

## HIGH EFFICIENCY SPECIFICATION

### DIVISION 6

#### SECTION 6A - ROUGH CARPENTRY

6A.01 GENERAL: Comply with all of the Contract Documents.

6A.02 SCOPE OF WORK: Refer to Division "Scope of Work"

#### 6A.03 WORK NOT INCLUDED

A. The following items are excluded from the work of this section:

1. Finished Flooring – Section 6B
2. Gypsum Drywall - Section 9B

#### 6A.04 MATERIALS

A. Lumber, General

1. Lumber Standards: Comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee.
2. Grade Stamps: Furnish lumber with grade stamp of inspection agency to show compliance with grading rules, and identifying grading agency, grade, species, moisture content and mill.
3. Provide lumber sizes as required by PS 20, (Product Standard) unless otherwise shown.
  - a. Provide dressed lumber, S4S.
  - b. Provide seasoned lumber with 19% maximum moisture content.

B. Framing Lumber (floor and roof joists)

1. For light framing (2" to 4" thick), provide Douglas fir larch #2 or better which meets the following values:
  - a. Fb (minimum extreme fiber stress in bending); 1000 psi for repetitive loads & 875 psi for single loads.
  - b. E (minimum modulus of elasticity);  $1.6 \times 10^6$  psi.

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- c. All lumber shall be kiln-dried to maximum moisture content of 19% & plywood to 15%.
- C. Wood Stair Framing
- 1. Provide stair-framing members of size and arrangement shown. If not shown, comply with the following requirements:
    - a. Stringer Size: 2" x 12" minimum
    - b. Notching: Notch stringer to receive treads, risers and supports; leave at least 3-1/2" of effective depth.
  - 2. Fabricate stair framing to not exceed the following variations between treads and risers within each flight of stairs:
    - a. Adjacent Treads and Risers: 3/16".
    - b. Between Largest and Smallest Treads and Risers: 3/8".
- D. Miscellaneous Lumber:
- 1. Provide bucks, nailers, blocking, furring, grounds, stripping, and similar members where shown. Provide lumber of sizes and shapes shown.
  - 2. Grade: Standard Grade light framing lumber of western or southern species, and No. 2 common or standard grade boards per WCLIB or WWPA rules.
- E. All partition lumber shall be seasoned, stud grade. Lumber shall be grade marked. 25 gauge metal studs may be substituted for nonbearing walls, subject to Architect's approval.
- F. New 3/4" wood sub-flooring for living rooms and bedrooms shall be Grade CD – Exposure 1, with exterior glue only. New 3/4" wood sub-flooring for bathrooms and kitchens shall be, Grade CD - Exposure, agency certified, with exterior glue only.
- G. Roof Sheathing shall be 3/4" plywood, Grade CD - Exposure 1, agency certified.
- H. New 5/8" underlayment for resilient flooring shall be underlayment grade interior plywood with exterior glue installed over new plywood sub-floor
- I. All lumber for bridging, nailers, etc., shall be construction grade or better.
- J. Anchors for Wood Joists:

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1. Wall anchors;
  - 1-1/4" x 1/4" x 4'-0" (masonry parallel to joists)
  - 1-1/4" x 1/4" x 1'-6" (perpendicular to masonry wall).
2. Bridal irons shall be constructed from 5/32" thick by 2" wide steel bars with a top and bottom plate 5/32" thick. Width of plates to suit width of double trimmers and headers with top plate to hook over top of wood beams with a 2" drop hook, non-shearing nails are mandatory.

### 6A.05 ROUGH HARDWARE

- A. The Contractor shall provide all rough or framing hardware, such as nails, screws, bolts, anchors, hangers, clips, inserts, miscellaneous fastenings and similar items of the best quality and of the proper size and kind, in a rigid and substantial manner. Fastenings for exterior use shall be non-corrosive.
- B. Reinforcing material to be a continuous metal plate attached directly to metal studs or new 2" x 4" furring on masonry walls. Reinforcing plate to be of same manufacturer as the grab bars and in lengths to match bars.

### 6A.06 WOOD FRAMING

- A. Subject to Architect's inspection, replace any existing damaged or defective floor and roof joists and bridging, with new type and sizes to match existing.
- B. All new joists shall be properly secured to supports. All bridging shall be provided and installed, 8'-0" maximum on center.
- C. All new floor headers and trimmers and other horizontal structural members shall be set with the crown edge upward. Joists shall have not less than 4" bearing with fire cut to bevel of 3" in their depth as per N.Y.C. Building Code. Trimmers and headers shall be securely spiked and framed and supported with approved joists hangers. Double trimmers and headers connection shall be securely spiked and framed with bridal irons. Bridal irons shall be formed from 5/32" thick x 2" wide steel bars, top plate and bottom plate 5/32" thick to suit width of double trimmer and header with top plate to hook over top of wood beams with a 2" drop hook. New joists shall be aligned to obtain matching elevations with adjacent surfaces. Plywood shall be installed in accordance with recommended practice. Shim as required. At bearing end of new wood joists into existing or new structural steel beams, the joists shall not be notched more than one quarter of the depth of the wood joists for bearing. Bridal irons shall be used at these locations where notching of the wood joists exceeds one quarter of the depth of the joists.

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- D. Provide 1-1/4" x 1'-6" "T" anchors every fourth joist where joists frame into masonry wall. Where masonry walls run parallel to joists, provide 1-1/4" x 1/4" x 4'-0" long-wall anchors 6'-0" on center. Each successive anchor shall be placed in opposite directions. All wood joists shall have cross-bridging, 8'-0" on center maximum or at center of span if less than 16 feet in length.
- E. Non-load-bearing stud partitions and exterior furring walls shall be 2" x 4", spaced 16" on center (max.), doubled at ends, jambs, and heads of openings, and tripled at corners. Provide 2" x 4" blocking mid-height at wood stud and metal stud partitions. Provide top plates and bottom plates as detailed. All partitions shall be plumb. Shim as required to obtain true finished surfaces. Load bearing partitions shall be 4" x 4" studs, 16" on center (max.) with double top and base plate unless otherwise shown on plans.
- F. All necessary furring, accessories, framing and blocking shall be provided and installed at walls and ceilings. These shall include, but not be limited to framing and blocking for windows, framing for medicine cabinets, mailboxes, waste and soil stacks, door frames, kitchen cabinets etc.

### 6A.07 SUB-FLOORING AND UNDERLAYMENT

- A. Plywood sub-flooring shall be installed with top ply perpendicular to the floor joists. Ends of plywood shall be fully supported by floor joists.
  - 1. If the end of the plywood falls short of a joist, provide additional blocking and supports.
  - 2. Sub-flooring shall be nailed at all joists, sleepers and supports. Nailing shall be spaced at a minimum of 12" on centers. Spiral nails shall be used.
  - 3. Plywood underlayment shall be laid perpendicular to plywood sub-flooring and nailing spaced at a minimum of 12" on centers. Spiral nails shall be used.

### 6A.08 SUSPENDED CEILINGS

- A. Suspended ceilings shall be provided where indicated and shall be installed in accordance with the drawings and as required by the Administrative Building Code.

### 6A.09 SHOP DRAWINGS AND SAMPLES

- A. Submit shop drawings and certifications of materials for hung ceiling framing to the Architect. Submit certifications for joists, studs, and all plywood to the Architect.

### 6A.10 TEMPORARY PROTECTION

- A. Provide temporary protection as required by the general conditions.

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### 6A.11 GUARANTEE

- A. Guarantee all items of work furnished and installed under this Section for (1) one year, in addition to manufacturer's standard warranties. All guarantees to be from the date, when **Final Certificate of Occupancy** is issued from Department of Buildings.

END OF SECTION