SECTION 09180

GYPSUM WALLBOARD SHEAR PANELS

PART 1 - GENERAL

1.01 SUMMARY

A. Work included: Provide gypsum wallboard system as shown on the Drawings, specified herein, and needed for a complete and proper installation.

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of the Specifications.

C. Codes: Materials and work shall conform to the governing Building Code. In case of conflict between these specifications, the standard specifications, and the Building Code, the more stringent shall govern.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Reference specifications: Except as may be modified by these specifications and applicable laws and ordinances at the place of building, install this work to conform to the requirements of "Standard Specifications for Gypsum Wallboard Interior Finishes" as approved by the American National Standards Institute as ANS #A97.1. In case of conflict between these specifications, any applicable law or ordinance and the ANS Standard the better or more restrictive requirement shall prevail.

1.03 SUBMITTALS

A. Comply with pertinent provisions of Section 01300.

B. Product data: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section;
   2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
   3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.04 PRODUCT HANDLING

A. Deliver the materials to the job site and store in their original containers with labels intact and legible at time of use.

B. Protect the materials of this Section before, during, and after installation and protect the work and materials of all other trades. Keep materials dry and protected from the weather. Avoid damage to edges, ends, and faces of wallboard.

C. In the event of damage, immediately make replacements and repairs to the approval of the Architect and at no additional cost to the Owner.

D. Comply with pertinent provisions of Section 01600.

PART 2 - PRODUCTS

2.01 GYPSUM BOARD SUBSTRATE

A. Gypsum Board:
1. As substrate for adhered steel sheets, provide Dens-Glass Gold, or equal, exterior sheathing with glass mat face and back over a water-resistant, treated core in thicknesses shown on drawings.
2. Supply the gypsum wallboard in 48" widths and in such lengths as will result in the minimum of joints.
3. Unless otherwise indicated, provide tapered edges.

2.02 SHEET STEEL PANELS

A. The sheet steel is No. 22 ga. / 0.027" minimum base-metal thickness complying with ASTM A 653 CS, Grade 33, and is provided with a G40 minimum hot-dipped galvanized coating conforming to ASTM A 924. Available width of 48" and lengths of 8-12 feet.
1. Galvanized steel shall be 22 ga. base metal thickness minimum per ASTM A 653 CS Grade 33. Hot dipped galvanized G40 minimum per ASTM A 924.

2.03 ADHESIVE

A. The adhesive used to attach the steel to the wallboard shall be a water soluble type adhesive. The adhesive shall be a non-combustible material.

2.04 FINISHED SHEAR PANELS

A. Sure-Board Series 200 Structural Panels, or equal:
1. Each panel shall consist of a gypsum board substrate of the type indicated in Part 2.01 of this Section, in thicknesses indicated on Drawings. Gypsum board substrate shall be permanently adhered to the Galvanized Steel sheet indicated in Part 2.02 of this Section by means of Adhesive indicated in Part 2.03 of this Section.

2.05 METAL FRAMING MATERIALS

A. Furring channels for support of gypsum board if required shall be screw-on furring channels of approved manufacturer rolled from 25 gauge galvanized steel, 7/8" deep.

B. Metal studs:
1. Non-bearing studs, screw-on dry wall type, galvanized roll formed in a gauge as indicated on the Drawings or as required by their unbraced height. All studs shall have spaces or "knock-outs" for piping and conduit.

2.06 FASTENERS

A. The fasteners used to attach shear panels to metal stud framing shall be self-drilling/ self-tapping pilot point bugle head screws, #6 minimum diameter, 1.5-inch long, and a 1/2-inch minimum drill tip, complying with SAE J78 and ASTM C 954. ER 5202 Compass International, ER 5280 by John Grabber & Assoc., or equal.

2.07 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.01 METAL FRAMING

A. Stud Framing:
1. Interior studs shall be designed and erected for a minimum 5 lbs. per sq. ft. lateral load.
2. Provide channel runner tracks for all studs at floors, ceilings or underside of structure above. Use slip track at connections to roof and floor structure.
3. Anchor runner tracks to concrete with power-driven fasteners, drilled-in anchors or cast-in place bolts. Power-driven fastening to concrete shall be a minimum of 3/16" diameter pins spaced at 32" o.c.; not allowed if less than 4" occurs from edge of concrete; use 3/16" diameter minimum drilled-in anchors when space is between 2" and 4" from edge. At bottom runners occurring at curbs, use 3/8" diameter cast-in place or 3/8" diameter drilled in bolts spaced a maximum of 48" o.c..
   a. Attachment of channel studs to concrete and masonry walls and columns shall be identical to runner tracks specified under preceding.
4. Non-bearing studs shall be attached to channel tracks with screws or rivets on both sides of track at top and bottom of studs or as required for slip track attachment. Other methods of attachments may be approved by the Architect and governing agencies. Maximum spacing of studs shall not exceed 24" o.c..
   a. Corners and intersections of partitions shall be formed with 3 studs. Studs adjoining masonry shall be secured thereto at 4 ft. o.c. increments. Metal blocking to receive work of other trades shall be screwed or riveted to the studs. Where forming fire rated partitions studs shall extend through ceiling construction.
   b. Studs which have been cut away to receive piping, conduits and equipment shall be reinforced by two (2) 3/4" standard steel furring channels in a manner to restore the stability of the respective weakened studs.

B. Backing Plates:
1. Provide all necessary backing plates and blocking in the metal framing to receive cabinet work, for rigidly bolting equipment and for special braces or framing, for the attachment and support of electrical outlets, plumbing and heating fixtures, and all other such equipment requiring support by the dry wall stud construction.

2. Backing plates of 16 gauge steel shall be attached to studs with a minimum of three (3) No. 10 FHMS per bearing or three (3) rivets per bearing using rivets of 3/16" shank diameter. Backing plates heavier than 16 gauge shall be installed as detailed.

C. Structural Strapping:

1. Where required by the Structural engineer, horizontal, vertical, and/or diagonal strapping may be installed in the following manner to ensure a smooth wall surface without bulges or distortions.
   a. Fasten shear panel to wall as required, sheet metal side to metal studs, gypsum board side facing out. Using a drywall knife or router, score the drywall and remove screws in the shear panels, then remove the gypsum where the strap is to be installed.
   b. Attach the strap as required, running the fasteners through the strap and sheet metal beneath into the stud framing.
   c. The strap and shear panel may be inspected at this time.
   d. Following any required inspection, the cut out section of gypsum board shall be filled and finished to provide a smooth finished surface.

3.02 METAL FRAMING WALLBOARD INSTALLATION

A. Install all steel-backed shear panels with the sheet metal side against the studs. Fasteners shall be driven flush with the panel surface and not countersunk. Locate fasteners 3/8-inch from the ends and edges of the sheathing.

B. Cutting and installing: Cut shear panels with a ferrous metal rotating cutting blade such as a "Skilsaw." Sand cut edges and ends where necessary to obtain neat joining when wallboard is erected. Score cutouts or small openings in wallboard in outline before knocking out or cut out with a saw: DO NOT PUNCH. Neatly scribe wallboard meeting projecting surfaces. Stagger joints in the board with abutting ends occurring over a support. To minimize end joints, use wallboard sheets of maximum practical lengths.

C. On ceilings and soffits: Boards shall be secured along perimeters of ceilings, around edges of openings and to all furring members. Panels shall be placed with the long dimensions at right angles to supports and secured with screws, spaced at 12" o.c. in the field, and staggered 9" o.c. on each board edge where two boards abut on the channel. Screws shall be located not less than 3/8" from board edges.

D. On walls: Over channel shaped metal studs spaced a maximum of 24" o.c., apply one full length layer of shear panels with long dimension of wallboard parallel to studs, with joints directly over studs; attach with 1-1/4" long No. 6 drywall screws. Screws shall be installed 8" o.c. around the perimeter and 12" o.c. on the intermediate studs.

3.03 OTHER TRIM

A. Install the metal trim in strict accordance with the recommendations of its manufacturer providing not less embedment and finishing than specified above for corner treatment.

3.04 MECHANICAL, PLUMBING AND ELECTRICAL WORK

A. Coordinate with Mechanical, Plumbing and Electrical trades in the location and installation of their work. Provide bridging, bracing and backing to support their work installed in or on drywall construction. Do not close both faces of walls until their installations have been inspected and approved.

3.05 CLEANING UP

A. In addition to other requirements for cleaning, use care to prevent scattering of gypsum wallboard and scraps, and to prevent tracking of gypsum and of joint compound onto floor surfaces.

B. Leave premises in a neat and broom-clean condition. Remove all masking tape and protective paper.

END OF SECTION – 09180