SECTION 06 1000

ROUGH CARPENTRY

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings, Details of Construction, and General Provisions of the Contract, including General and Supplementary Conditions and Division - 1 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

A. Structural dimension lumber framing.

B. Non-structural dimension lumber framing.

C. Rough opening framing for doors, windows, and roof openings.

D. Sheathing.

E. Preservative treated wood materials.

F. Miscellaneous framing and sheathing.

G. Concealed wood blocking, nailers, and supports.

1.03 RELATED REQUIREMENTS

A. Section 03 1510 - Post-Installed Anchors.

B. Section 05 1200 - Structural Steel Framing: Prefabricated beams and columns for support of wood framing.

C. Section 06 1733 - Wood I-Joists.

1.04 REFERENCE STANDARDS

A. ANSI/ASME Standard B18.2.1 - Square and Hex Bolts and Screws (Inch Series); 1981

B. ANSI/ASME Standard B18.6.1 - Wood Screws (Inch Series); 1981

C. APA - The Engineered Wood Association, (APA-PRR-401), Performance Standard for APA EWS Rim Boards; 2002.

D. APA - The Engineered Wood Association, (APA-PRL-501), Performance Standard for APA EWS Laminated Veneer Lumber; 2000.

E. AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; American Forest and Paper Association; 2001.

F. ASTM A123-02 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2002

G. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2005.

H. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength; 2002

I. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2007

J. ASTM D3498 - Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems; 2003

K. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2008.

L. ASTM F1667 - Standard Specification for Driven Fasteners: Nails, Spikes and Staples; 2003

M. AWPA C2 - Lumber, Timber, Bridge Ties and Mine Ties -- Preservative Treatment by Pressure Processes; American Wood-Preservers' Association; 2003.

N. AWPA C9 - Plywood -- Preservative Treatment by Pressure Processes; American Wood-Preservers' Association; 2003.

O. AWPA U1 - Use Category System: User Specification for Treated Wood; American Wood-Protection Association; 2007.

P. ICC-ES NER 272 - Power-Driven Staples and Nails for Use in All Types of Building Construction; ICC Evaluation Service, Inc.; 2004

Q. PS 2 - Wood-Based Structural Use Panels; National Institute of Standards and Technology (Department of Commerce);; 2004

R. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce); 2005.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide technical data on metal framing connectors, power-driven fasteners, rim boards, and laminated veneer lumber.

1.06 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

1. Species as indicated below for each use.
2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Stud Framing (2x4 and 2x6) used in a vertical position in bearing walls:

1. Grade: No. 2.

D. Joist and Rafter Framing (2x6 through 4x16):

1. Species: Hem-Fir.

2. Grade: No. 2.

E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:

1. Lumber: S4S, No. 2 or Standard Grade.

2. Boards: Standard or No. 3.

2.03 ENGINEERED WOOD PRODUCTS

A. Laminated Veneer Lumber (LVL): APA PRL-501, Stress Class 1.9E-2600F. Parallel Strand Lumber (PSL) with matching or better properties may be substituted.

1. Acceptable manufacturers include, Weyerhauser, Boise Cascade, Louisiana-Pacific, Georgia-Pacific, Willamette Industries.

2. Minimum design properties:
    a. Bending = 2600 psi
    b. Horizontal shear perpendicular to glue line = 285 psi
    c. Compression parallel to grain = 2,550 psi
    d. Compression perpendicular to grain parallel to glue line = 700 psi
    e. Modulus of elasticity = 1,900,000 psi
    f. Tension parallel to grain = 1850 psi

B. Laminated Strand Lumber (LSL):
1. Acceptable manufacturers include: Trus Joist
2. Minimum design properties:
    a. Bending = 1700 psi
    b. Horizontal shear (plates) = 150 psi
    c. Horizontal shear perpendicular to glue line = 285 psi
    d. Compression parallel to grain = 1,450psi
    e. Compression perpendicular to grain = 300 psi
    f. Modulus of elasticity = 1,300,000 psi

C. Parallel Strand Lumber (PSL):
1. Acceptable manufacturers include: Trus Joist
2. Minimum design properties:
    a. Bending = 2600 psi
    b. Horizontal shear perpendicular to glue line = 285 psi
    c. Compression parallel to grain = 2,550 psi
    d. Compression perpendicular to grain parallel to glue line = 700 psi
    e. Modulus of elasticity = 1,900,000 psi
    f. Tension parallel to grain = 1850 psi

D. Rim Board: APA PRR-401, Rim Board, 1" minimum thickness, or, Rim Board Plus, 1-1/8" minimum thickness.

2.04 CONSTRUCTION PANELS

A. Roof Sheathing: PS-2; APARated Sheathing.
1. Exposure Class: Exterior.
2. Span Rating: 24/16.
3. Thickness: 1/2 inch, nominal.
4. Edges: Square.

B. Wall Sheathing: PS-2; APARated Sheathing.
1. Exposure Class: Exterior.
2. Span Rating: 16/0 or wall-16oc.
3. Thickness: 1/2 inch, nominal.

4. Edges: Square.

2.05 ACCESSORIES

A. Fasteners and Anchors:

1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M or stainless steel for high humidity and preservative-treated wood locations and to match finish on metal connectors, unfinished steel elsewhere.
2. Nails: ASTM F1667, common wire nails, unless otherwise specified.
3. Bolts: ASTM A307.
4. Lag Screws: ANSI/ASME Standard B18.2.1
5. Wood Screws: ANSI/ASME Standard B18.6.1.
6. Power Driven Fasteners: ICC ES NER-272.

B. Post-installed anchors: See Section 03 1510

C. Metal Framing Connectors: Includes hangers, post bases, post caps, tension ties, hold-downs, and framing angles. Hot dipped galvanized steel, sized to suit framing conditions.

1. Drawings show Simpson Strong-Tie products. Alternate products shall have equal or greater strength.
2. All products to have current ICC approval.
3. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing per ASTM A 653/A 653M, hot-dipped galvanizing per ASTM A123, or stainless steel, grade 316L.

D. Sill Gasket on Top of Foundation Wall: 1/4 inch thick, plate width, closed cell plastic foam from continuous rolls.

E. Building Paper: Water-resistant Kraft paper.

2.06 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:

C. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.

1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
2. Treat lumber exposed to weather.
3. Treat lumber in contact with roofing, flashing, or waterproofing.
4. Treat lumber in contact with masonry or concrete.
5. Treat lumber less than 18 inches above grade.
6. Treat lumber in other locations as indicated.
7. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative to 0.25 lb/cu ft retention.
    a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
    b. Treat plywood in contact with roofing, flashing, or waterproofing.

c. Treat plywood in contact with masonry or concrete.

d. Treat plywood less than 18 inches above grade.

e. Treat plywood in other locations as indicated.

D. Preservative Pressure Treatment of Lumber in Contact with Soil: AWPA U1, Use Category UC4A, Commodity Specification A using waterborne preservative to 0.4 lb/cu ft retention.

1. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.

2.07 SOURCE QUALITY CONTROL

A. Provide dimension lumber with each piece factory marked with grade stamp of an accredited grading agency identifying grade, species, and moisture content at time of surfacing.

B. Provide APA-rated panels with each piece factory marked with grade stamp of APA identifying type, exposure durability classification, span rating, and thickness.

C. Provide APA-rated rim boards and LVL with APA EWS trademark.

PART 3 EXECUTION

3.01 PREPARATION

A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.

B. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.

C. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.03 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Make provisions for temporary construction loads, and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.

C. Install structural members full length without splices unless otherwise specifically detailed.

D. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by AFPA Wood Frame Construction Manual and IBC Table 2304.9.1.

E. Strictly comply with manufacturer's installation instructions for product installation. Install all bolts and nails in metal framing connectors.

F. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.

G. Construct double joist headers at floor and ceiling openings and under wall stud partitions that are parallel to floor joists; use metal joist hangers unless otherwise detailed.

H. Provide bridging at joists in excess of 8 feet span at mid-span. Fit solid blocking at ends of members.

I. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.04 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

E. Specifically, provide the following non-structural framing and blocking:

1. Cabinets and shelf supports.
2. Wall brackets.
3. Handrails.
4. Grab bars.
5. Towel and bath accessories.
6. Wall-mounted door stops.
7. Chalkboards and marker boards.
8. Wall paneling and trim.
9. Joints of rigid wall coverings that occur between studs.

3.05 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

B. Provide wood curb at all roof openings except where specifically indicated otherwise. Form corners by alternating lapping side members.

3.06 INSTALLATION OF CONSTRUCTION PANELS

A. General

1. Install sheathing with panel continuous over two or more spans.
2. Provide 1/8" space at ends and edges of panels unless otherwise indicated by the panel supplier.
3. Apply adhesives in strict accordance with manufacturer's instructions. Apply continuous glue line on joists and a spaced glue line in groove of tongue and groove panels.

B. Underlayment: Secure to subflooring with nails.

1. At locations where resilient flooring will be installed, fill and sand splits, gaps, and rough areas.
2. Place building paper between floor underlayment and subflooring.

C. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.

1. At long edges provide solid edge blocking where joints occur between roof framing members.
2. Nail panels to framing; staples are not permitted.

D. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails or screws.

3.07 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Surface Flatness of Floor: 1/4 inch in 10 feet maximum, and 1/2 inch in 30 feet maximum.

C. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.08 CLEANING

A. After erection and attachment of lumber, remove clay, mud, or other foreign materials from all members.

B. Waste Disposal: Comply with the requirements of Section 01 7419.

1. Comply with applicable regulations.
2. Do not burn scrap on project site.
3. Do not burn scraps that have been pressure treated.
4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.

C. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

D. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 10 53

CARPENTRY

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

A. Section includes:

1. Miscellaneous blocking, sleepers and nailers, shown on Drawings or required.

2. Preservative-treated blocking/sill sealer for door frames.

B. Related work specified in other sections:

1. Concrete Formwork - Section 03 30 00

2. Miscellaneous Specialties - Division 10

1.03 QUALITY ASSURANCE

A. Lumber Grades: Western Wood Products Association "Product Use Manual".

B. Preservative Treated Lumber: American Wood Preservers Bureau, "LP-2 Pressure Treated with Water-Borne Preservatives".

1.04 SUBMITTALS

A. Submit in accordance with Section 01 33 00.

1. Furnish certificates for preservative treated lumber.

2. Submit roofing material manufacturer's current printed instructions for installation of nailers.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Immediately upon delivery to job site, place materials in area protected from weather.

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

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

D. While unloading, protect sheet materials from corners breaking and damaging surfaces.

1.06 COORDINATION

A. Coordinate blocking for roof applications with Divisions 7, 22 and 23.

B. Obtain product data, sizes and anchorage requirements prior to installation of blocking.

PART 2: PRODUCTS

2.01 ROUGH HARDWARE

A. Nails, spikes, screws, bolts and similar items of size and types to rigidly secure members in place or as otherwise indicated.

B. Non-corrosive type fasteners for redwood and preservative treated and fire retardant lumber such as stainless steel or double dipped galvanized.

2.02 LUMBER

A. Framing, blocking lumber: No. 2 or better, S4S, Douglas Fir-Larch, Hem-Fir or Southern Pine, moisture content not to exceed 19%.

1. Provide preservative-treated lumber for work exposed to moisture or indirect contact with concrete slabs. Preservative-treated lumber is not required for roof blocking.

2. Provide fire-retardant lumber for all interior framing and blocking. Blocking for handrails, millwork, cabinets, window and door frames do not require fire-retardant lumber in Type I and Type II construction.

B. Redwood: No. 2 or better under R.I.S. rules.

2.03 PLYWOOD

A. Meet APA C-D exterior, thickness as shown on Drawings.

B. Provide preservative-treated plywood when exposed to moisture, and as shown on Drawings.

C. Interior Finish Plywood: Paint grade birch.

2.04 INSULATION

A. Batt Insulation: Conform to requirements of Section 07 21 00, Insulation.

PART 3: EXECUTION

3.01 ROUGH CARPENTRY

A. Provide wood nailers of size, shape where indicated, required.

B. Fasten securely to substrate with appropriate fasteners. Use expansion-type anchors at masonry or concrete, self-tapping screws at steel. Use corrosive resistant fasteners for roofing applications or where otherwise exposed to moisture.

C. Install work that is component of the roofing system according to roofing material manufacturer's current printed instructions.

D. Install blocking for windows, storefront and entrances according to approved Shop Drawings. Blocking shall be continuous the width or height of rough openings, unless otherwise shown on Drawings. Install sill sealer under windowsill blocking as detailed

E. Install blocking for finish materials, such as windows and sheet metal fascias, with minimum number of joints, plumb, level, true and straight with no distortions. Discard materials which are unsound, warped, bowed, twisted, improperly treated, not adequately seasoned.

END OF SECTION 06 10 53

SECTION 06 16 43

GYPSUM SHEATHING

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

1.02 SUMMARY

A. Section includes the following:

1. Glass-mat faced gypsum sheathing.
2. Glass-mat faced gypsum roof board for vertical surfaces under roofing.

B. Related work specified in other sections:

1. Cold-Formed Metal Framing Section 05 40 00.
2. Vapor-Permeable Weather-Barrier Section 07 65 16.

1.03 SUBMITTALS

A. Submit in accordance with Section 01 33 00.

1. Product Data: Manufacturer's specifications and installation instructions for each product specified.

1.04 QUALITY ASSURANCE

A. Referenced Specifications: Current Gypsum Association Publications (www.gypsum.org).

B. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

1.05 DELIVERY, STORAGE AND HANDLING

A. Delivery and Handling

1. Deliver materials to the project site with manufacturer's labels intact and legible.
2. Handle materials with care to prevent damage.
3. Deliver fire-rated materials bearing testing agency label and required fire classification numbers.

B. Storage

1. Store materials under cover, stack flat, and off ground.

PART 2: PRODUCTS

2.01 GYPSUM SHEATHING

A. The following manufacturers/products are acceptable:

1. Georgia-Pacific Gypsum LLC, www.gpgypsum.com, DensGlass Gold Exterior Sheathing.
2. National Gypsum Company, www.nationalgypsum.com, Gold Bond Brande e^2XP Extended Exposure Gypsum Sheathing.
3. USG Corporation, www.usg.com, Securock Glass Mat Gymsum Sheathing.
4. Certain Teed Corporation, www.certainteed.com, GlasRoc Sheathing.
5. LaFarge North America, www.lafargenorthamerica.com, Weather Defense Platinum.

B. Panel Physical Characteristics

1. Core: Regular gypsum core (Type X gypsum core at fire rated conditions) with additives to enhance moisture and mold resistance.
2. Facing: Water-resistant glass mat on both face, back, and long edges.
3. Overall thickness: ½ inch (5/8 inch at fire rated conditions)
4. Panel complies with requirements of ASTM C 1177 (ASTM C1177, Type X at fire rated conditions).
5. Racking strength – Ultimate: 540 lbs/sq.ft. dry when tested in accordance with ASTM E72.
6. Flexible Strength – Parallel: 80 lbs, when tested in accordance with ASTM C473.
7. Humidified Deflection: Not more than ¼ inch when tested in accordance with ASTM C473.
8. Nail Pull Resistance: 80 lbs, when tested in accordance with ASTM C473.
9. Water Absorption: Less than 10% when tested in accordance with ASTM C473.
10. Surface Water Absorption: Less than 1% when tested in accordance with ASTM C473.
11. Permeance: Greater than 10 perms, when tested in accordance with ASTM E96.
12. R-Value: 0.40 when tested in accordance with ASTM C518.
13. Combustibility: Noncombustible when tested in accordance with ASTM E136.
14. Flame spreads/smoke developed: 5/0 when tested in accordance with ASTM E84.
15. Mold/Mildew Resistance: 10 when tested in accordance with ASTM D 3273.

2.02 ACCESSORIES

A. Screws for Fastening Gypsum Sheathing to Cold-Formed Metal Framing: Steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing board to be attached, with organic-polymer or other corrosion-protective coating have a salt-spray resistance of more than 800 hours according to ASTM B 117.

1. For steel framing less than 0.0329 inch thick, attach sheathing to comply with ASTM C 1002.
2. For steel framing from 0.033 to 0.112 inch thick, attach sheathing to comply with ASTM C 954.

B. Z-Furring: Manufacturer's standard Z-shaped furring members with slotted or nonslotted web, with minimum base metal (uncoated) thickness of 0.0179 inch, face flange of 1 ¼ inch, wall attachment flange of 7/8 inch and of depth required to fit insulation thickness indicated. Protective coating, ASTM C 645/C, 645 M, G40 (Z120) or equivalent corrosion resistance.

1. Fasteners for Metal Framing: Provide fasteners of type, material, size, and corrosion resistance, holding power and other properties required to fasten steel framing and furring member securely to substrates involved; comply with recommendations of gypsum board manufacturers for applications indicated.

C. Rigid Wall Insulation and Expanding Foam Insulation: Conform to the requirements of Section 07 21 00.

2.03 GYPSUM ROOF BOARD

A. The following manufacturers/products are acceptable:

1. Georgia Pacific Gypsum LLC, www.gpgypsum.com, DensDeck Prime Roof Board.
2. USG Corporation, www.usg.com, Securock Gypsum-Fiber Roof Board.

B. Panel Physical Characteristics:

1. Thickness: ½"
2. Flexural Strength, parallel (ASTM C473): 70 lbf, minimum
3. Flutespan (ASTM E661): 5 inches
4. Permeance (ASTM E96): Not more than 35 perms.
5. Water Absorption (ASTM C1177): Less than 10 percent of weight
6. Compressive Strength (Applicable sections of ASTM C472): 500 pounds per square inch.
7. Surface water absorption, nominal grams, per ASTM C473: Not more than 2 grams.

PART 3: EXECUTION

3.01 EXAMINATION

A. Inspection: Verify that project conditions and substrates are acceptable, to the installer, to begin installation of work of this section.

3.02 GYPSUM SHEATHING INSTALLATION

A. Comply with GA-253 and with manufacturer's written instructions.

1. Fasten gypsum sheathing to cold-formed metal framing with screws.
2. Install boards with a 3/8 inch gap where non-load-bearing construction abuts structural elements.
3. Install boards with a ¼ inch gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.

B. Apply fasteners so heads bear tightly against face of sheathing boards but do not cut into facing.

C. Horizontal Installation: Install sheathing with V-grooved edge down and tongue edge up. Interlock tongue with groove to bring long edges in contact with edges of adjacent boards without forcing. Abut ends of boards over centers of studs, and stagger end joints of adjacent boards not less than one stud spacing. Attach board at perimeter and within field of board to each steel stud.

1. Space fasteners approximately 8 inches o.c. and set back a minimum of 3/8 inch from edges and ends of boards.
2. For sheathing under stucco cladding, boards may be initially tacked in place with screws if overlying self-furring metal lath is screw-attached through sheathing to studs immediately after sheathing is installed.

D. Vertical installation: Install board vertical edges centered over studs. Abut ends and edges of each board with those of adjacent boards. Attach boards at perimeter and within field of board to each stud.

1. Space fasteners approximately 8 inches o.c. and set back a minimum of 3/8 inch from edges and ends of boards.
2. For sheathing under stucco cladding, boards may be initially tacked in place with screws if overlying self-furring metal lath is screw-attached through sheathing to studs immediately after sheathing is installed.

3.03 GYPSUM ROOF BOARD INSTALLATION

A. Mechanically attached as recommended by roof system manufacturer or as required by FM or UL guidelines for wind uplift resistance.

B. Protect from weather until covered by roofing if required by roof board manufacturer.

END OF SECTION 06 16 43