywood with face grain perpendicular to supports, using panel with continuous end joints over two or more spans staggered between panels and locate over supports.

2. Allow minimum space 1/16-inch (1.6-millimeter) between end joints and 1/8-inch (3.2-millimeter) at edge joints for expansion and contraction of panels.

3. Support edge joints by use of ply clips or lumber blocking, unless noted otherwise on Drawings.

E. Ceiling Plywood

1. Install ceiling plywood where shown on Drawings with joints transverse to the members they attach to.

2. Attach plywood sheets to wood framing using finish nails.

3. Countersink nails.

4. Spackle and sand joints, knot holes, and nail holes as required to provide a smooth uniform surface prior to application of paint coating system as specified in Section 09 90 00, Painting and Coating.

F. Lap Siding: Install horizontal lap siding as required by Manufacturer recommendations.

G. Fastener Requirements:

1. Connections for wood members shall be in accordance with the Contract Drawings and Section 06 05 30, Wood, Plastic, and Composite Fasteners.

2. The number and size of nails connecting wood members shall not be less than that set forth in Table 2304.9.1 of the IBC.

END OF SECTION

SECTION 06 20 00 – FINISH CARPENTRY

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PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Finish carpentry items.

B. Wood bench slats at locker room.

C. Chair rails

D. Related Sections

Division 06 - Input required from architectural/structural engineer subconsultant.

1. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.
2. Section 06 41 00 - Architectural Wood Casework: Shop fabricated custom cabinet work.
3. Section 08 14 16 - Flush Wood Doors.
4. Section 09 93 00 - Staining and Transparent Finishing: Staining and transparent finishing of finish carpentry items.

1.3 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition 2014, with Errata (2016).

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards 2021, with Errata.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the work with installation of associated and adjacent components.

1.5 SUBMITTALS

A. See Section 01 33 00 Submittal Procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

1. Scale of Drawings: 1-1/2-inch to 1-foot, minimum.

2. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).

3. Include certification program label.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum three years of documented experience.

1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.

B. Quality Certification:

1. Provide labels or certificates indicating that work complies with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade or grades specified.

2. Provide designated labels on shop drawings as required by certification program.

3. Provide designated labels on installed products as required by certification program.

4. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store finish carpentry items under cover, elevated above grade, and in a dry, well-ventilated area not exposed to heat or sunlight.

B. Protect from moisture damage.

C. Handle materials and products to prevent damage to edges, ends, or surfaces.

PART 2 PRODUCTS

2.1 FINISH CARPENTRY ITEMS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

B. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by applicable code.

C. Interior Woodwork Items:

1. Locker room bench slats: Maple with clear polyurethane finish.

2. Chair rails: White maple - whitewash with satin finish

2.2 WOOD-BASED COMPONENTS

A. Provide sustainably harvested wood, certified or labeled as specified in Section 01 60 00 Product Requirements.

B. Provide wood harvested within a 500-mile radius of the project site.

2.3 LUMBER MATERIALS

A. Hardwood Lumber: maple species, quarter sawn, maximum moisture content of six (6) percent, of quality suitable for transparent finish. S4S

2.4 FASTENINGS

A. Adhesive for Purposes Other Than Laminate Installation: Suitable for the purpose; not containing formaldehyde or other volatile organic compounds.

B. Fasteners: Of size and type to suit application; un-finish in concealed locations and stained finish in exposed locations.

C. Concealed Joint Fasteners: Threaded steel.

2.5 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application not containing formaldehyde or other volatile organic compounds.

2.6 SITE FINISHING MATERIALS

A. Stain, Shellac, Varnish, and Finishing Materials: Comply with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

2.7 FABRICATION

A. Shop assemble work for delivery to site, permitting passage through building openings.

B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify adequacy of backing and support framing.

3.2 INSTALLATION

A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32-inch. Do not use additional overlay trim to conceal larger gaps.

3.3 TOLERANCES

A. Maximum Variation from True Position: 1/16-inch.

B. Maximum Offset from True Alignment with Abutting Materials: 0-inch.

END OF SECTION