PART 1 GENERAL

1.01 SECTION INCLUDES
A. Performance criteria for gypsum board assemblies.
B. Metal stud wall framing.
C. Metal channel ceiling framing.
D. Gypsum sheathing.
E. Cementitious backing board.
F. Gypsum wallboard.
G. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS
A. Section 05.40.00 - Cold-Formed Metal Framing: Exterior wind-load-bearing metal stud framing.
B. Section 06.10.00 - Rough Carpentry: Wood blocking product and execution requirements.
C. Section 07.21.00 - Thermal Insulation: Acoustic insulation.
D. Section 07.92.00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.
E. Section 09.30.00 - Tiling: Tile materials for application to backer board.

1.03 REFERENCE STANDARDS
A. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 2010 (Revised).
C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
I. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.
J. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.
W. ASTM E413 - Classification for Rating Sound Insulation; 2010.
X. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2013.
Y. GA-226 - Application of Gypsum Board to Form Curved Surfaces; Gypsum Association; 2008.

1.04 SUBMITTALS

A. See Section 01.30.00 - Administrative Requirements, for submittal procedures.
B. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.
C. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.
D. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
E. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.
F. Test Reports: Bullet resistant sheathing and wallboard.
G. Samples: Submit two samples of predecorated gypsum board, 12 by 12 inches in size, illustrating finish color and texture.

1.05 TENNESSEE SUSTAINABLE DESIGN GUIDELINES COMPLIANCE DOCUMENTATION

B. Provide documentation of construction waste diverted from landfills:
   1. Compliance with Credit 1.02-D-2: Construction Waste Management.
C. Submit shop drawing documentation demonstrating SDG compliance for the following:
   1. Compliance with Credit 1.02-D-3-a: Sustainable Materials - Recycled content 10%
2. Compliance with Credit 1.02-D-3-b: Sustainable Materials - Rapidly renewables
3. Compliance with Credit 1.02-D-3-c: Sustainable Materials - Certified wood
4. Compliance with Credit 1.02-D-3-d: Sustainable Materials - Material reuse
5. Compliance with Credit 1.02-E-6-b: Material VOC Limits - Adhesive and Sealants
6. Compliance with Credit 1.02-E-6-b: Material VOC Limits - Paints
7. Compliance with Credit 1.02-E-6-b: Material VOC Limits - Coatings and Anti-corrosive paints
8. Compliance with Credit 1.02-E-6-c: Material VOC Limits - Flooring systems
9. Compliance with Credit 1.02-E-6-d: Material VOC Limits - Composite wood and agrifiber

D. Submit documentation of quantity and material cost with monthly Application for Payment to the Contractor.

1.06 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 5 years of documented experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

B. Interior Partitions: Provide completed assemblies with the following characteristics:
   1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

C. Shaft Walls at HVAC Shafts: Provide completed assemblies with the following characteristics:
   1. Air Pressure Within Shaft: Sustained loads of 5 lbf/sq ft with maximum mid-span deflection of L/240.
   2. Acoustic Attenuation: STC of 35-39 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

D. Shaft Walls at Elevator Shafts: Provide completed assemblies with the following characteristics:
   1. Air Pressure Within Shaft: Intermittent loads of 5 lbf/sq ft with maximum mid-span deflection of L/240.
   2. Acoustic Attenuation: STC of 35-39 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.

E. Fire Rated Assemblies: Provide completed assemblies complying with applicable code.
   1. UL Assembly Numbers: Provide construction equivalent to that listed for the particular assembly in the current UL (FRD).

2.02 METAL FRAMING MATERIALS

A. Manufacturers - Metal Framing, Connectors, and Accessories:

B. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
   1. Studs: "C" shaped with flat or formed webs with knurled faces.
   2. Runners: U shaped, sized to match studs.
   3. Ceiling Channels: C-shaped.
   5. Minimum Thickness of Framing to Receive Impact Resistant Wallboard: Not less than 0.0312". Lesser thickness is not acceptable.
6. Resilient Furring Channels: 1/2 inch depth, for attachment to substrate through one leg only.

C. Loadbearing Studs for Application of Gypsum Board: As specified in Section 05.40.00.

D. Shaft Wall Studs and Accessories: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 and specified performance requirements.

E. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

F. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
   1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI SG02-1.
   3. Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems indicated on drawings.

4. Deflection and Firestop Track:
   a. Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.
   b. Products:
      1) FireTrak Corporation; Posi Klip.

5. Provide top track preassembled with connection devices spaced to fit stud spacing indicated on drawings; minimum track length of 12 feet.

2.03 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board:

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
      a. For spaces on the third floor scheduled to receive High Performance Coatings specified in section 09.96.00, provide and install impact-resistant gypsum wallboard materials.
   2. Glass mat faced gypsum panels as defined in ASTM C1658/C1658M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
   3. Unfaced fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M, suitable for paint finish, of the same core type and thickness may be substituted for paper-faced board.
   4. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
      a. Mold-resistant board is required whenever board is being installed before the building is enclosed and conditioned.
   5. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   6. Thickness:
      c. Multi-Layer Assemblies: Thicknesses as indicated on drawings.
   7. Paper-Faced Products:
      a. Georgia-Pacific Gypsum; ToughRock.
      c. USG Corporation; Sheetrock Brand Gypsum Panels.
   8. Mold Resistant Paper Faced Products:
a. Georgia-Pacific Gypsum; ToughRock Mold-Guard.
b. National Gypsum Company; Gold Bond Hi-Abuse Brand XP Wallboard.
c. USG Corporation; Sheetrock Brand Mold Tough Gypsum Panels.
9. Glass Mat Faced Products:
   b. National Gypsum Company; Gold Bond eXP Fire-Shield Interior Extreme Gypsum Panel.
   c. USG Corporation; USG Sheetrock Brand Glass-Mat Panels Mold Tough.
10. Unfaced Products:
    a. USG Corporation; Fiberock Brand Panels--Abuse-Resistant.

C. Backing Board For Wet Areas: One of the following products:
1. Application: Surfaces behind tile in wet areas including toilet sink walls.
2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
3. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
   b. Products:
      1) USG Corporation; _____: www.usg.com.
4. Glass Mat Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178/C1178M.
   b. Fire Resistant Type: Type X core, thickness 5/8 inch.
   c. Products:
      1) Georgia-Pacific Gypsum; DensShield Tile Backer.
      2) National Gypsum Company; Gold Bond eXP Tile Backer.
D. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
1. Application: Vertical surfaces behind thinset tile, except in wet areas.
2. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
3. Type: Regular and Type X, in locations indicated.
4. Type X Thickness: 5/8 inch.
5. Regular Board Thickness: 5/8 inch.
7. Products:
   a. Georgia-Pacific Gypsum; DensArmor Plus.
   b. National Gypsum Company; Gold Bond XP Gypsum Board.
E. Ceiling Board: Special sag resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Ceilings, unless otherwise indicated.
2. Thickness: 5/8 inch.
4. Products:
   a. Georgia-Pacific Gypsum; ToughRock Span 24 Ceiling Board.
F. Exterior Sheathing Board: Sizes to minimize joints in place; ends square cut.
1. Application: Exterior sheathing, unless otherwise indicated.
2. Glass Mat Faced Sheathing: Glass mat faced gypsum substrate as defined in ASTM C1177/C1177M.
3. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
4. Core Type: Regular and Type X, as indicated.
5. Type X Thickness: 5/8 inch.
6. Regular Board Thickness: 1/2 inch.
7. Edges: Square.
8. Glass Mat Faced Products:
   a. Georgia-Pacific Gypsum; DensGlass Sheathing.
   b. National Gypsum Company; Gold Bond eXP Sheathing.

G. Exterior Soffit Board: Exterior gypsum soffit board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Ceilings and soffits in protected exterior areas, unless otherwise indicated.
   2. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X.
   3. Types: Regular and Type X, in locations indicated.
   4. Type X Thickness: 5/8 inch.
   5. Regular Type Thickness: 5/8 inch.
   7. Products:
      a. Georgia-Pacific Gypsum; ToughRock Fireguard C Soffit Board.

H. Shaftwall and Coreboard: Type X; 1 inch thick by 24 inches wide, beveled long edges, ends square cut.
   1. Glass Mat Faced Type: Glass mat shaftliner gypsum panel or glass mat coreboard gypsum panel as defined in ASTM C1658/C1658M.
   2. Products:
      a. Georgia-Pacific Gypsum; DensGlass Shaftliner (mold-resistant).
      b. National Gypsum Company; Gold Bond Brand eXP Shaftliner.

2.04 ACCESSORIES

A. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.

B. Finishing Accessories: ASTM C1047, galvanized steel or rolled zinc, unless noted otherwise.
   1. Types: As detailed or required for finished appearance.

C. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
   1. Tape: 2 inch wide, coated glass fiber tape for joints and corners, except as otherwise indicated.
   2. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
      a. In spaces on the third floor scheduled to receive High Performance Coatings as specified in section 09.96.00, provide setting type joint compound. Do not use latex type compounds.
   4. Chemical hardening type compound.

D. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.

E. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

F. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion resistant.

G. Provide galvanized metal blocking for mounting of wall cabinets, shelves, toilet accessories, etc.; 6 inch, 16 gauge, steel runner notched to bypass steel studs and secured to each stud by two 3/8” pan head screws.
PART 3 EXECUTION

3.01 EXAMINATION
A. Verify that project conditions are appropriate for work of this section to commence.

3.02 SHAFT WALL INSTALLATION
A. Shaft Wall Framing: Install in accordance with manufacturer's installation instructions.
   1. Fasten runners to structure with short leg to finished side, using appropriate power-driven fasteners at not more than 24 inches on center.
   2. Install studs at spacing required to meet performance requirements.
B. Shaft Wall Liner: Cut panels to accurate dimension and install sequentially between special friction studs.
   1. On walls over sixteen feet high, screw-attach studs to runners top and bottom.
   2. Seal perimeter of shaft wall and penetrations with acoustical sealant.

3.03 FRAMING INSTALLATION
A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
   1. Level ceiling system to a tolerance of 1/1200.
   2. Laterally brace entire suspension system.
C. Studs: Space studs at 16 inches on center.
   1. Extend partition framing as shown on Drawings.
   2. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
   3. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.
D. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
E. Standard Wall Furring: Install at concrete walls scheduled to receive gypsum board, not more than 4 inches from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches on center.
   1. Orientation: Horizontal.
   2. Spacing: At 16 inches on center.
F. Blocking: Install wood blocking for support of:
   1. Framed openings.
   2. Wall mounted cabinets.
   3. Plumbing fixtures.
   4. Toilet partitions.
   5. Toilet accessories.
   6. Wall mounted door hardware.
   7. Shelves
   8. Other partition mounted fixtures

3.04 ACOUSTIC ACCESSORIES INSTALLATION
A. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
B. Acoustic Sealant: Install in accordance with manufacturer's instructions.
1. Place two beads continuously on substrate before installation of perimeter framing members.
2. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.

### 3.05 BOARD INSTALLATION

**A.** Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

**B.** Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
   1. Exception: Tapered edges to receive joint treatment at right angles to framing.

**C.** Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.

**D.** Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.

**E.** Exterior Sheathing: Comply with ASTM C1280. Install sheathing vertically, with edges butted tight and ends occurring over firm bearing.
   1. Seal joints, cut edges, and holes with water-resistant sealant.

**F.** Exterior Soffits: Install exterior soffit board perpendicular to framing, with staggered end joints over framing members or other solid backing.

**G.** Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.

**H.** Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

### 3.06 INSTALLATION OF TRIM AND ACCESSORIES

**A.** Control Joints: Place control joints consistent with lines of building spaces and as indicated.
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
   2. At exterior soffits, not more than 30 feet apart in both directions.

**B.** Corner Beads: Install at external corners, using longest practical lengths.

**C.** Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

### 3.07 JOINT TREATMENT

**A.** Glass Mat Faced Gypsum Board and Exterior Glass Mat Faced Sheathing: Use fiberglass joint tape, bedded and finished with chemical hardening type joint compound.

   1. Impact Resistant Wallboard: Tape and finish joints using setting type compound.

**C.** Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
   2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   3. Level 3: Walls to receive textured wall finish.
   4. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   5. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.
   6. Level 0: Temporary partitions.
D. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling, and sanding is not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
   3. Taping, filling and sanding is not required at base layer of double layer applications.
E. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
F. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.08 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION