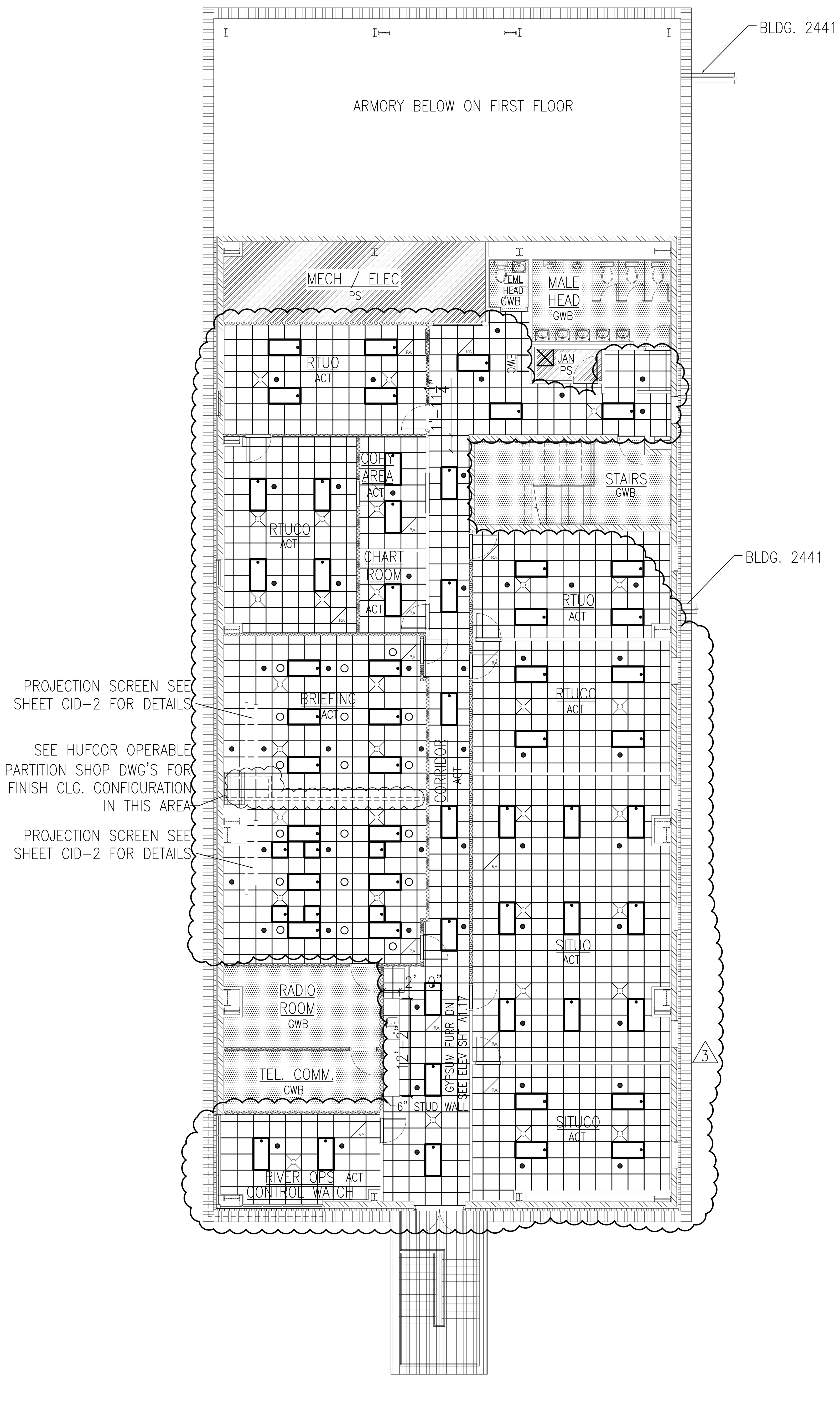


OPERATIONS BUILDING 2440 SECOND FLOOR REFLECTED CEILING PLAN

SCALE: 1/8"=1'-0"

5' 0 5' 10' 15' 20' 25'

PLAN NORTH

Design No. G527
June 13, 2009
Restrained Assembly Rating : 2 Hr.
Unrestrained Assembly Rating : 2 Hr.
Unrestrained Beam Ratings : 2, 3 and 4 Hr. (See Items 8A, 8B, 8D, 8E and 10)
Load Restricted for Canadian Applications : See Guide BXUV7

1. Beam : W10x21 minimum size.
2. Normal-Weight Concrete : 2-1/2 in. thick carbonate or siliceous aggregate, 152 +or- 3 pcf unit weight, 3500 psi compressive strength.
3. Metal Lath : 3/8 in. rib, 3.4 lb per sq yd expanded steel. Tied to each joist at every other rib and midway between joists at side lap with No. 18 SWG galv steel wire.
4. Welded Wire Fabric : 6 x 6 : 10/10 SWG.
5. Steel Joists : Type 8J2 min size, spaced 24 in. OC, welded to end supports.
6. Bridging : (Not shown.)1/2 in. diam steel bars welded to top and bottom chord of each joist.
7. Hanger Wire : No. 12 SWG galv steel wire, twist-tied to lower chord of joists. Located 48 in. OC.
8. Steel Framing Members* : Main runners nom 12 ft long, spaced 48 in. OC. Ends of main runners at walls to rest on wall angle, without attachment, with 1/2 to 3/4 in. end clearance. Primary cross tees (1-1/2 in. wide across flange) or cross channels, nom 4 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional primary cross tees or cross channels required at each gypsum board end joint and 8 in. from and on each side of gypsum board end joint.

ARMSTRONG WORLD INDUSTRIES INC : Type DFR-8000.

8A. Steel Framing Members* : (Not Shown) : As an alternate to Item 8. For use with 1/2 in. thick gypsum board only. Main runners nom 12 ft long, spaced 48 in. OC. Cross channels, 4 ft. long, installed perpendicular to main runners and spaced 24 in. OC. Additional cross channels required 8 in. from and on each side of gypsum board end joints, and 8 in. from each side of light fixtures. Cross tees, 4 ft long installed perpendicular to main runners to support the 4 ft sides of light fixtures. J-shaped metal trim molding, installed at perimeter of light fixtures to cover and support the exposed gypsum board edges.

CHICAGO METALLIC CORP : Types 630, 650, 650C, 670, 670C. When Type 630 Steel Framing Members or Types 654C or 674C cross tees are used, assembly and beam ratings are limited to 2 hr.

8B. Steel Framing Members* : (Not Shown) : As an alternate to Items 8 and 8A. Main runners nom 12 ft long, spaced 48 in. OC. Cross tees, nom 48 in. long installed perpendicular to main runners and spaced 24 in. OC. Additional cross tees located 8 in. from and on each side of gypsum board end joints and 8 in. from each side of light fixtures.

CHICAGO METALLIC CORP : Types 650, 650C, 670, 670C. When Type 650, 650C, 670 or 670C steel framing members are used, the maximum Unrestrained Beam Rating is 3 hr. When Types 654C or 674C cross tees are used, assembly and beam ratings are limited to 2 hr.

8C. Steel Framing Members* : As an alternative to 8, 8A and 8B. Main runners, cross tees, cross channels and wall angle as listed below:
a. Main Runners : Nom 10 or 12 ft. long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft. OC.
b. Cross Tees : Nom 4 ft. long, 1-1/2 in. wide face or 15/16 in. wide face installed at sides of light fixtures, installed perpendicular to the main runners, spaced 24 in. OC. When Batts and Blankets* (Item 12) are used, cross tees spaced 16 in. OC. Additional cross tees or cross channels used at 8 in. from each side of butted gypsum board end joints. The cross tees or cross channels may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.
c. Cross Channels : Nom 4 ft. long, installed perpendicular to main runners, spaced 24 in. OC. When Batts and Blankets* (Item 12) are used, cross channels spaced 16 in. OC.
d. Wall Angle or Channel : Painted or galv steel angle with 1 in. legs or channel with 1 in. legs, 1-9/16 in. deep attached to walls at perimeter of ceiling with fasteners 16 in. OC. To support steel framing member ends and for screw-attachment of the gypsum board.

CGC INC : Type DGL or RX.
USG INTERIORS INC : Type DGL or RX.

8D. Alternate Steel Framing Members* : (Not Shown) : As an alternate to Items 8, 8A, 8B and 8C. For use in corridors or rooms having a maximum width dimension of 14 ft. Steel framing members consist of grid runners, locking angle wall molding and hanger bars. Locking angle wall molding secured to walls with steel nails or screws spaced max 24 in. OC. Slots of locking angle wall molding parallel with hanger bars to be aligned with tabbed cutouts in bottom edge of hanger bars. Hanger bars spaced max 50 in. OC and suspended with No. 12 AWG steel hanger wires spaced max 48 in. OC. Adjoining lengths of hanger bar to overlap 12 in. and to be secured together and suspended by a shared hanger wire. A min clearance of 1/4 in. shall be maintained between the ends of the hanger bars and the walls. Grid runners cut-to-length and installed perpendicular to hanger bars and spaced max 24 in. OC with additional grid runners installed 8 in. OC at gypsum board end joints. Grid runners parallel with walls to be spaced max 16 in. from wall. Ends of grid runners to rest on and engage slots of locking angle wall molding with a clearance of 3/8 in. to 1/2 in. maintained between each end of the grid runner and the wall. Bulb of grid runner to be captured by tabbed cutouts in bottom edge of hanger bars.

ARMSTRONG WORLD INDUSTRIES INC : Type DFR-8000-SS. When Type DFR-8000-SS Steel Framing Members are used, assembly and beam ratings are limited to 2 hr.

8E. Alternate Steel Framing Members* : (Not Shown) : As an alternate to Items 8, 8A, 8B, 8C and 8D. Main runners nom 12 ft long, spaced 72 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.

ARMSTRONG WORLD INDUSTRIES INC : Type DFR-8000. When Type DFR-8000 Steel Framing Members with 6 ft cross tees are used, assembly and beam ratings are limited to 2 hr.

9. Wall Molding : (Not Shown) : 25 MSG steel channel, 1-1/2 in. deep with 3/4 in. lower leg and 1/4 in. tap leg, nailed to walls along perimeter of ceiling. Gypsum board placed under wall molding lower leg and screw attached 12 in. OC.

10. Gypsum Board* : 1/2 or 5/8 in. thick, 4 ft wide, installed with long dimension perpendicular to cross tees with side joints centered along main runners, and end joints centered below cross tees. Gypsum board fastened to framing members with 1-1/4 in. long gypsum board screws spaced a max 12 in. OC in a 6-12-12-12-6 pattern along cross-tees and a max 24 in. OC along each main runner. At end joints, screws spaced a max 8 in. OC in a 4-8-8-8-8-4 pattern along cross-tee. Screws along sides and ends of boards spaced 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC. Joints to be covered with paper tape and joint compound.

When alternate Steel Framing Members* (Item 8A) are used, gypsum board installed with long dimension (side joints) perpendicular to the cross channels and 4 ft cross tees, and with the side joints centered along the main runners. Gypsum board fastened to cross channels with gypsum board screws located 1/2 in. from butted end joints, with one screw located at the midspan of the cross channel, one screw located 12 in. from and on each side of the channel mid span, and one screw located 2-3/4 in. from each side joint. End joints of the sheets shall be staggered as described above. Joints to be covered with paper tape and joint compound.

When the alternate Steel Framing Members* (Item 8B) are used, gypsum board installed with long dimension perpendicular to cross tees with side joints centered along the main runners and end joints centered along cross tees. Fastened to cross tees with five gypsum board screws with one screw located at the mid span of the cross tee, one screw located 12 in. from and on each side of the cross tee midspan, and one screw located 1-1/2 in. from each gypsum board side joint. Except at gypsum board end joints, gypsum board screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum boards screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with gypsum board screws 1/2 in. from side joints, midway between intersections with cross tees (24 in. OC). End joints of adjacent sheets shall be staggered as described above. Joints to be covered with joint tape and joint compound.

When alternate Steel Framing Members* (Item 8D) are used, gypsum board sheets installed with long dimension (side joints) perpendicular to the grid runners with the end joints staggered min 4 ft and centered between grid runners which are spaced 8 in. OC. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide by 48 in. long pieces of gypsum board are to be laid atop the grid runner flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the grid runners at opposite corners of the backer strip to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to grid runners with drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. Joints to be covered with paper tape and joint compound.

When alternate Steel Framing Members* (Item 8E) are used, gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. Joints to be covered with paper tape and joint compound.

Wallboard Thkns. In.	Restrained Assembly Rating, Hr.	Unrestrained Assembly Rating, Hr.	Unrestrained Beam Rating, Hr.
1/2	2	2	3
5/8	2	2	4

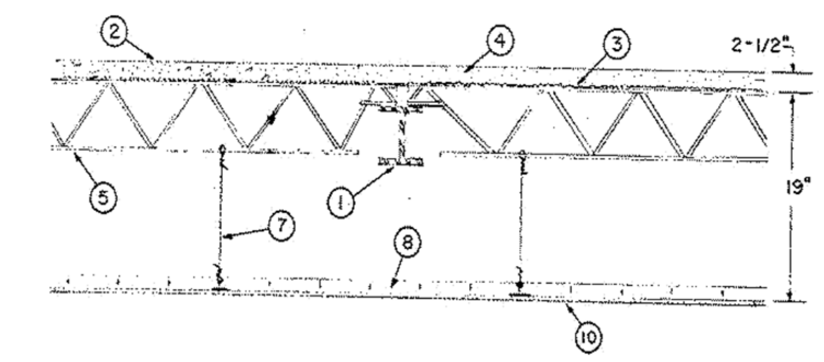
AMERICAN GYPSUM CO : Types AG-C.
CERTAINTEED GYPSUM INC : Type FRPC, ProRoc Type C.
CERTAINTEED GYPSUM CANADA INC : ProRoc Type C.
CANADIAN GYPSUM COMPANY : Types C, IP-X2, IPC-AR.
GEORGIA-PACIFIC GYPSUM L L C : Type 5.
LAFARGE NORTH AMERICA INC : Types LGFC-C, LGFC-C/A.
NATIONAL GYPSUM CO : Types FSK-C, FSW-C.
PABCO BUILDING PRODUCTS L L C, DBA.
PABCO GYPSUM : Types C, PG-C.
TEMPLE-INLAND FOREST PRODUCTS CORP : Type TG-C.
UNITED STATES GYPSUM CO : Types C, IP-X2, IPC-AR.
USG MEXICO S A DE C V : Types C, IP-X2, IPC-AR.

10A. Gypsum Board* : For use when Batts and Blankets* (Item 12) and Steel Framing Members* (Item 8C) are used - 5/8 in. thick, 4 ft wide; installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC. CANADIAN GYPSUM COMPANY - Types C, IP-X2, IPC-AR.

CANADIAN GYPSUM COMPANY : Types C, IP-X2, IPC-AR.
UNITED STATES GYPSUM CO : Types C, IP-X2, IPC-AR.
USG MEXICO S A DE C V : Types C, IP-X2, IPC-AR.

11. Screw, Gypsum Board : (Not shown) - No. 6 Phillips-type, Type S self-drilling and self-tapping, 1-1/4 in. long.

12. Batts and Blankets* : (Optional, Not Shown) - When used Ratings are limited to 1 Hr. - For use with Steel Framing Members* (specifically Item 8C) and Gypsum Board* (specifically Item 10A) - Any thickness mineral wool or glass fiber insulation bearing the UL Classification Marking for Surface Burning Characteristics, having a flame spread value of 25 or less and a smoke spread value of 50 or less. Insulation fitted in the concealed space, draped over steel framing members/gypsum board ceiling membrane.
*Bearing the UL Classification Mark



FINISH LEGEND:

ACT ACOUSTICAL CEILING TILE
CONC SEALED CONCRETE
CPTT-1 CARPET TILE TYPE 1
CPTT-2 CARPET TILE TYPE 2
EP EPOXY PAINT
GWB GYPSUM WALL BOARD
IRWT IMPACT RESISTANT WALL TREATMENT
MPI MASTER PAINTERS INSTITUTE (MPI) SYSTEM EXT 5. 1D-G5
MS METAL SOFFIT
P PAINT
PS PAINTED STRUCTURE
PT PORCELAIN TILE
QVT QUARTZ VINYL TILE
RB RUBBER BASE
RT RUBBER STAIR TREADS
FP FIREPROOFING
SPRINKLER HEAD
2x4 LIGHT
MECHANICAL DIFFUSER
MECHANICAL RETURN AIR GRILLE
RECESSED LIGHT

RECORD DRAWING LETTER DATED - 5-27-10

SYM	DESCRIPTION	DATE	APPR
3	AS-BUILT CONDITIONS SHOWN	3-12-10	RW
	REVISED FOR FINAL	12-7-09	RW
	REVISED AS PER URS COMMENTS 9 OCTOBER 2009	11-6-09	RW

NAVFAC

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SEPTEMBER 4, 2009

DES: R. WILTSE DRW: J. TIFFANY
REVIEWED BY: R. WILTSE
PM/DM: T. ARTRIP
CHIEF ENG/ARCH: P. DAMMON

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
IPT GULF COAST NAVAL AIR STATION JACKSONVILLE
JOHN C. STENNIS SPACE CENTER MISSISSIPPI

SOF RIVERINE AND COMBATANT CRAFT OPERATIONS FACILITY - PRE-FINAL

OPERATIONS BLDG. 2440 2ND FLOOR REFLECTED CEILING PLAN

CODE ID. NO. N4412 SIZE D
SCALE: AS SHOWN
MAXIMO NO. #####
STA. PROJ. NO. P-210
WORK ORDER NO. 510247
CONSTR. CONTR. NO. N62467-05-D-0096
NAVFAC DRAWING NO. 15026688
SHEET 41 OF 132
A1.11

ROBERT LEE WILTSE REG. NO. 2738 STATE OF LOUISIANA REGISTERED ARCHITECT
EMMETT G. DAMMON LICENSED PROFESSIONAL ENGINEER 9652 STATE OF MISSISSIPPI

DRAWFORM REVISION: 01 JAN 2009

REVDATE: