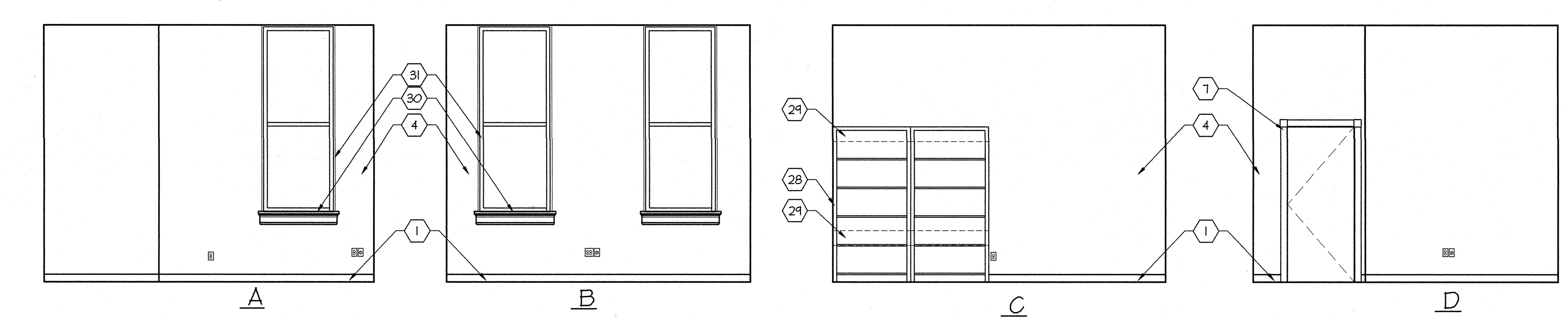
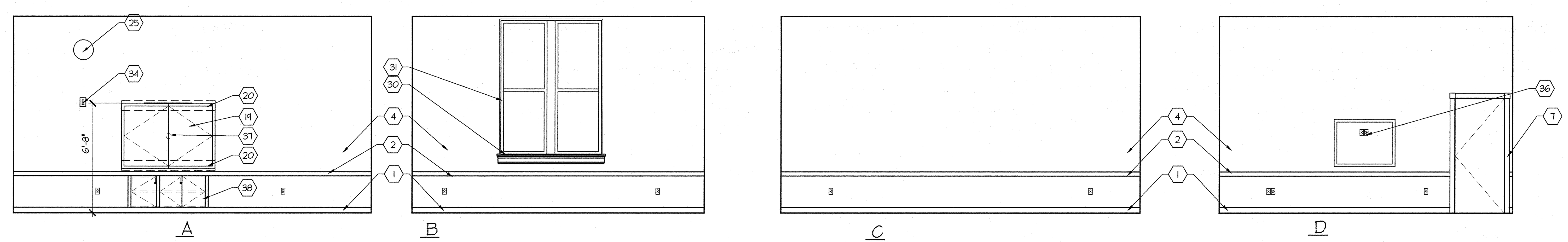


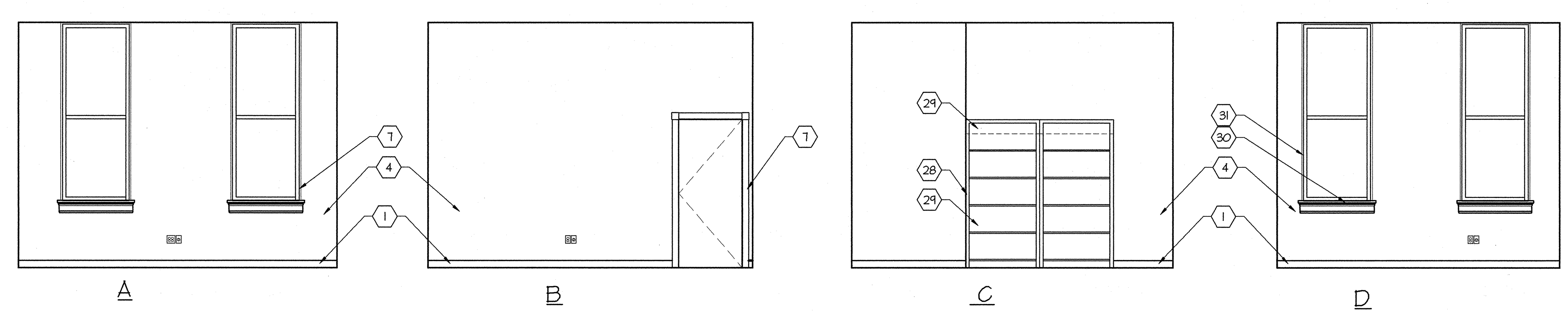
E1 SECOND. ED. CHAIR RM. #205
1/4"=1'-0"

AE404-E1-48



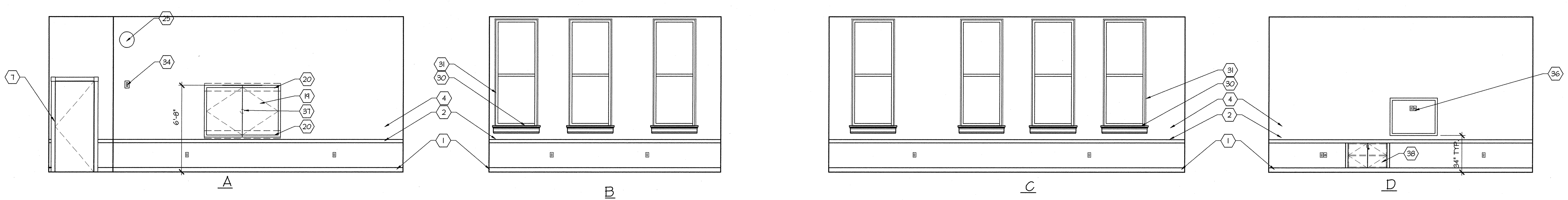
D1 DIST. LEARNING GRAD. SEMINAR RM. # 304
1/4"=1'-0"

AE404-D1-48



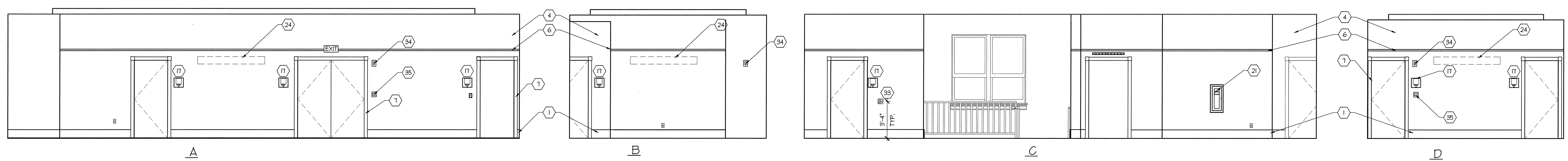
C1 ASSOC . DEAN RM. #219
1/4"=1'-0"

AE404-C1-48



B1 DIST. LEARNING GRAD. SEMINAR RM. # 305
1/4"=1'-0"

AE404-B1-48



A1 RECEPT./WATING RM. #222
1/4"=1'-0"

AE404-A1-48

INTERIOR KEY NOTES

1. BASE - SEE FINISH SCHEDULE AF101
2. 3" CHAIR RAIL - SEE A1/AF101 FOR PROFILE INFORMATION.
3. BUILDING DIRECTORY. WOOD BLOCKING REQUIRED.
4. PAINTED GYPSUM BOARD - SEE FINISH SCHEDULE.
5. LIGHT FIXTURE - SEE ELECTRICAL DWGS.
6. 1 1/2" PICTURE RAIL. SEE B1/AF101
7. DOOR /WINDOW CASING - SEE B3/AF101 FOR PROFILE INFORMATION.
8. WALL FINISH - SEE FINISH SCHEDULE.
9. NOT USED
10. 3 $\frac{1}{4}$" BASE - SEE FINISH SCHEDULE FOR PROFILE INFORMATION.
11. COUNTERTOP WITH 4" BACKSPLASH. SEE D4/AE503
12. BASE CABINET.
13. WALL CABINET. 12" DEEP
14. REFRIGERATOR.
15. PAINTED COUNTERTOP SUPPORT, COLOR BY ARCHITECT. SEE DETAIL D4/AE503.
16. LAMINATE END PANEL - FINISHED BOTH SIDES.
17. ADA SIGNAGE - SEE DETAIL D3/AF101 & AE601 FOR SCHEDULE
18. CEILING MOUNTED PROJECTION SCREEN
19. WALL MOUNTED VISUAL DISPLAY CONFERENCE UNIT - SEE 10101. (NIC)
20. WOOD BLOCKING FOR DISPLAY BOARD - SEE MFG. REQUIREMENTS.
21. SEMI-RECESSED FIRE EXTINGUISHER CABINET.
22. FUTURE SURVEILLANCE CAMERA. COORDINATE W/ ELECTRICAL FOR CONDUIT REQUIREMENTS.
23. WALL MOUNTED TEMPERATURE SENSOR @ 48" ABOVE F.F. - SEE ME103.
24. 2" X 8" BLOCKING FOR FUTURE ART.
25. SYSTEM CLOCK - COORD. WITH ELECTRICAL.
26. 4" RUBBER BASE (SEE FINISH SCHEDULE AF101
27. 12' X 4' WHITE MARKER BOARD.
28. 3'-6" X 7'-0" P-LAM CLAD BOOKSHELVES W/ ADJUSTABLE MELAMINE CLAD SHELVES (NIC)
29. 1 X 8 WOOD BLOCKING FOR BOOKSHELVES
30. WOOD WINDOW SILL & SKIRT. SEE E2,E3/AF101
31. CONTINUOUS RADIUSED GYPSUM BOARD EDGE.
32. ELECTRONIC SCROLLING MARQUEE. COORDINATE WITH ELECTRICAL DRAWINGS
33. AUTOMATIC DOOR OPENER EACH SIDE OF DOOR
34. FIRE ALARM HORN/STROBE LIGHT. SEE ELECTRICAL.
35. MANUAL FIRE ALARM STATION
36. RECEPTACLE & TV OUTLET FOR 52" DIAGONAL FLAT SCREEN MONITOR.
37. STUB OUT FOR FUTURE "SMARTBOARD"
38. LOCKABLE CONTROL CABINET.
39. TRACK LIGHTING. SEE ELECTRICAL.

GENERAL NOTES

1. ALL EXPOSED SURFACES ARE TO BE FINISHED.
2. SEE FINISH SCHEDULE FOR BASE INFORMATION.
3. ALL TOILET ACCESSORIES ARE TO BE MOUNTED ACCORDING TO ANSI A117.1 STANDARDS.
4. SEE FLOOR PLAN AND SHEET AE601 FOR DOOR AND WINDOW NOTES.

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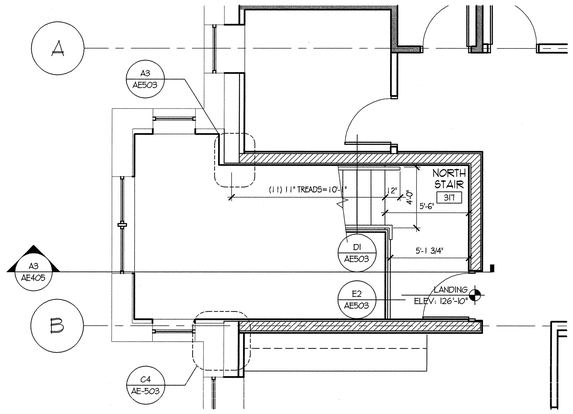
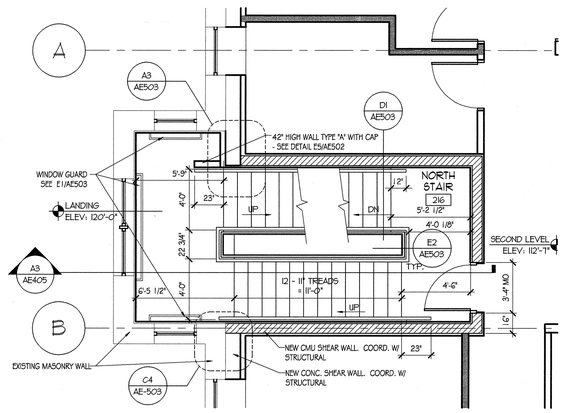
ARCHITECT PROJECT NO.: B04-012
DFCM PROJECT NO.: 03234730

INTERIOR ELEVATIONS

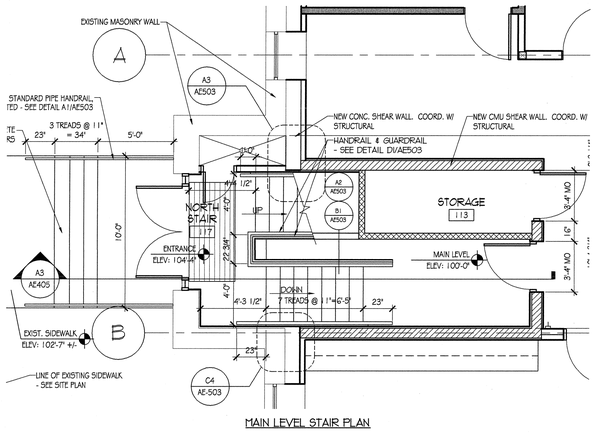
AE404



THIRD LEVEL STAIR PLAN



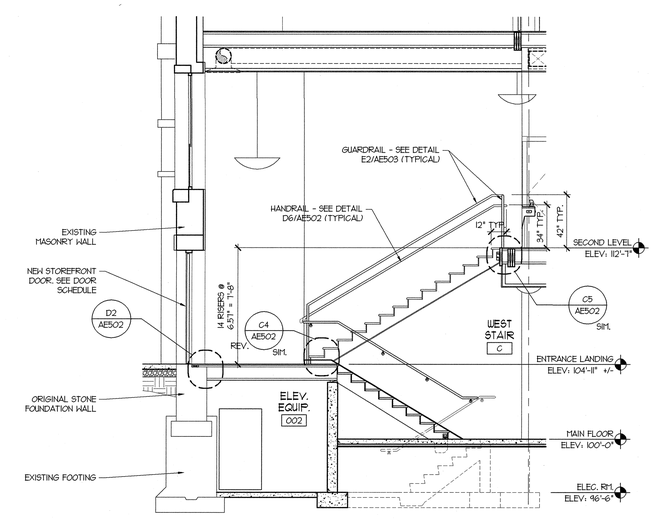
SECOND LEVEL STAIR PLAN



MAIN LEVEL STAIR PLAN

A1 ENLARGED NORTH STAIR PLAN

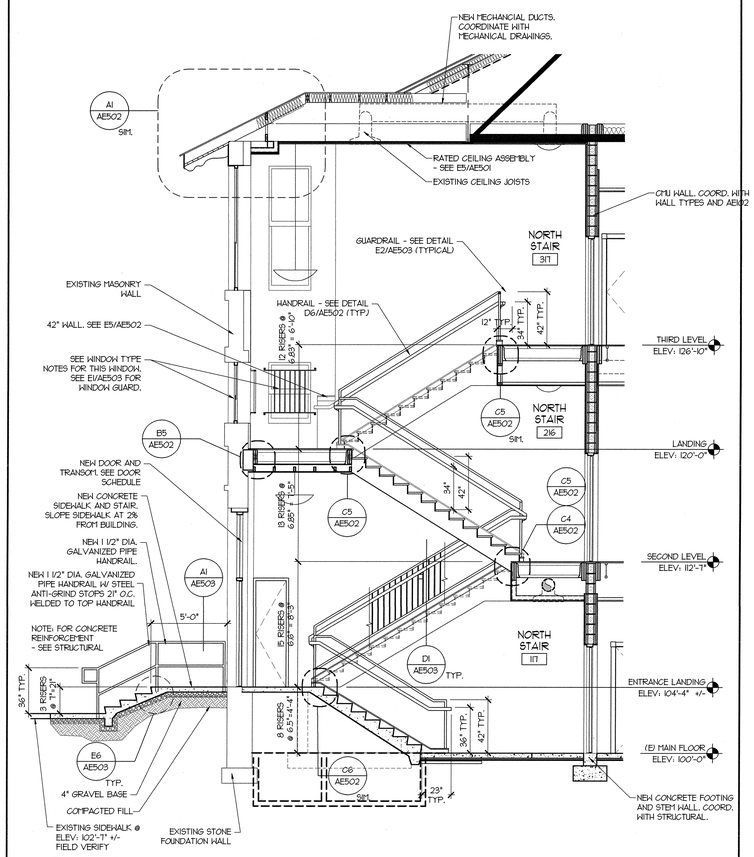
1/4" = 1'-0"



D3 STAIR SECTION - WEST

1/4" = 1'-0"

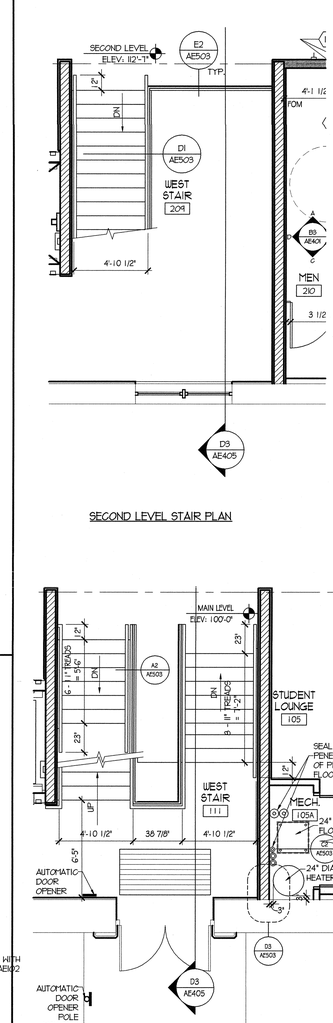
AE406-A1-48



A3 STAIR SECTION - NORTH

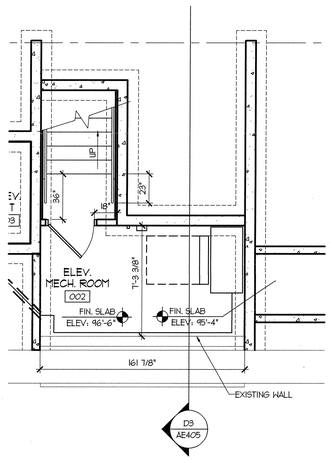
1/4" = 1'-0"

AE405-A1-48



SECOND LEVEL STAIR PLAN

MAIN LEVEL STAIR PLAN & MECHAINICAL ROOM

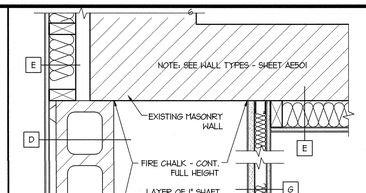


BASEMENT LEVEL STAIR & ELEVATOR
MECHANICAL ROOM

A5 STAIR SECTION - WEST

1/4" = 1'-0"

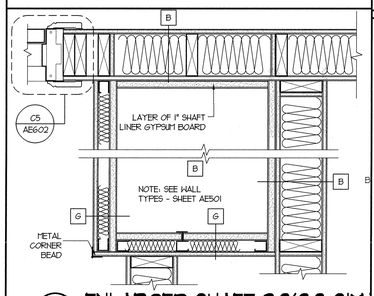
AE405-A1-48



E6 SHAFT 3.2 (2.2,3.1,2.1) SIM.

1-1/2"=1'-0"

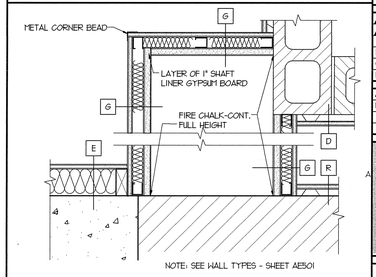
AE405-E6-08



B6 ENLARGED SHAFT 2.3(3.3 SIM.)

1-1/2"=1'-0"

AE405-B6-08



NOTE: SEE WALL TYPES - SHEET AE501

A6 ENLARGED SHAFT 2.4(3.4 SIM.)

1-1/2"=1'-0"

AE405-A6-08

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ARCHITECT PROJECT NO.: B04-012
DFCM PROJECT NO.: 03234730
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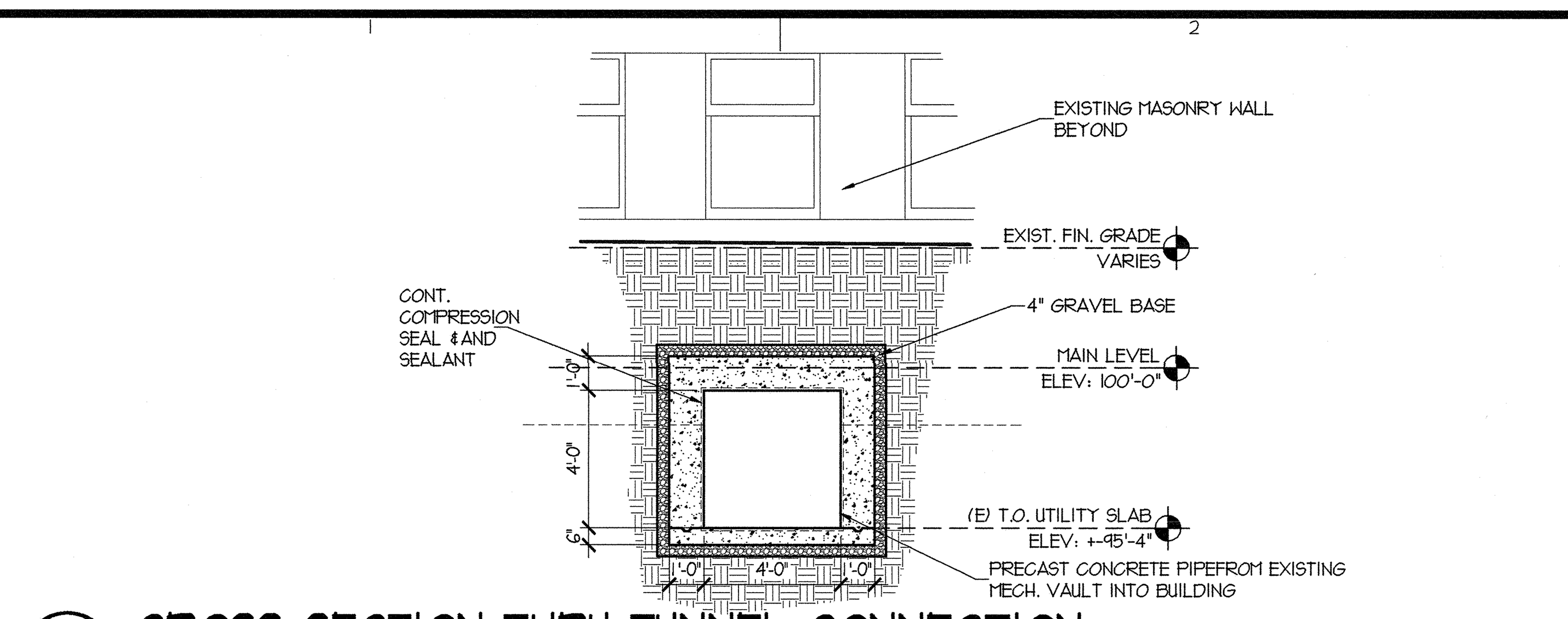
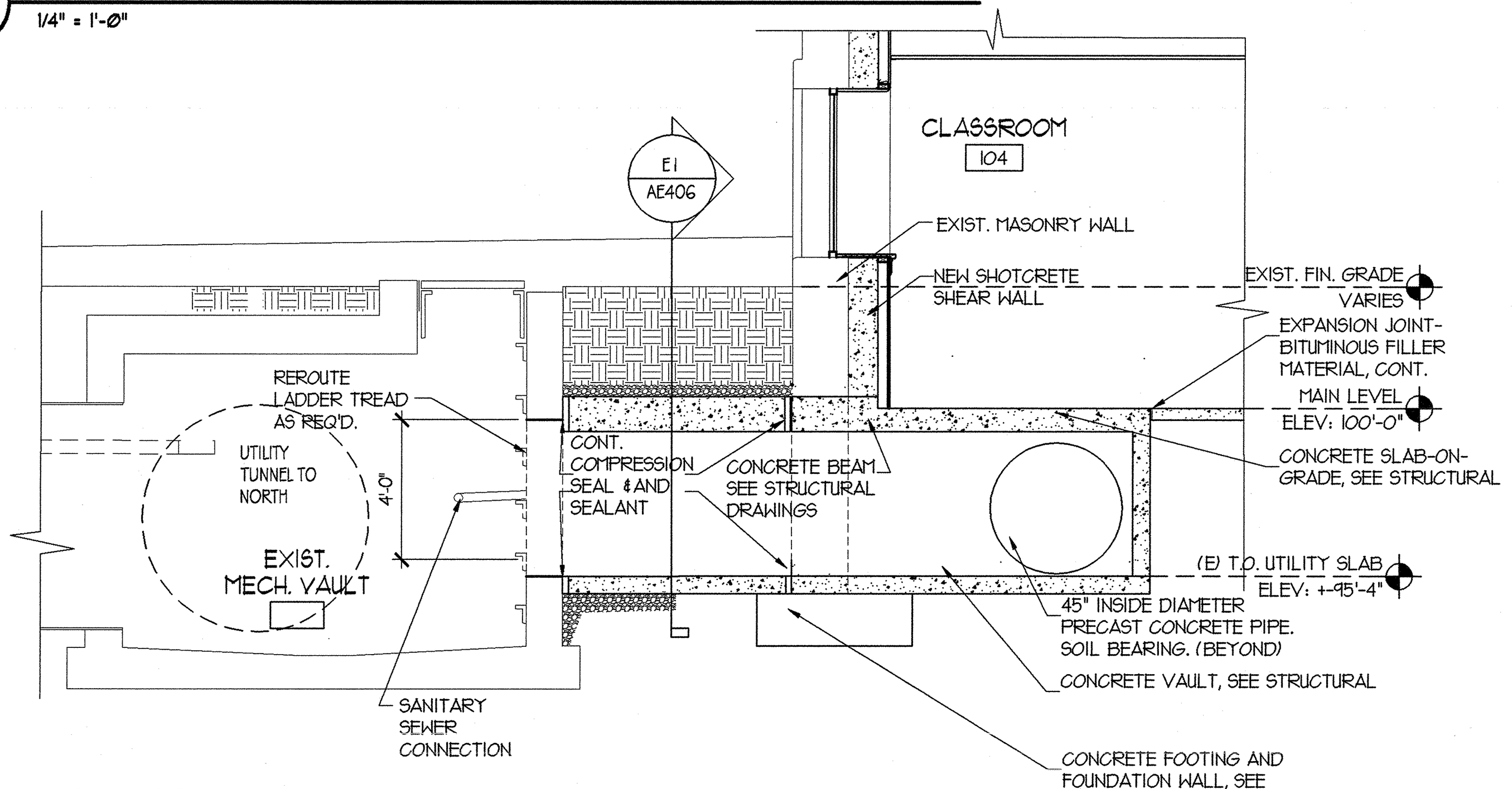
ENLARGED STAIR PLANS & STAIR SECTIONS

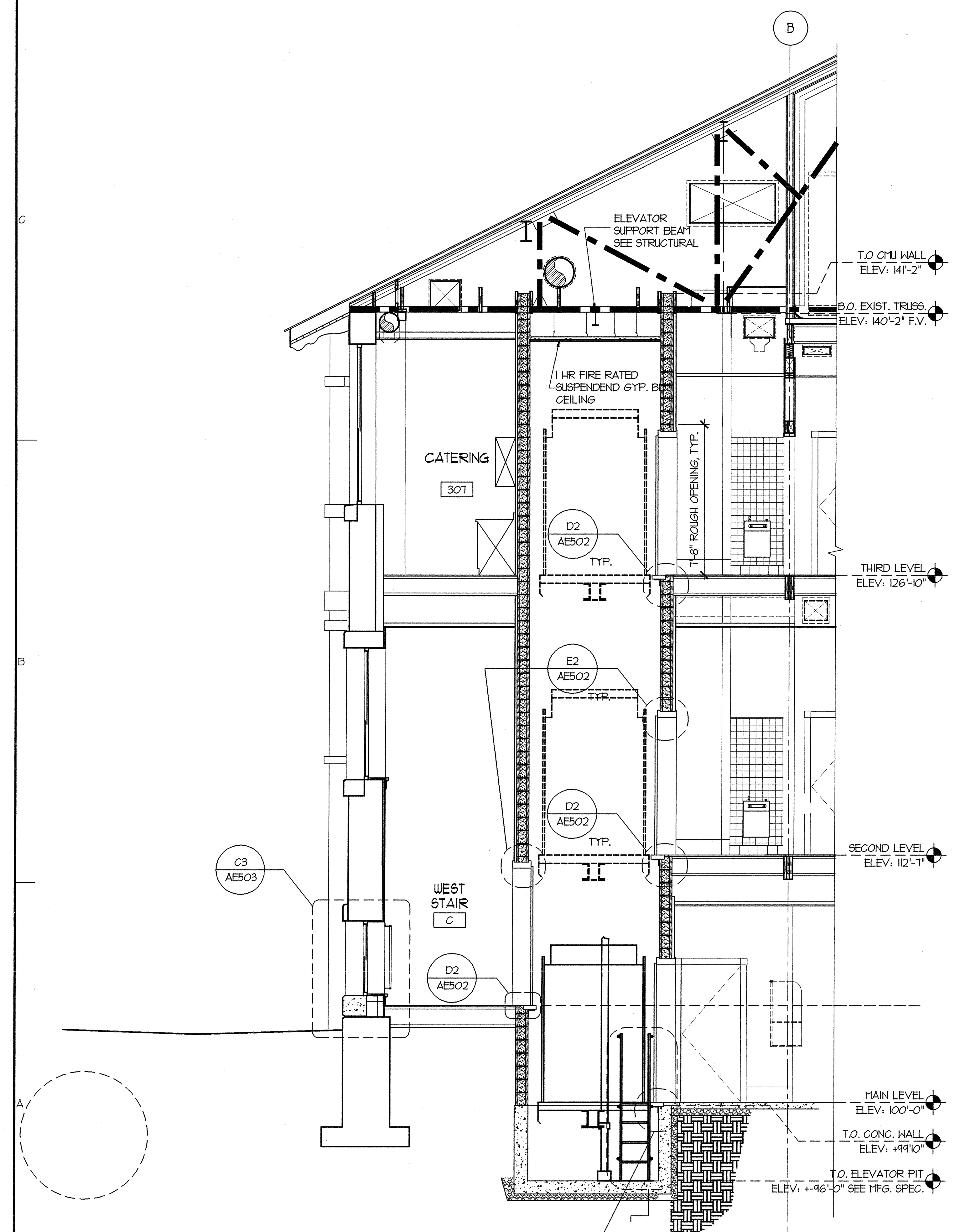
AE405



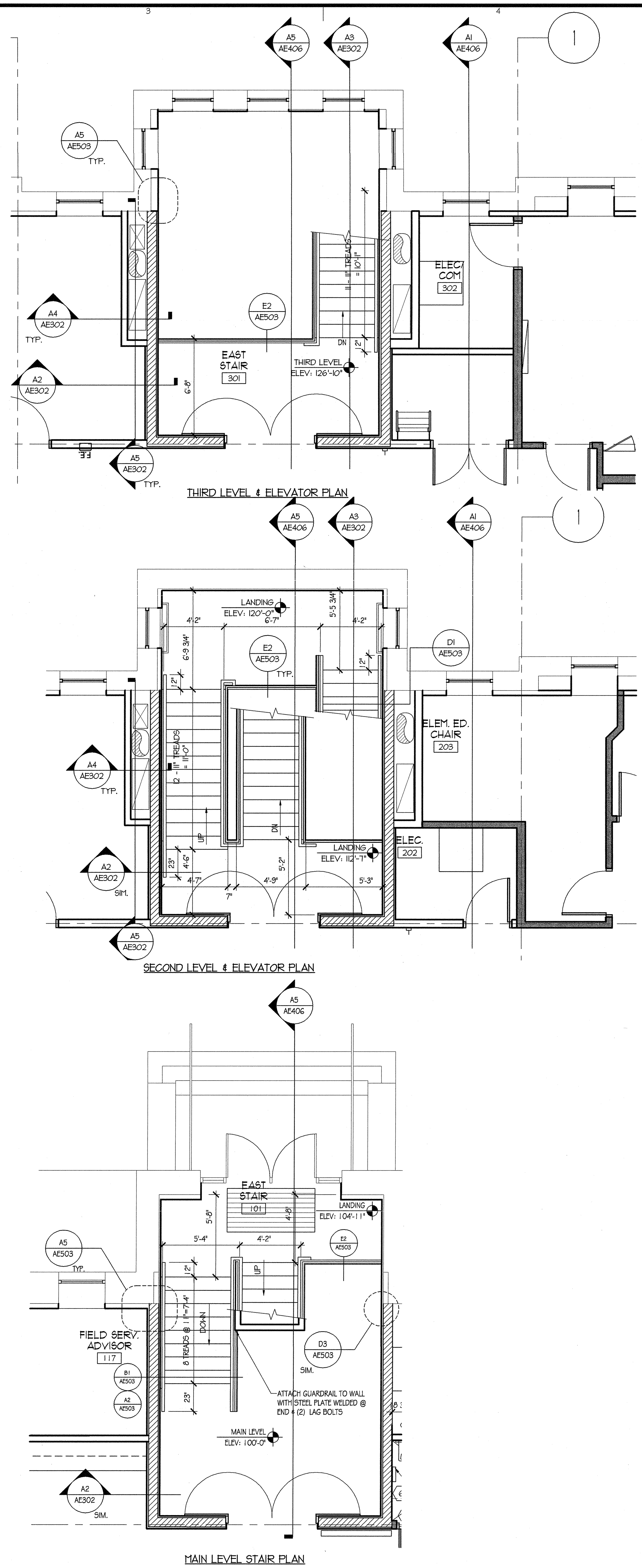
E1 CROSS-SECTION THRU TUNNEL CONNECTION
1/4" = 1'-0"



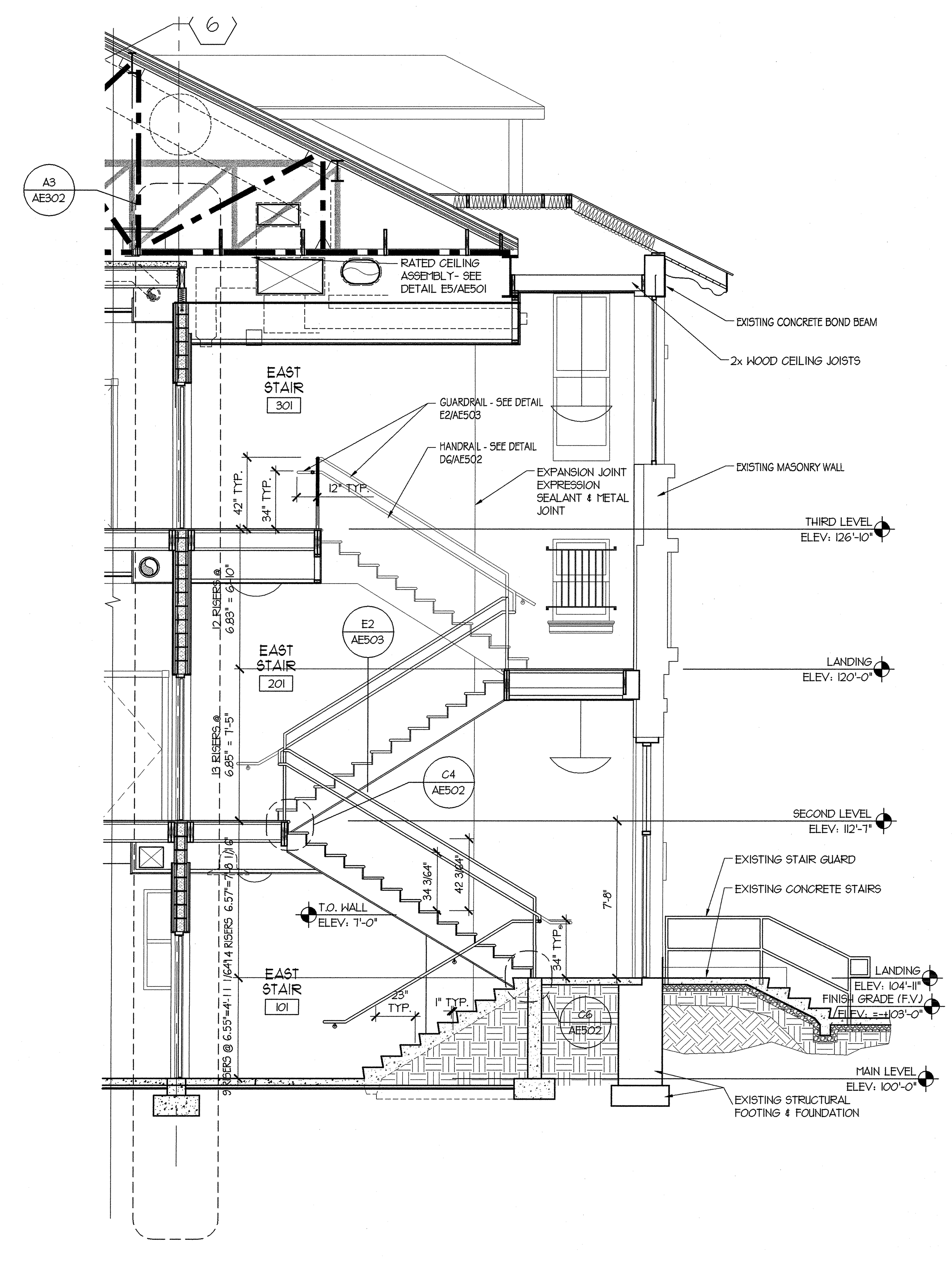
D1 PARTIAL SECTION THRU EXIST. MECH TUNNEL
1/4" = 1'-0"



A1 ELEVATOR SECTION
1/4" = 1'-0"



A3 ENLARGED EAST STAIR PLAN
1/4" = 1'-0"



A5 STAIR SECTION - EAST
1/4" = 1'-0"

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ARCHITECT PROJECT NO.: B04-012
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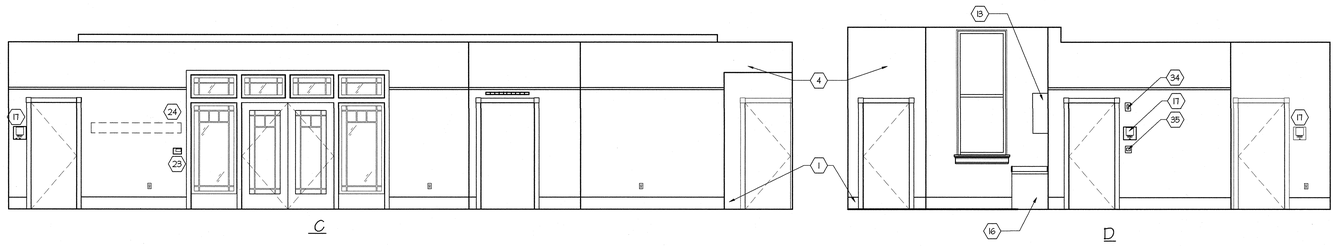
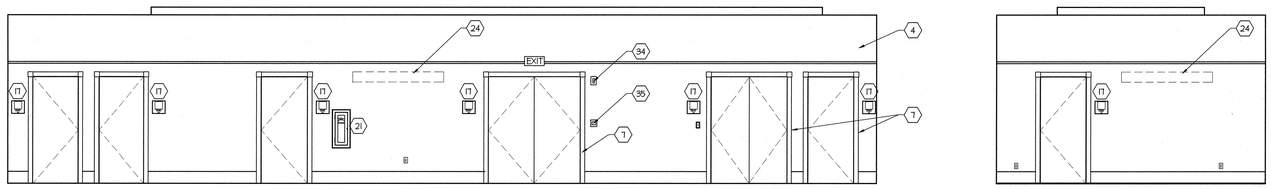
DTN

ENLARGED STAIR PLANS & STAIR SECTIONS

AE406

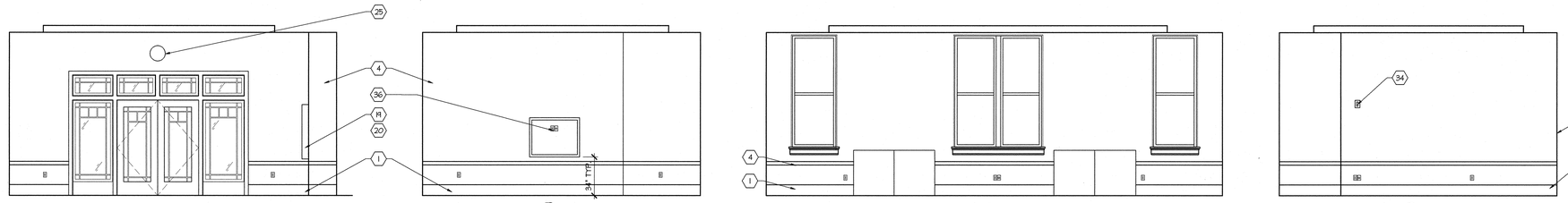




D1 RECEPT./WAITING RM. #319

1/4"=1'-0"

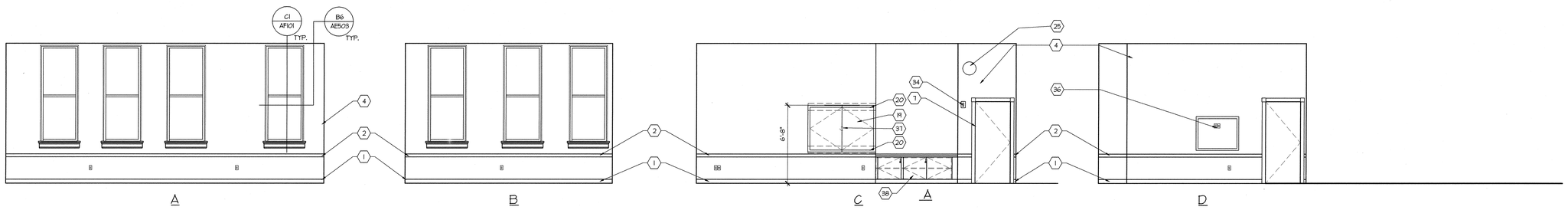
AE404A-D1-48



C1 DEAN'S CONF. & NCATE DOC. RM#306

1/4"=1'-0"

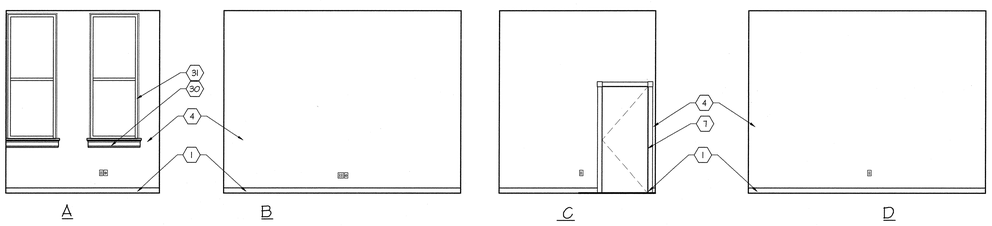
AE404A-C1-48



B1 DIST. LEARNING GRAD. SEMINAR RM. # 303

1/4"=1'-0"

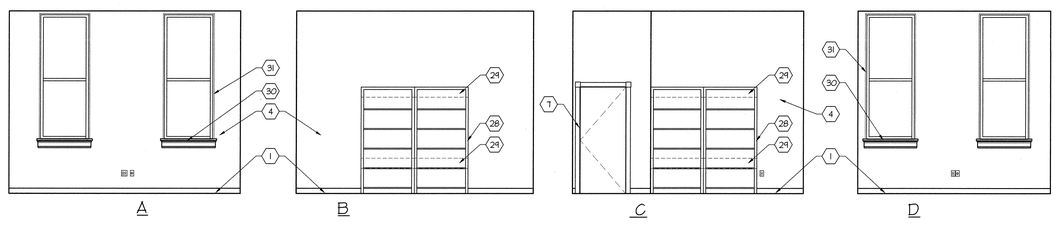
AE404A-B1-48



A1 GRAD. ADVISOR RM.#316

1/4"=1'-0"

AE404-A1-48



A4 GRAD. EDU. CHAIR RM.#315

1/4"=1'-0"

AE404-A4-48

INTERIOR KEY NOTES

1. BASE - SEE FINISH SCHEDULE AF101
2. 3" CHAIR RAIL - SEE A1/AF101 FOR PROFILE INFORMATION.
3. BUILDING DIRECTORY. WOOD BLOCKING REQUIRED.
4. PAINTED GYPSUM BOARD - SEE FINISH SCHEDULE.
5. LIGHT FIXTURE - SEE ELECTRICAL DWGS.
6. 1 1/2" PICTURE RAIL. SEE B1/AF101
7. DOOR /WINDOW CASING - SEE B3/AF101 FOR PROFILE INFORMATION.
8. WALL FINISH - SEE FINISH SCHEDULE.
9. NOT USED
10. 3 1/4" BASE - SEE FINISH SCHEDULE FOR PROFILE INFORMATION.
11. COUNTERTOP WITH 4" BACKSPLASH. SEE D4/AE503
12. BASE CABINET.
13. WALL CABINET, 12" DEEP
14. REFRIGERATOR.
15. PAINTED COUNTERTOP SUPPORT, COLOR BY ARCHITECT. SEE DETAIL D4/AE503.
16. LAMINATE END PANEL - FINISHED BOTH SIDES.
17. ADA SIGNAGE - SEE DETAIL D3/AF101 & AE601 FOR SCHEDULE
18. CEILING MOUNTED PROJECTION SCREEN
19. WALL MOUNTED VISUAL DISPLAY CONFERENCE UNIT - SEE 101/L (NIC)
20. WOOD BLOCKING FOR DISPLAY BOARD - SEE MFG. REQUIREMENTS.
21. SEMI-RECESSED FIRE EXTINGUISHER CABINET.
22. FUTURE SURVEILLANCE CAMERA. COORDINATE W/ ELECTRICAL FOR CONDUIT REQUIREMENTS.
23. WALL MOUNTED TEMPERATURE SENSOR @ 48" ABOVE F.F. - SEE ME103.
24. 2" X 8" BLOCKING FOR FUTURE ART.
25. SYSTEM CLOCK - COORD. WITH ELECTRICAL.
26. 4" RUBBER BASE (SEE FINISH SCHEDULE AF101
27. 12" X 4' WHITE MARKER BOARD.
28. 3'-6" X 7'-0" P-LAM CLAD BOOKSHELVES W/ ADJUSTABLE MELAMINE CLAD SHELVES (NIC)
29. 1 X 8 WOOD BLOCKING FOR BOOKSHELVES
30. WOOD WINDOW SILL & SKIRT. SEE E2/E3/AF101
31. CONTINUOUS RADIUSED GYPSUM BOARD EDGE.
32. ELECTRONIC SCROLLING MARQUEE. COORDINATE WITH ELECTRICAL DRAWINGS
33. AUTOMATIC DOOR OPENER EACH SIDE OF DOOR
34. FIRE ALARM HORN/STROBE LIGHT. SEE ELECTRICAL.
35. MANUAL FIRE ALARM STATION
36. RECEPTACLE & TV OUTLET FOR 52" DIAGONAL FLAT SCREEN MONITOR.
37. STUB OUT FOR FUTURE "SMARTBOARD"
38. LOCKABLE CONTROL CABINET.
39. TRACK LIGHTING. SEE ELECTRICAL.

GENERAL NOTES

1. ALL EXPOSED SURFACES ARE TO BE FINISHED.
2. SEE FINISH SCHEDULE FOR BASE INFORMATION.
3. ALL TOILET ACCESSORIES ARE TO BE MOUNTED ACCORDING TO ANSI A117.1 STANDARDS.
4. SEE FLOOR PLAN AND SHEET AE601 FOR DOOR AND WINDOW NOTES.

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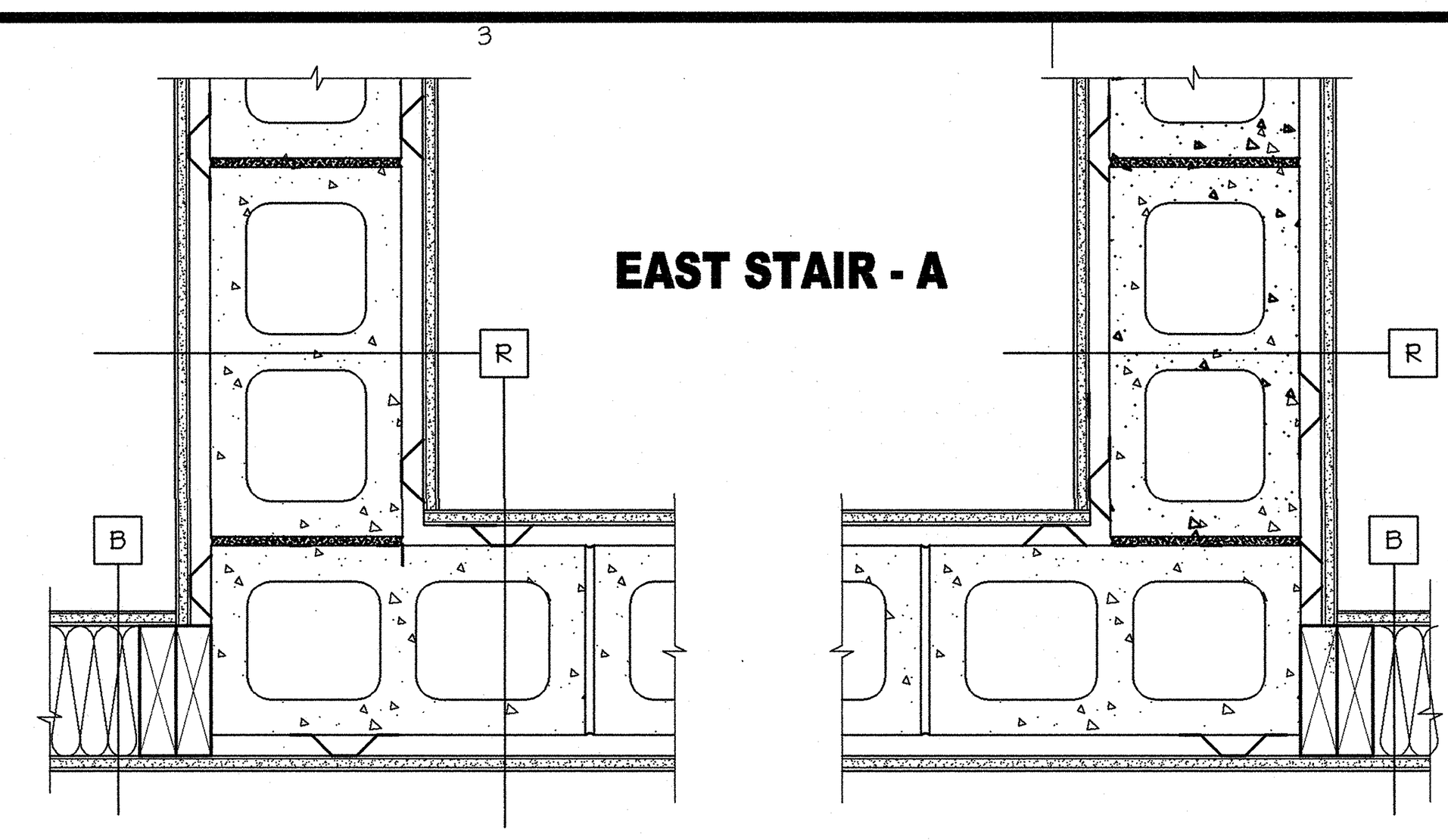
DFCM PROJECT NO.:	03234730

INTERIOR ELEVATIONS

AE407



SEE INDIVIDUAL WALL TYPES AS NOTED ON PLAN FOR SPECIFIC CALLOUTS, MATERIAL REFERENCES, AND ASSEMBLIES.

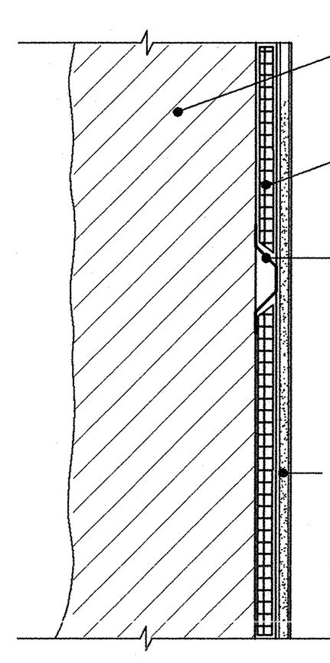
E3 FRAMING DETAIL
1 1/2" = 1'-0"

AE501-A1-08

GENERAL NOTES

1. SEE DETAILS E4 & E5/AE503 FOR WALL TO FLOOR/CLG. JOINT FOR SOUND WALLS. SOUND WALLS ARE ALL WALLS WITH SOUND BATT. INSULATION - SEE SHEET AE101.

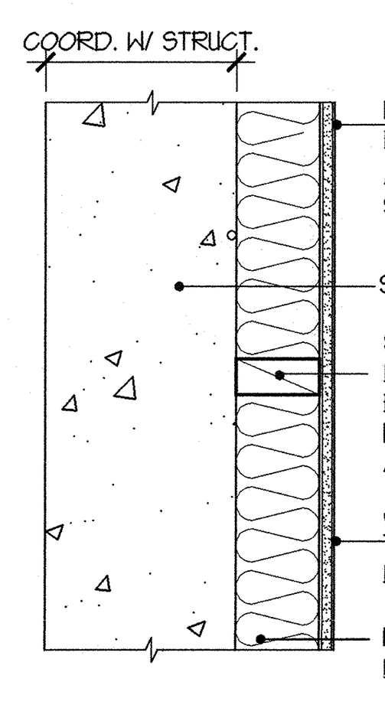
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: N/A **HEIGHT:** N/A



D1 WALL TYPE 'Q'
1 1/2" = 1'-0"

AE501-D1-08

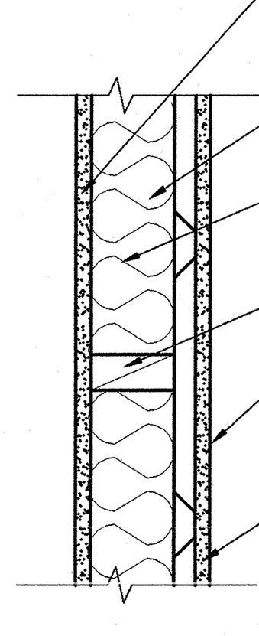
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: NA **HEIGHT:** VARIES



D2 WALL TYPE 'R'
1-1/2" =1'-0"

AE501-D2-08

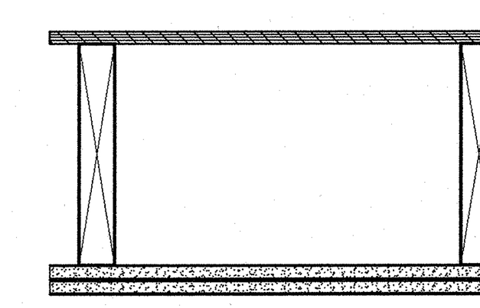
BEARING WALL **STC:** 50 TO 54 STC
FIRE RATING: 1-HR **SOUND TEST:** RAL TL77-138 **HEIGHT:**
FIRE TEST: GA FILE NO. WP 3230 BOTTOM OF FLOOR/ROOF STRUCTURE



D3 WALL TYPE 'S'
1 1/2" = 1'-0"

AE501-A1-08

FIRE RATING: 1 HR. **SOUND RATING:** 35 - 39 STC
FIRE TEST: GA FC 5406 **SOUND TEST:** EST.

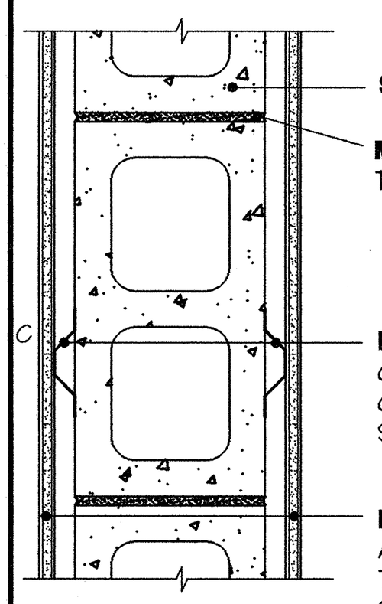


BASE LAYER 5/8" TYPE "X" GYPSUM WALLBOARD APPLIED AT RIGHT ANGLES TO 2x 10 WOOD JOISTS 24" O.C. WITH 1 1/4" TYPE "W" OR "S" DRYWALL SCREWS @ 24" O.C. **FACE** LAYER 5/8" TYPE "X" GYPSUM WALLBOARD OR GYPSUM VENEER BASE APPLIED AT RIGHT ANGLES TO JOISTS WITH 1 7/8" TYPE "S" DRYWALL SCREWS @ 12"O.C. AT JOINTS AND INTERMEDIATE JOISTS AND 1 1/2" TYPE "G" DRYWALL SCREWS @ 12" O.C. PLACED 2" BACK ON EITHER SIDE OF END JOINTS. JOINTS OFFSET 24" FROM BASE LAYER JOINTS. WOOD JOINTS SUPPORTING 1/2" PLYWOOD WITH EXTERIOR GLUE APPLIED AT RIGHT ANGLES TO JOINTS WITH 8D NAILS. **CEILING PROVIDES ONE HOUR FIRE RESISTANCE PROTECTION FOR WOOD FRAMING, INCLUDING TRUSSES.**

D6 FLOOR-CEILING
1-1/2" =1'-0"

AE501-E5-08

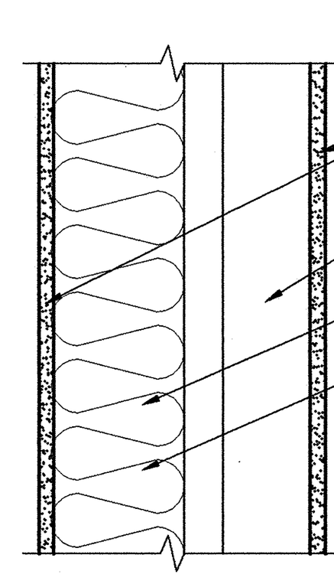
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: 3-HR **SOUND TEST:** N/A
FIRE TEST: UL 914 **HEIGHT:** UNDERSIDE OF TOPCHORD OF TRUSS



C1 WALL TYPE 'L'
1-1/2" =1'-0"

AE501-A1-08

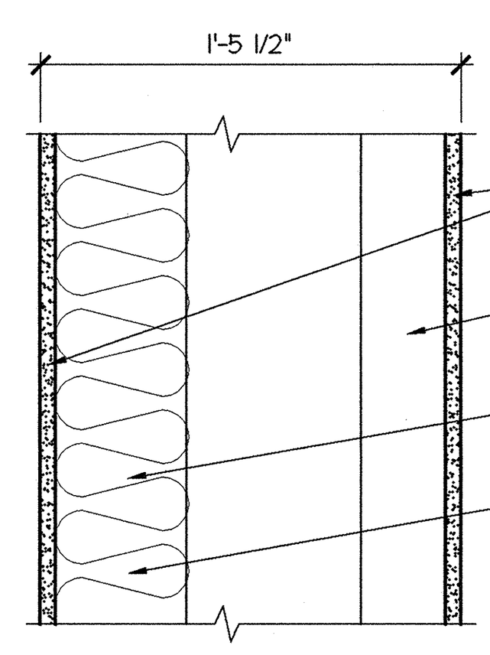
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
HEIGHT: FLOOR/ROOF STRUCTURE



C2 WALL TYPE 'M'
1 1/2" = 1'-0"

AE501-A1-08

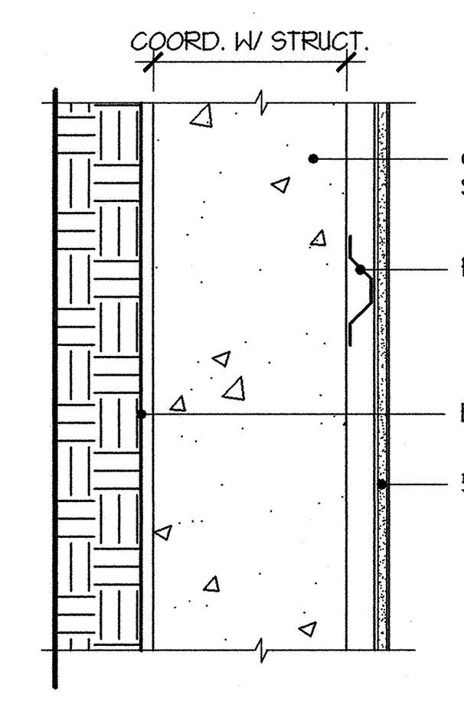
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: N/A **HEIGHT:** N/A
SEE NOTE 1



C3 WALL TYPE 'N'
1 1/2" = 1'-0"

AE501-A1-08

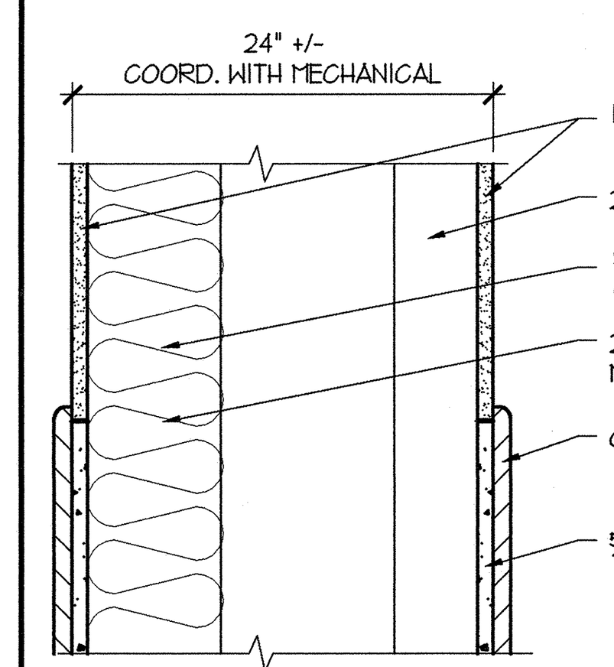
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: NA **HEIGHT:** VARIES



C4 WALL TYPE 'O'
1-1/2" =1'-0"

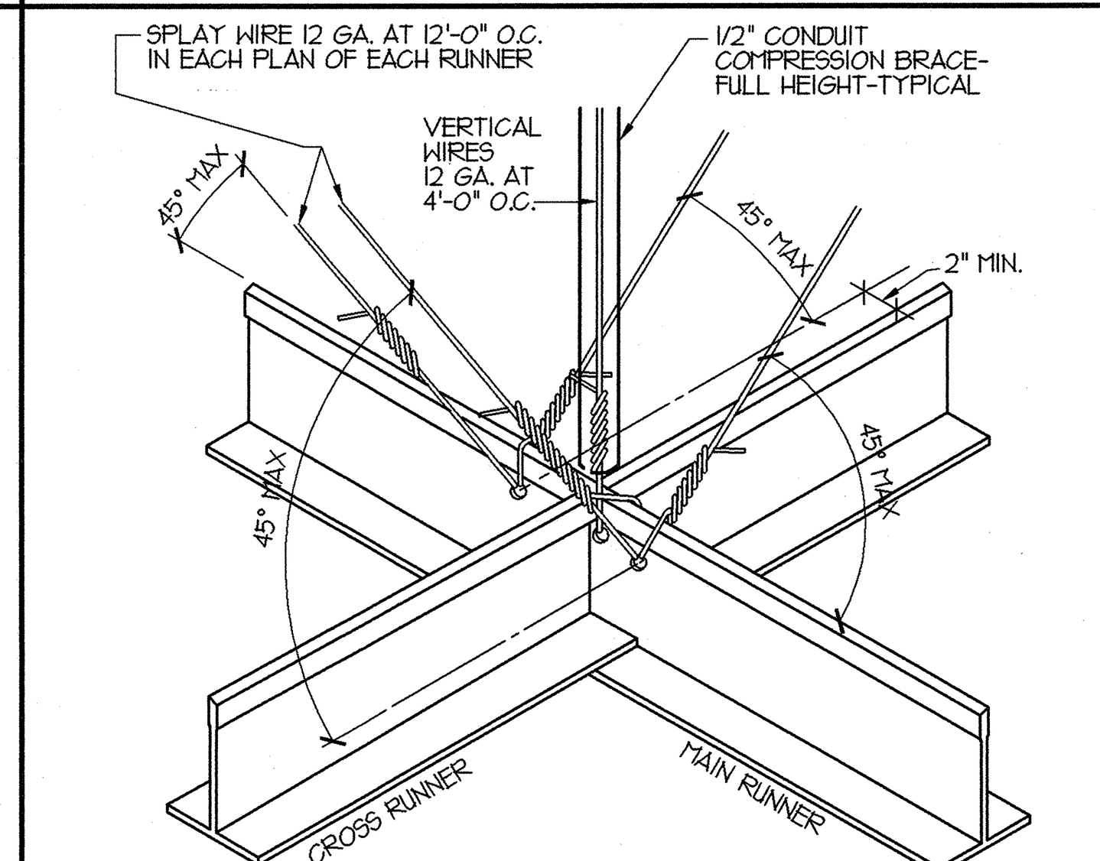
AE501-A1-08

NON-BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: N/A **HEIGHT:** N/A
SEE NOTE 1



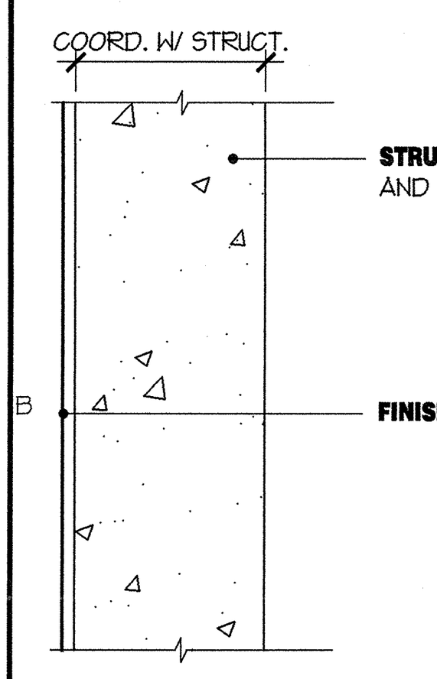
C5 WALL TYPE 'P'
1 1/2" = 1'-0"

AE501-A1-08



C6 SUSPENDED CEILING DETAIL
3/4"=1'-0"

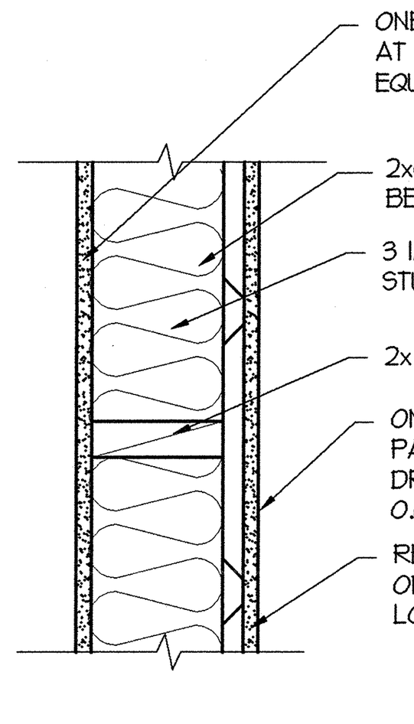
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: NA **HEIGHT:** VARIES



B1 WALL TYPE 'K'
1-1/2" =1'-0"

AE501-A1-08

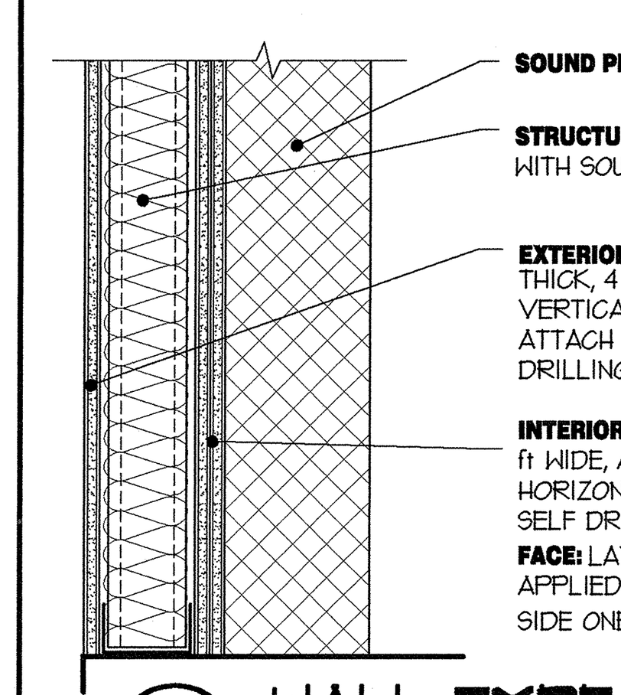
BEARING WALL **STC:** 50 TO 54 STC
FIRE RATING: 1-HR **SOUND TEST:** RAL TL77-138 **HEIGHT:**
FIRE TEST: GA FILE NO. WP 3230 BOTTOM OF FLOOR/ROOF STRUCTURE



B2 WALL TYPE 'J'
1 1/2" = 1'-0"

AE501-A1-08

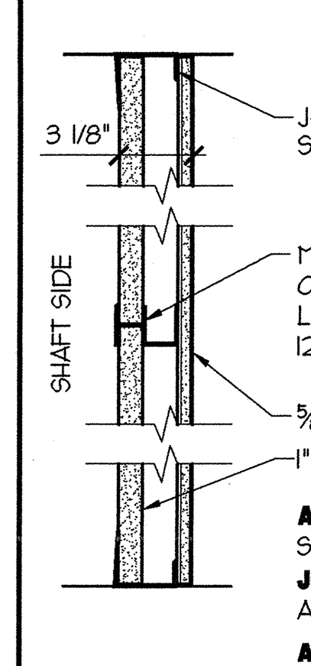
NON-BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: N/A **HEIGHT:** 8'-0"



B3 WALL TYPE 'H'
1-1/2" =1'-0"

AE501-A1-08

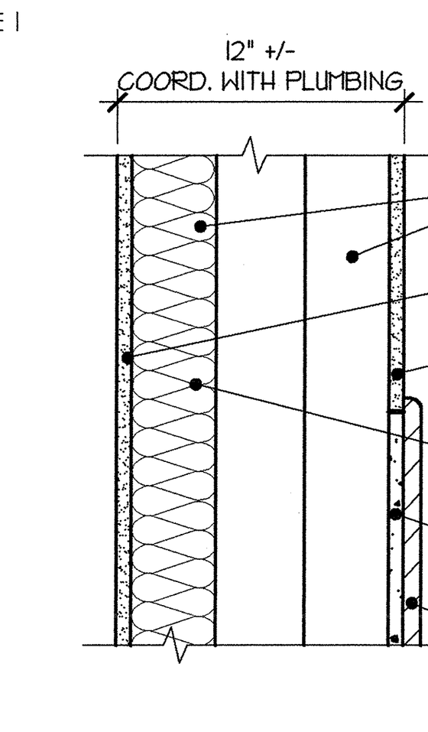
NON-BEARING WALL **SOUND RATING:** NA
FIRE RATING: 1-HR. **SOUND TEST:** NONE
FIRE TEST: UL U417 **HEIGHT:** TO STRUCTURE ABOVE



B4 WALL TYPE 'G' HORIZONTAL SECTION
1-1/2" =1'-0"

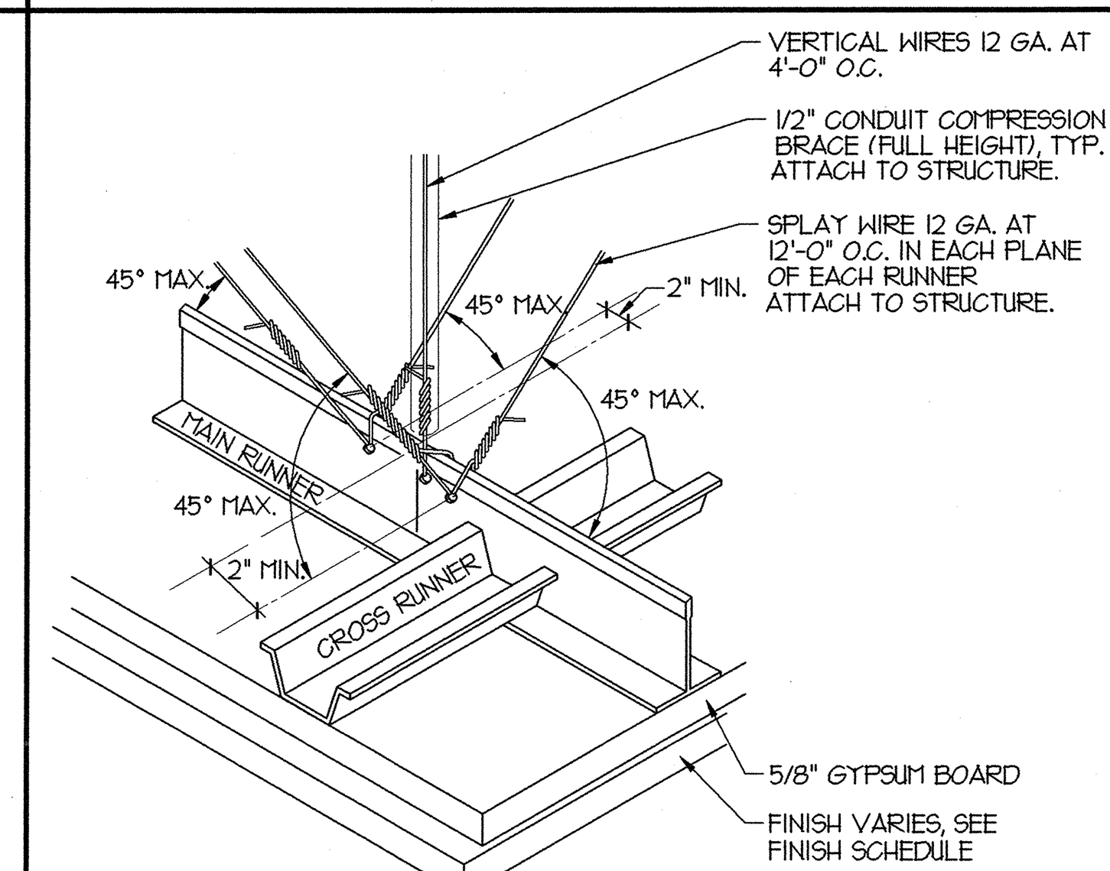
AE501-A1-08

NON-BEARING WALL **SOUND RATING:** N/A
FIRE RATING: **SOUND TEST:** N/A
FIRE TEST: NA **HEIGHT:** FLOOR DECK
SEE NOTE 1



B5 WALL TYPE 'F'
1 1/2" = 1'-0"

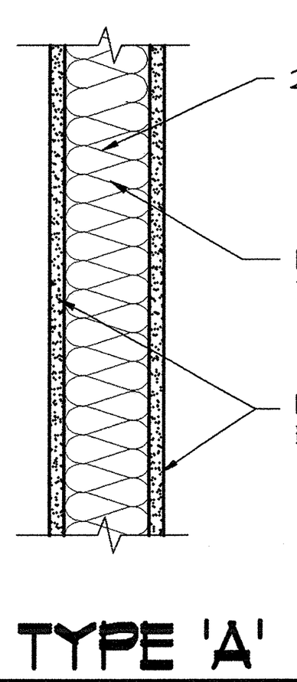
AE501-A1-08



B6 SEISMIC BRACING DETAIL
12"=1'-0"

AE501-B6-01

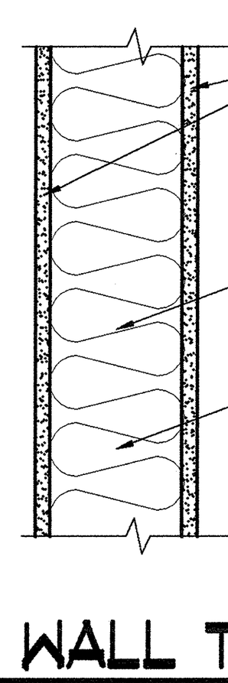
NON-BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: N/A **HEIGHT:** TO FLOOR/CLG. DECK
SEE NOTE 1



A1 WALL TYPE 'A'
1 1/2" = 1'-0"

AE501-A1-08

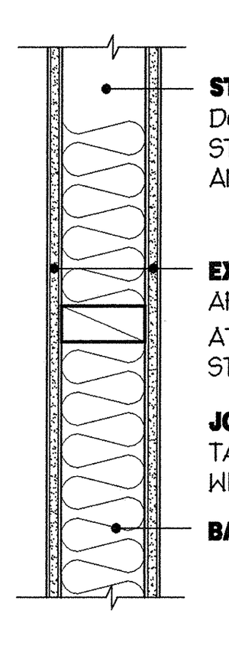
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: N/A **HEIGHT:** N/A
SEE NOTE 1



A2 WALL TYPE 'B'
1 1/2" = 1'-0"

AE501-A1-08

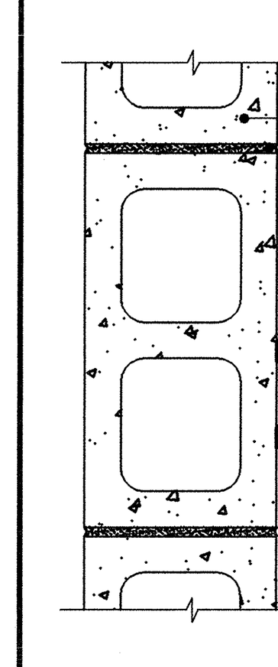
NON-BEARING WALL **SOUND RATING:** 35 TO 39 STC
FIRE RATING: 1-HR **SOUND TEST:** ESTIMATED
FIRE TEST: UL 305 **HEIGHT:** BOTTOM OF FLOOR
SEE NOTE 1



A3 WALL TYPE 'C'
1-1/2" =1'-0"

AE501-A1-08

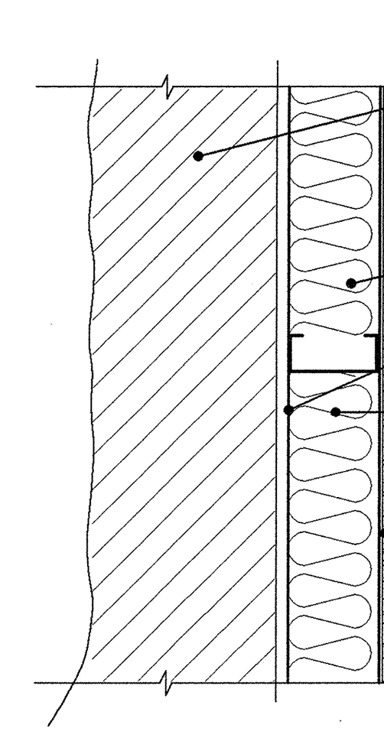
BEARING WALL **SOUND RATING:** N/A
FIRE RATING: 3-HR **SOUND TEST:** N/A
FIRE TEST: UL 914 **HEIGHT:** UNDERSIDE OF TOPCHORD OF TRUSS



A4 WALL TYPE 'D'
1-1/2" =1'-0"

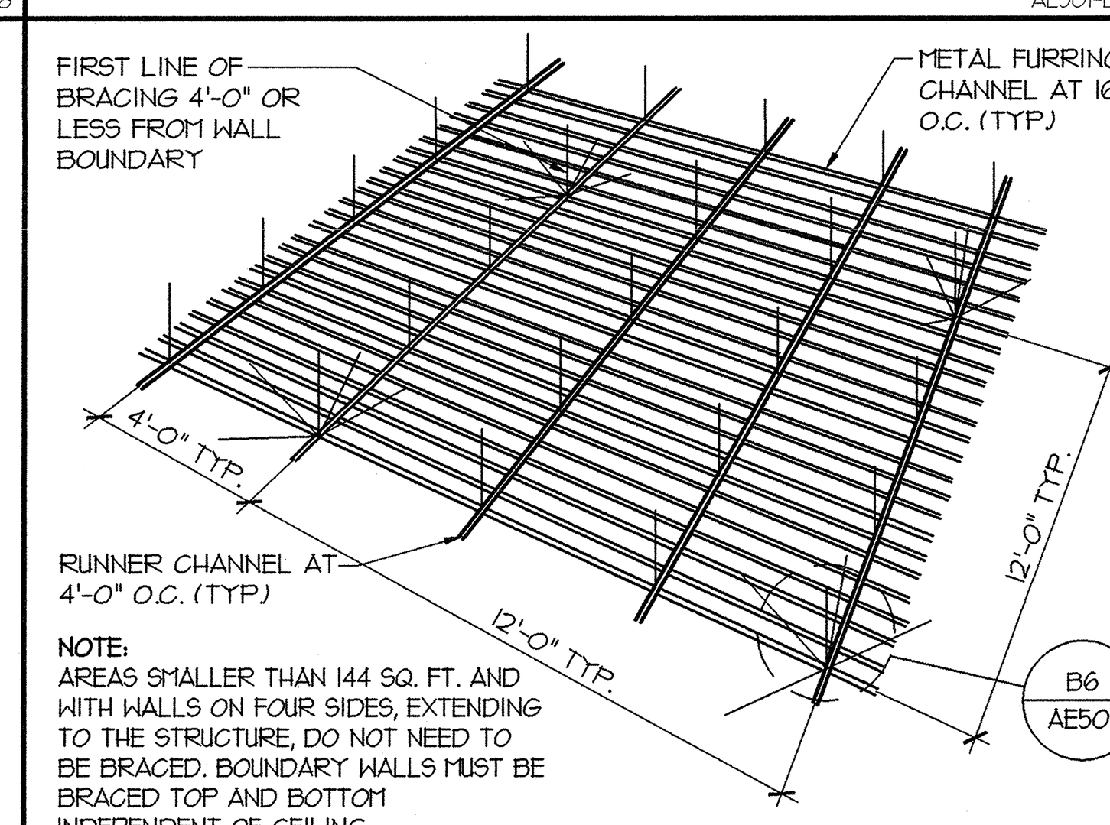
AE501-A1-08

BEARING WALL **SOUND RATING:** N/A
FIRE RATING: N/A **SOUND TEST:** N/A
FIRE TEST: N/A **HEIGHT:** N/A



A5 WALL TYPE 'E'
1 1/2" = 1'-0"

AE501-A1-08



NOTE:
AREAS SMALLER THAN 144 SQ. FT. AND WITH WALLS ON FOUR SIDES, EXTENDING TO THE STRUCTURE, DO NOT NEED TO BE BRACED. BOUNDARY WALLS MUST BE BRACED TOP AND BOTTOM INDEPENDENT OF CEILING.

A6 CEILING SUSPENSION SYSTEM SEISMIC BRACING DETAIL
12"=1'-0"

AE501-A6-01

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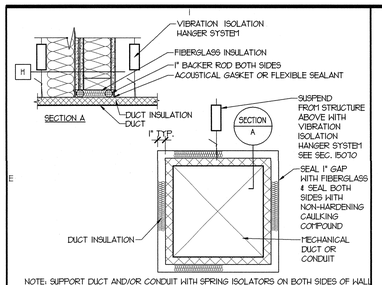
TYP. DETAILS & WALL TYPES

AE501

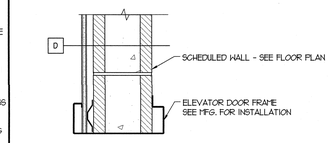


NOTE: SUPPORT DUCT AND/OR CONDUIT WITH SPRING ISOLATORS ON BOTH SIDES OF WALL

E1 SOUND WALL PENETRATION

1-1/2" =1'-0"

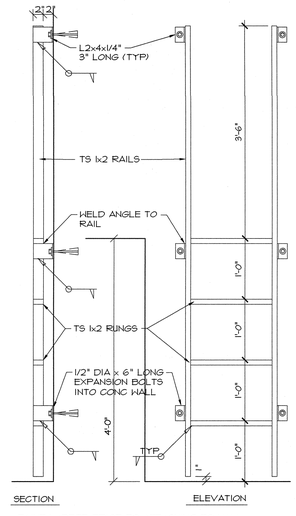
AE502-E1-08



E2 ELEVATOR HEAD (JAMB SIM)

1-1/2" =1'-0"

AE502-E2-08

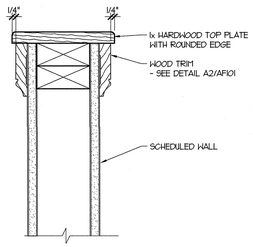


PAINT LADDER PRIOR TO ATTACHING TO WALL

E4 ELEVATOR LADDER

1"=1'-0"

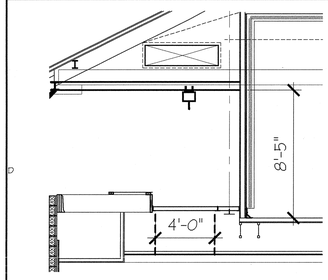
AE502-E4-12



E5 WALL CAP DETAIL

3"=1'-0"

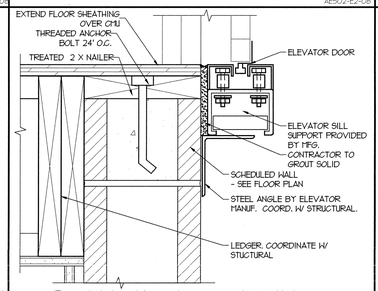
AE502-E5-04



D1 HOISTWAY LANDING / OPENING

1/4" = 1'-0"

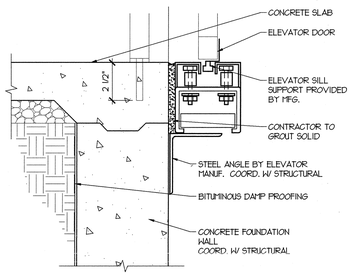
AE502-D1-04B



D2 ELEVATOR DOOR SILL

3"=1'-0"

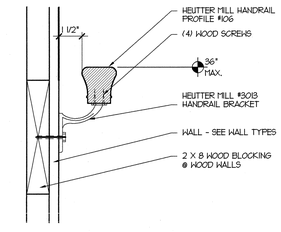
AE502-D2-04



D3 ELEVATOR DOOR SILL

3"=1'-0"

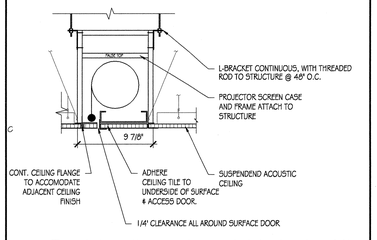
AE502-D3-04



D6 HANDRAIL DETAIL @ WALL

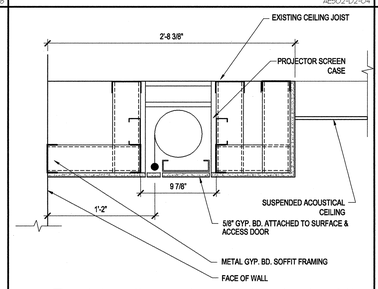
3"=1'-0"

AE502-D6-04



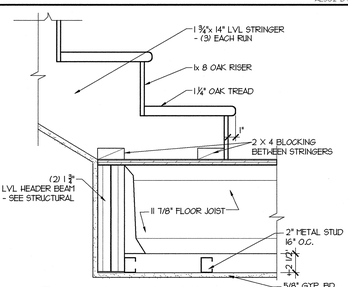
C1 PROJECTOR SCREEN DETAIL

1 1/2"=1'-0"



C2 PROJECTOR SCREEN DETAIL

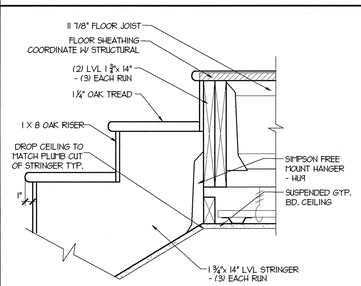
1 1/2"=1'-0"



C4 STAIR DETAIL

1-1/2"=1'-0"

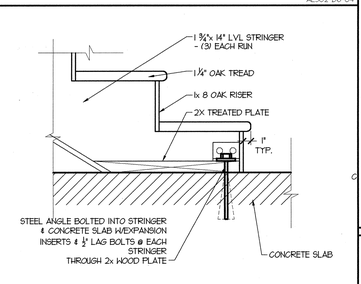
AE502-C4-08



C5 STAIR DETAIL

1-1/2"=1'-0"

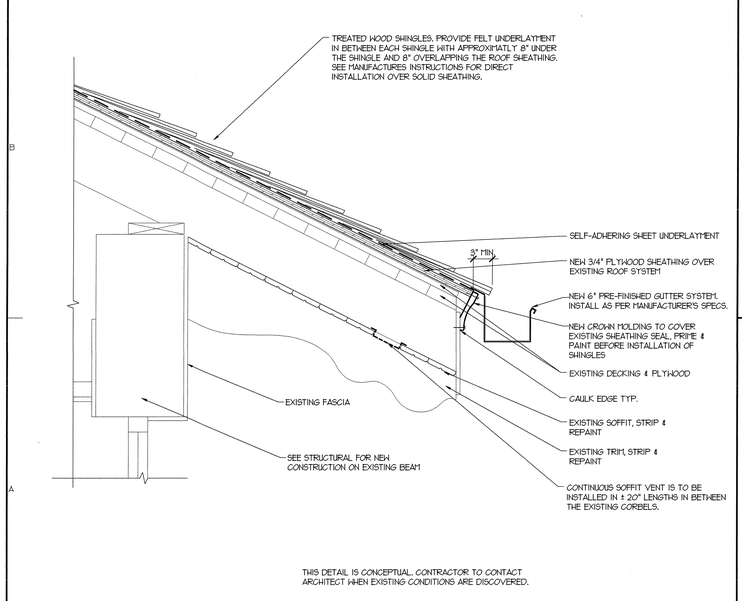
AE502-B5-08



C6 STAIRS @ BOTTOM END

1-1/2"=1'-0"

AE502-C6-08

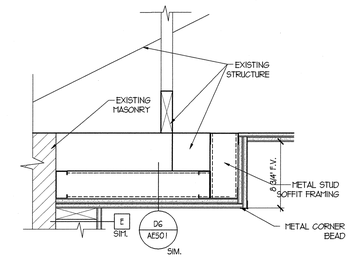


THIS DETAIL IS CONCEPTUAL. CONTRACTOR TO CONTACT ARCHITECT WHEN EXISTING CONDITIONS ARE DISCOVERED.

A1 EAVE DETAIL

1-1/2"=1'-0"

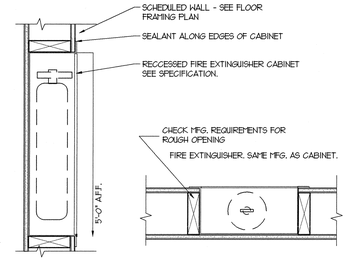
AE502-A2-08



B3 CEILING DROP @ WINDOW

1-1/2"=1'-0"

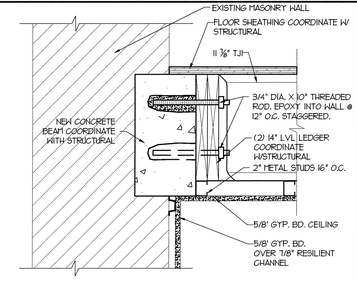
AE502-B3-08



B4 FIRE EXTINGUISHER CAB.

1-1/2"=1'-0"

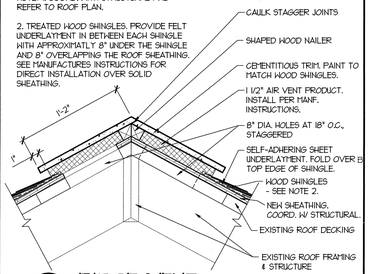
AE502-B4-08



B5 STAIR LANDING (N & E)

1-1/2"=1'-0"

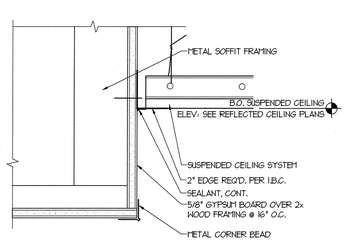
AE502-B5-08



B6 RIDGE VENT

1-1/2"=1'-0"

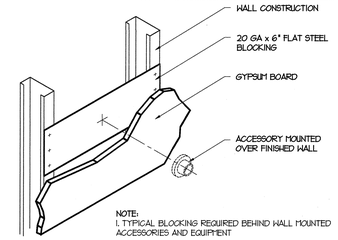
AE502-B6-08



A3 TYP. CEILING DROP

3"=1'-0"

AE502-A3-04

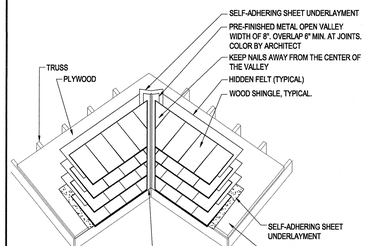


NOTE:
1. TYPICAL BLOCKING REQUIRED BEHIND WALL MOUNTED ACCESSORIES AND EQUIPMENT

A4 METAL FRAMING BLOCKING DETAIL

NONE

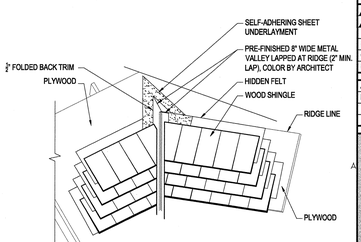
AE502-A4-01



A5 VALLEY DETAIL

N.T.S.

AE502-A5-16



A6 SADDLE FLASHING DETAIL

N.T.S.

AE502-A6-16

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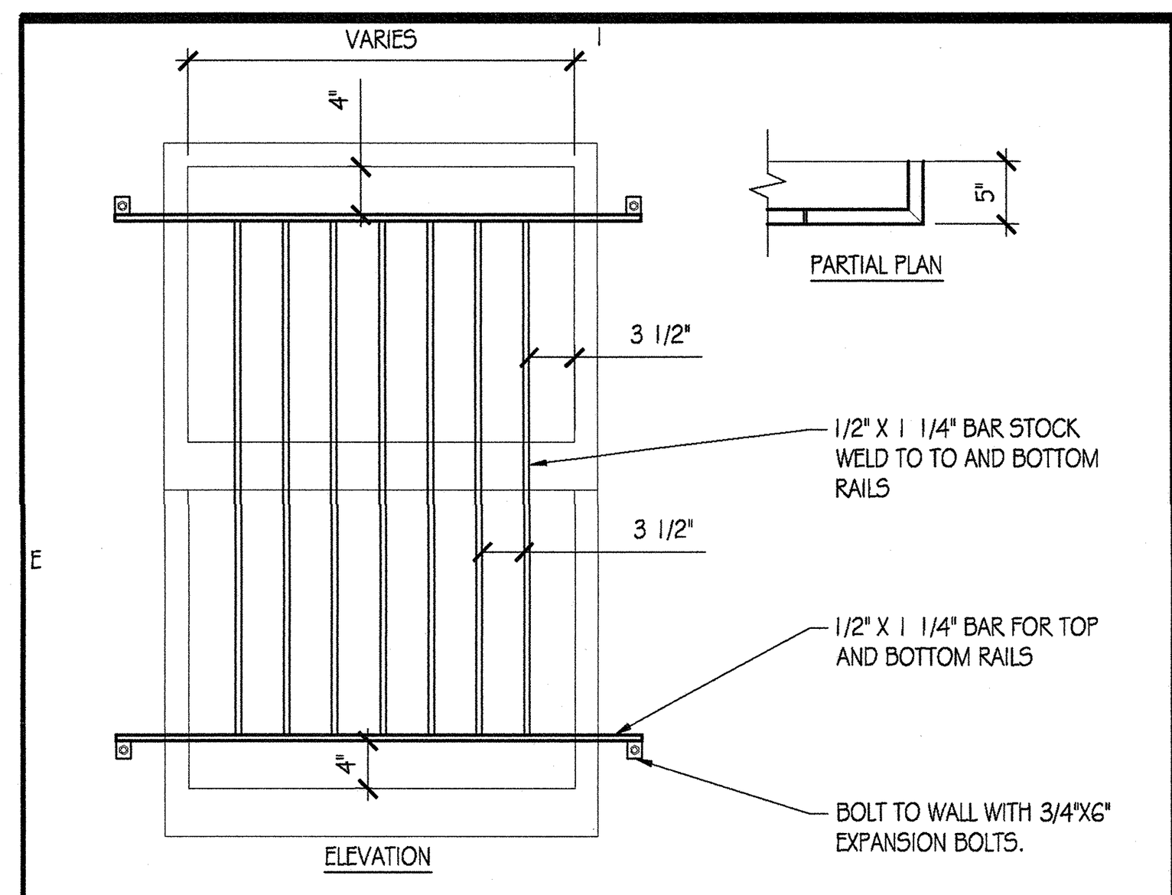
ARCHITECT PROJECT NO.:	B04-012
DFCM PROJECT NO.:	03234730
DTN	

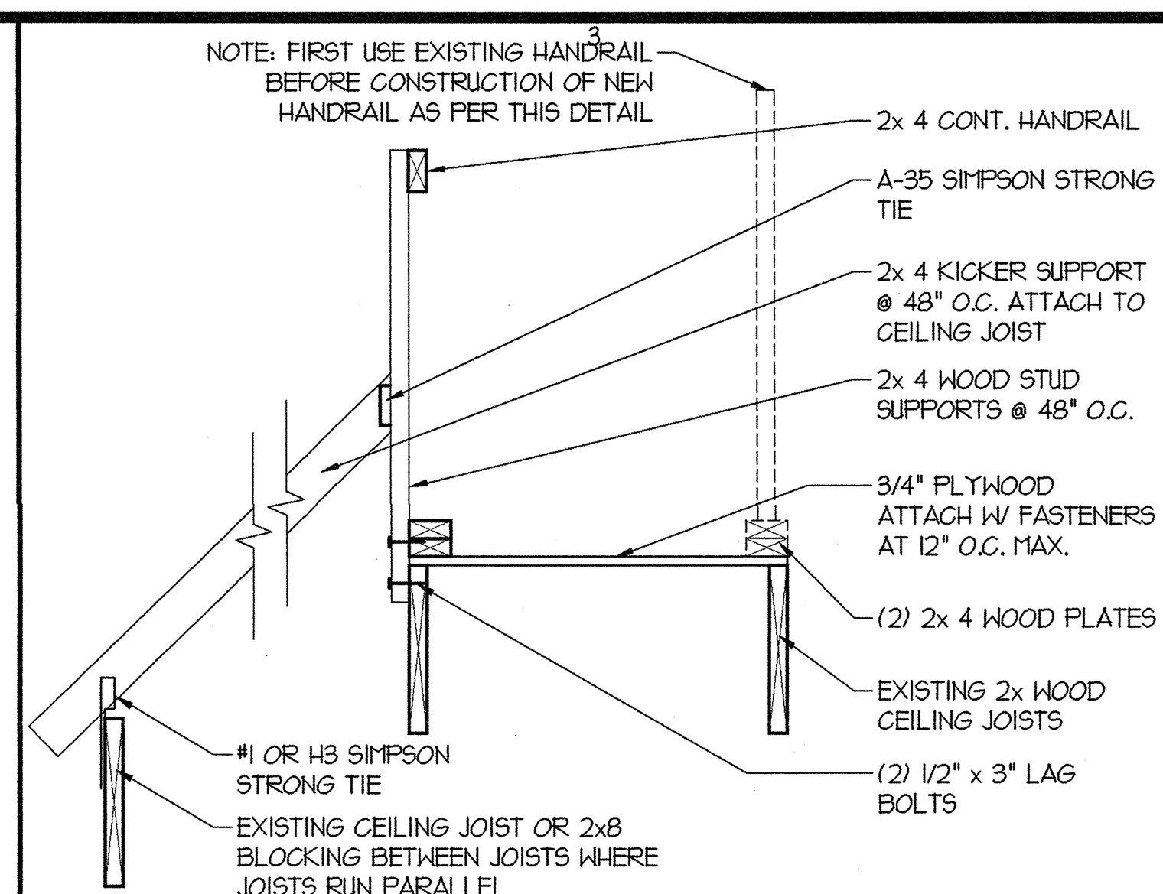
TYP. DETAILS

AE502



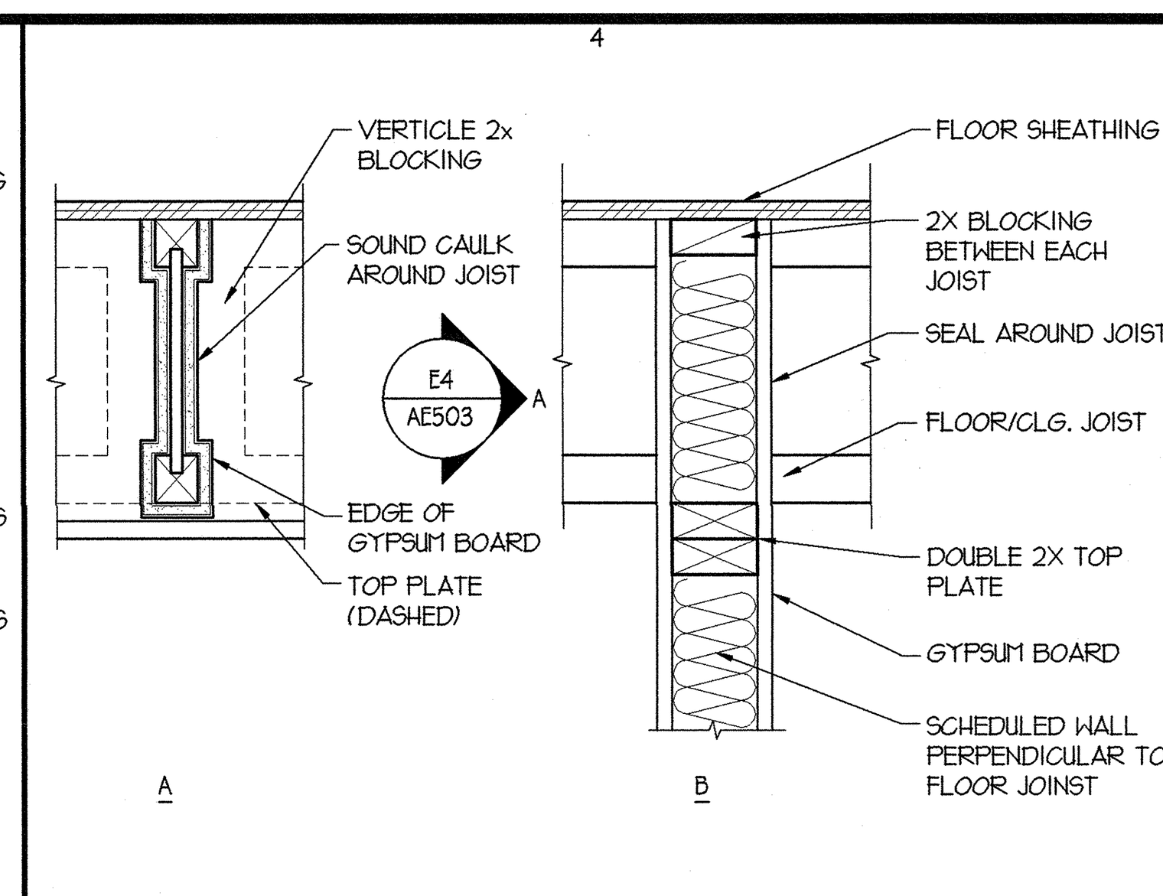
E1 WINDOW GUARD
3/4"=1'-0"

AE503-C1-16D



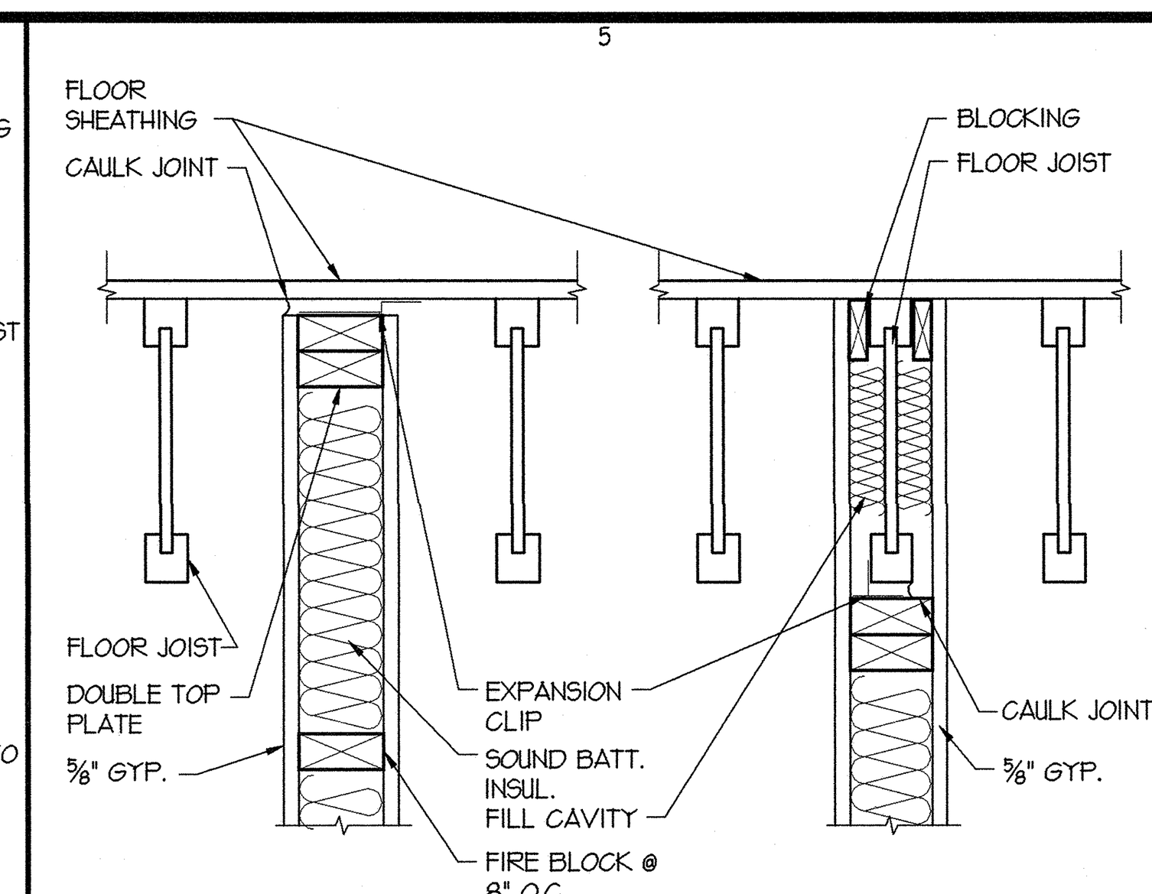
E3 ATTIC ACCESS RAIL
3/4"=1'-0"

AE503-E3-16



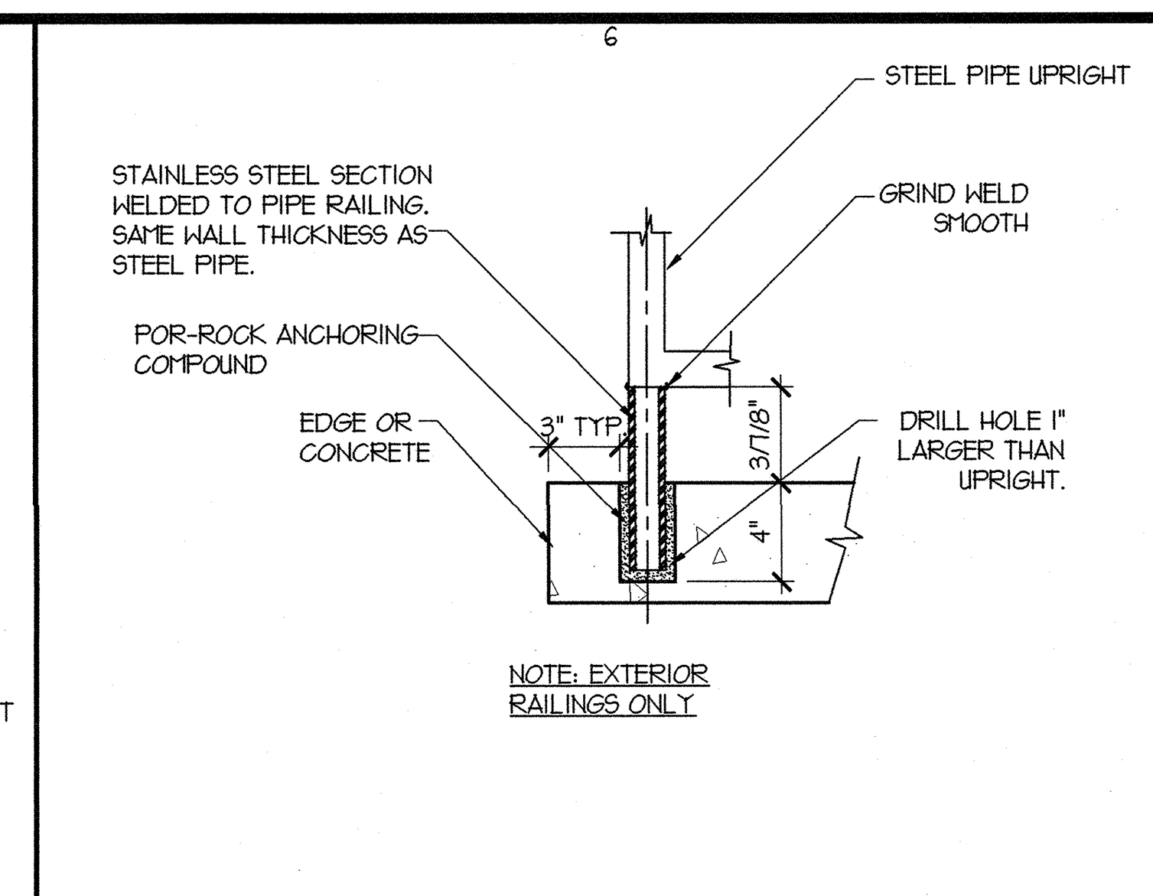
E4 SOUND WALL @ BEARING WALL
1-1/2" = 1'-0"

AE503-E4-08



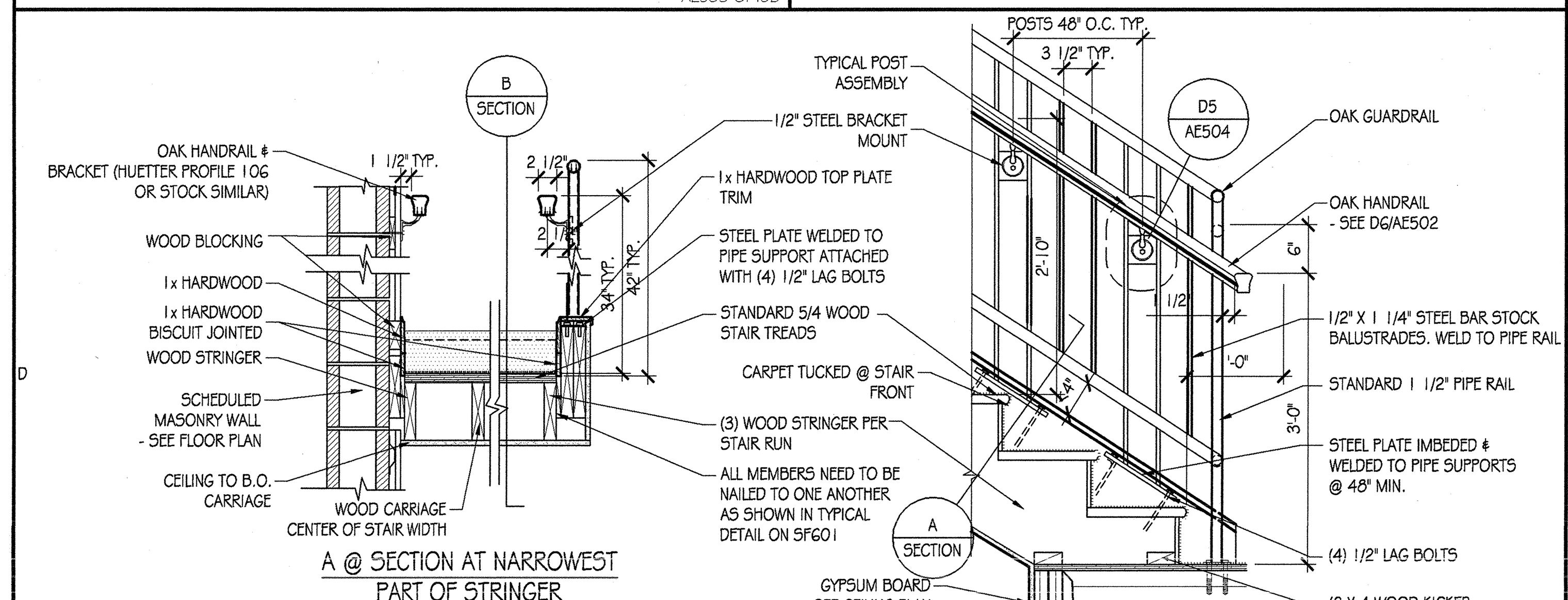
E5 SOUND WALL TO FLOOR
1-1/2" = 1'-0"

AE503-E4-08



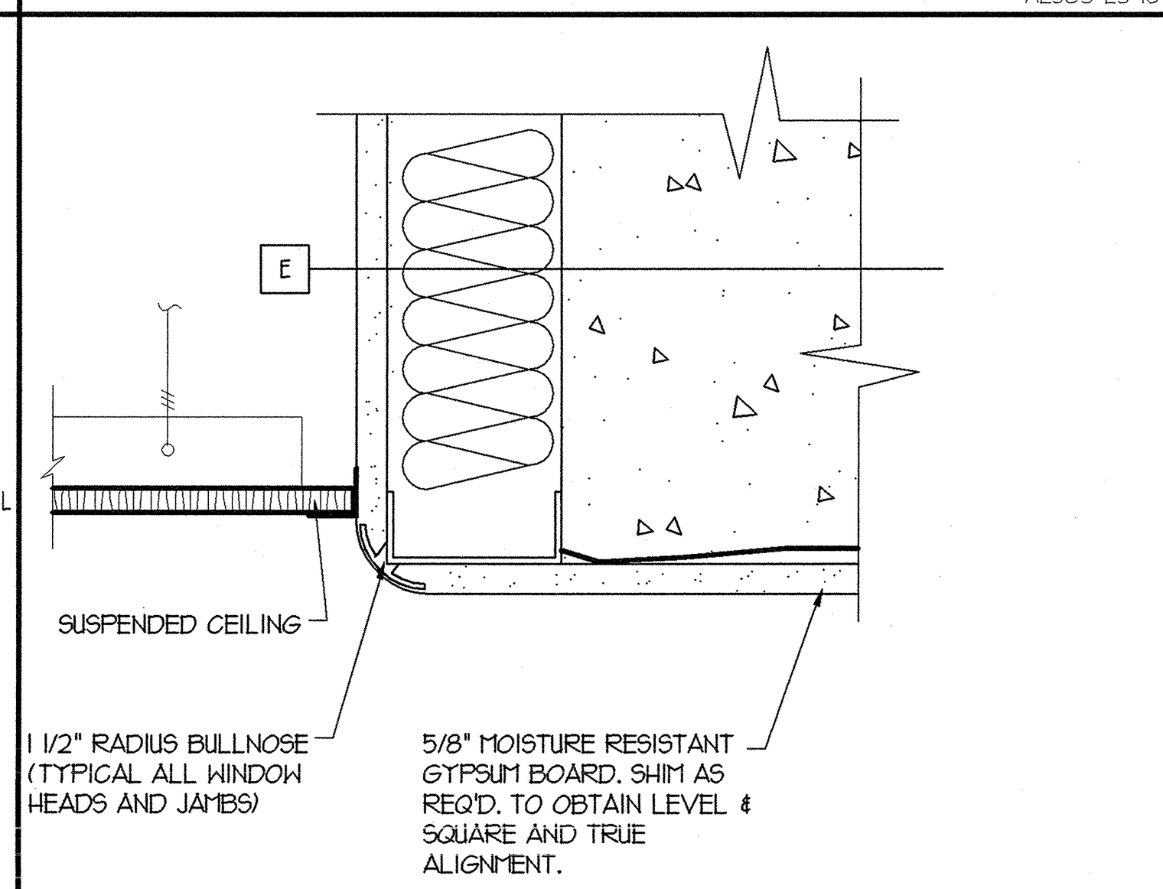
E6 POST ANCHOR DETAIL
1-1/2" = 1'-0"

AE503-E4-08



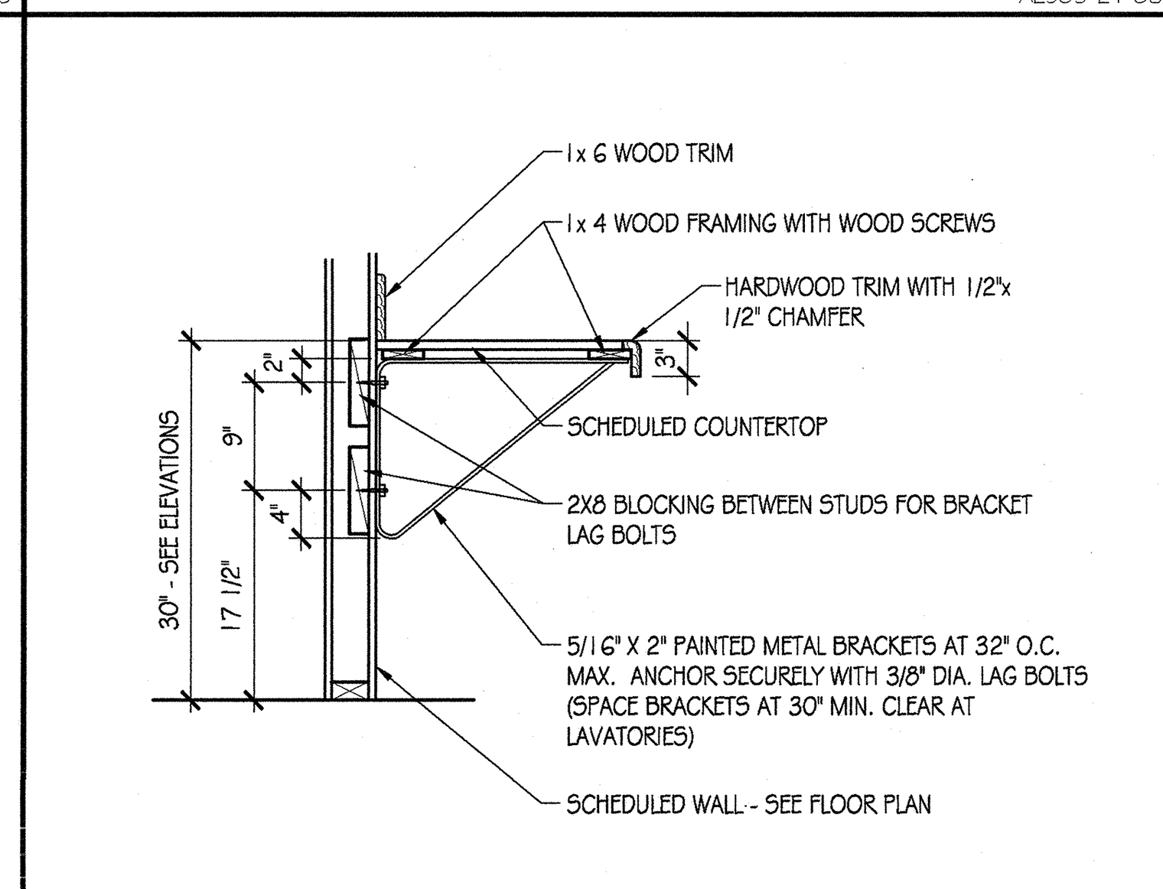
D1 TYPICAL STAIRWAY
3/4"=1'-0"

AE503-C1-16D



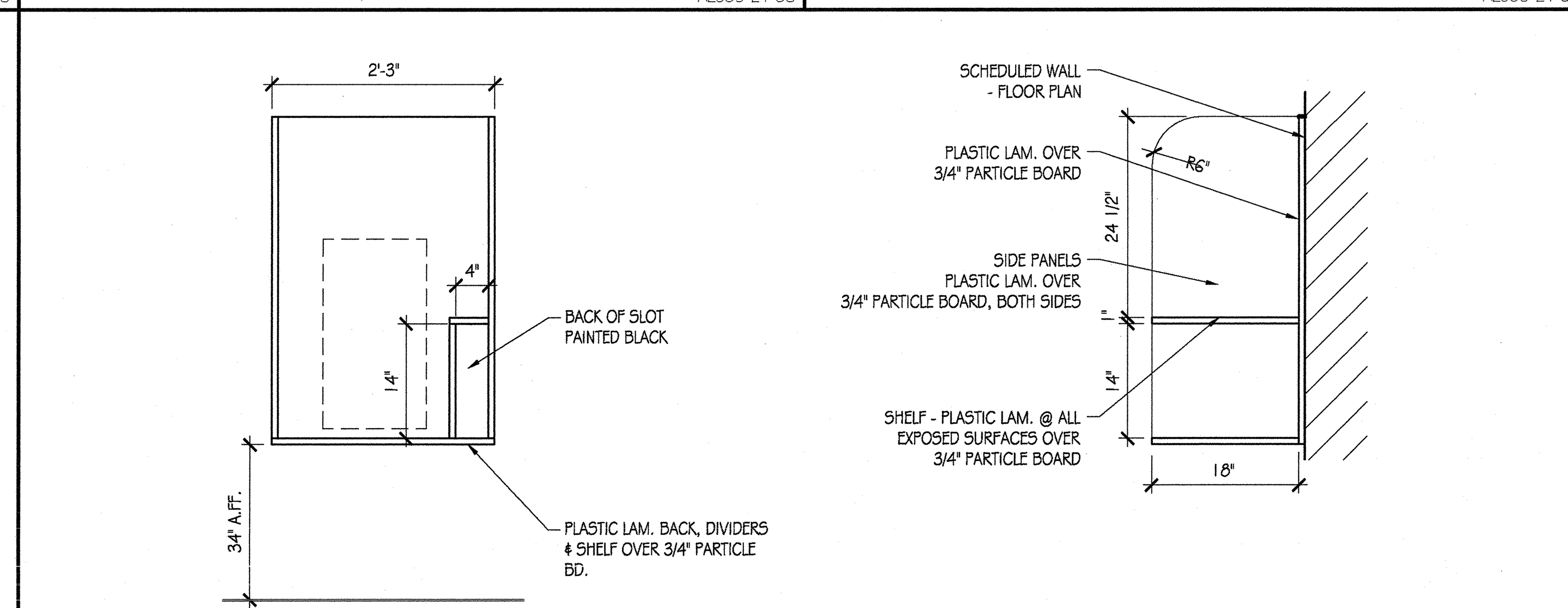
D3 TYP. WINDOW HEAD
3"=1'-0"

AE503-D3-04



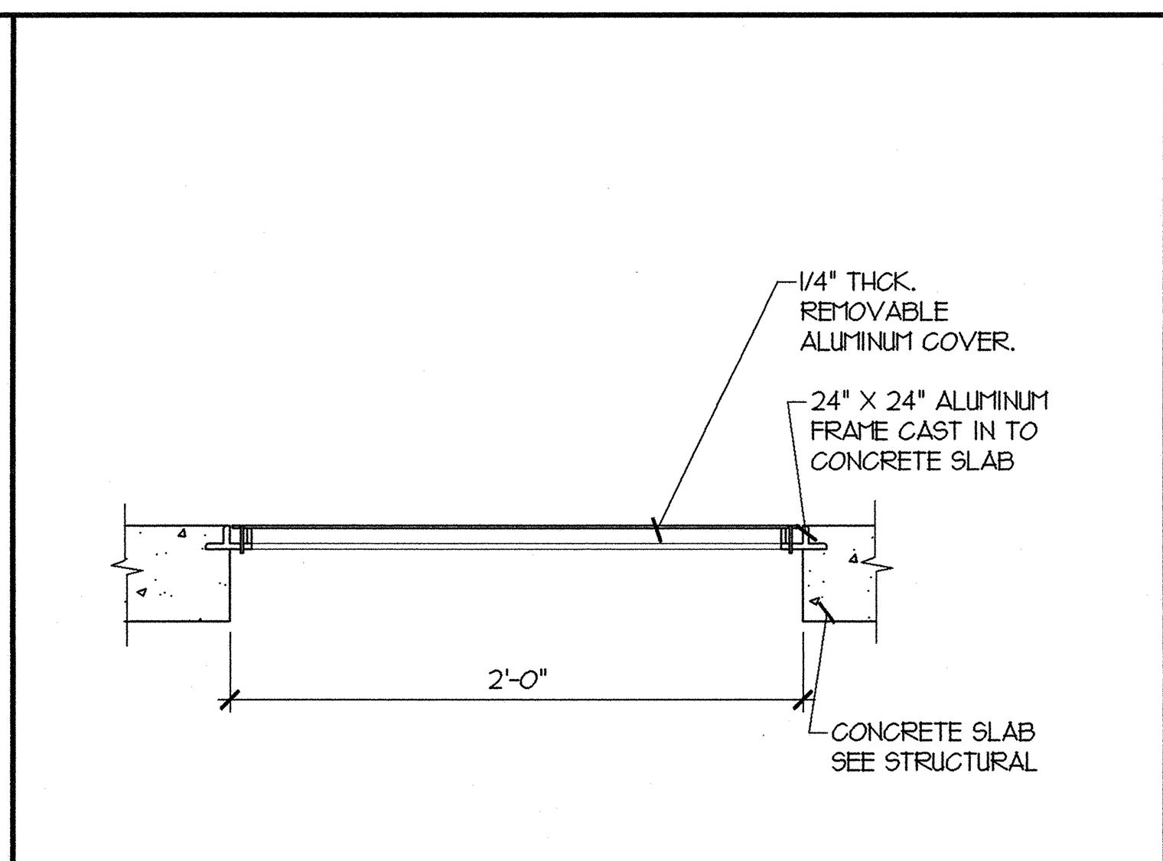
D4 WORK COUNTER
3/4"=1'-0"

AE503-A3-16



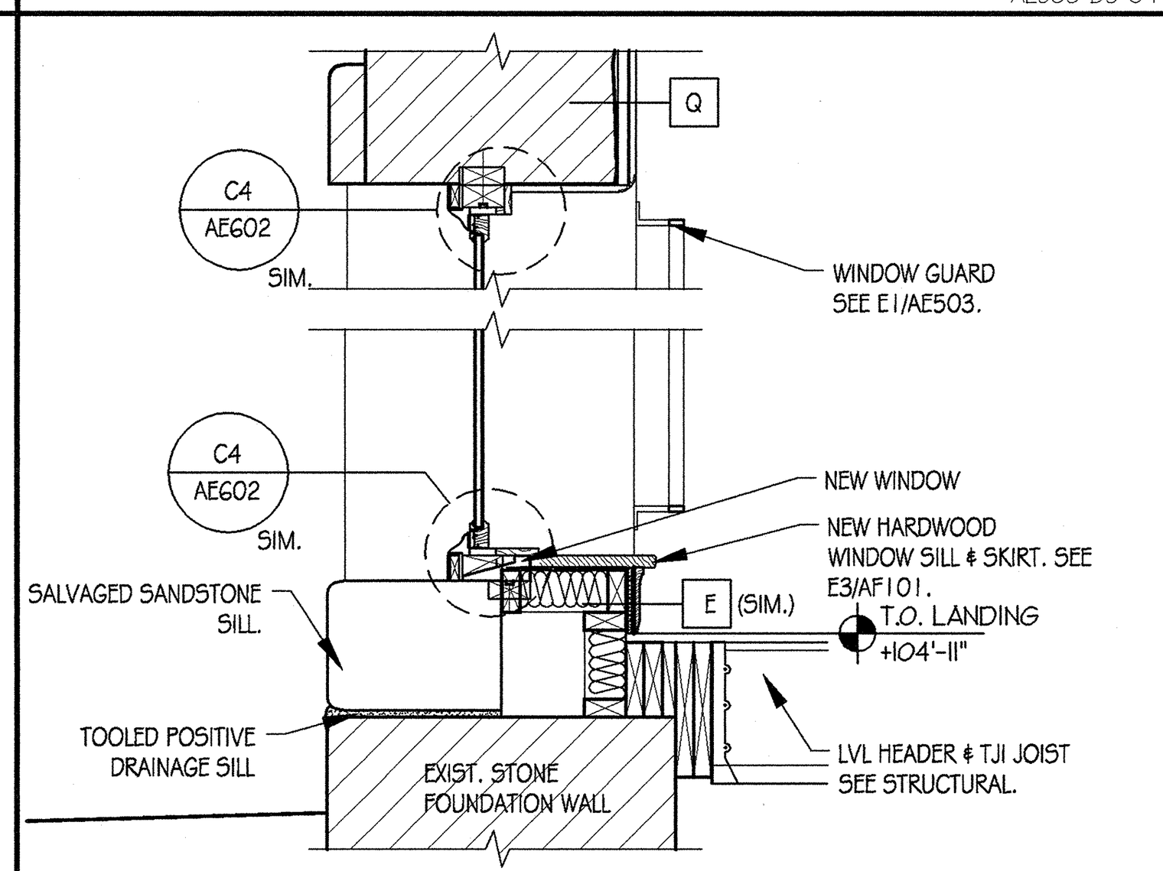
D5 PHONE BOOTH
3/4"=1'-0"

AE503-A3-16



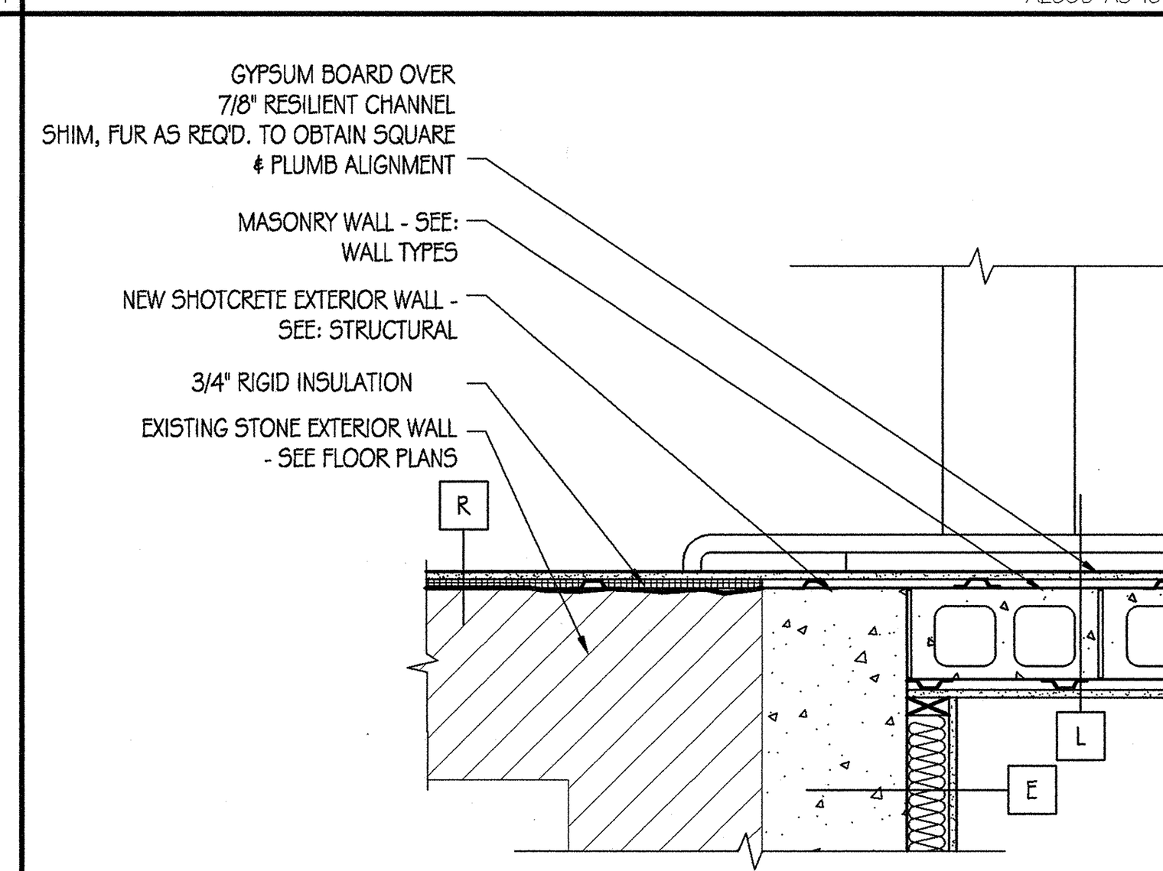
C2 REMOVABLE FLOOR HATCH
1-1/2" = 1'-0"

AE503-A2-08



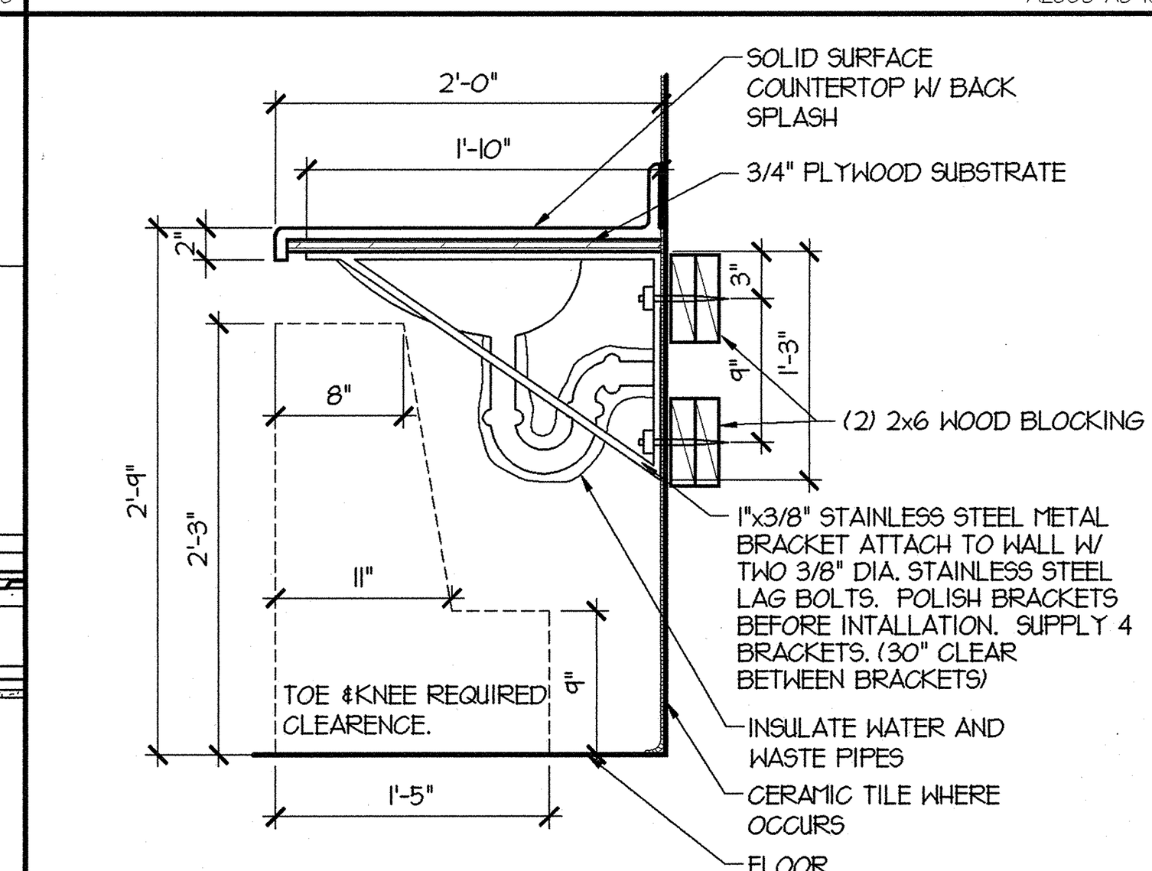
C3 SILL AT WEST STAIR LANDING
3/4"=1'-0"

AE503-A3-16



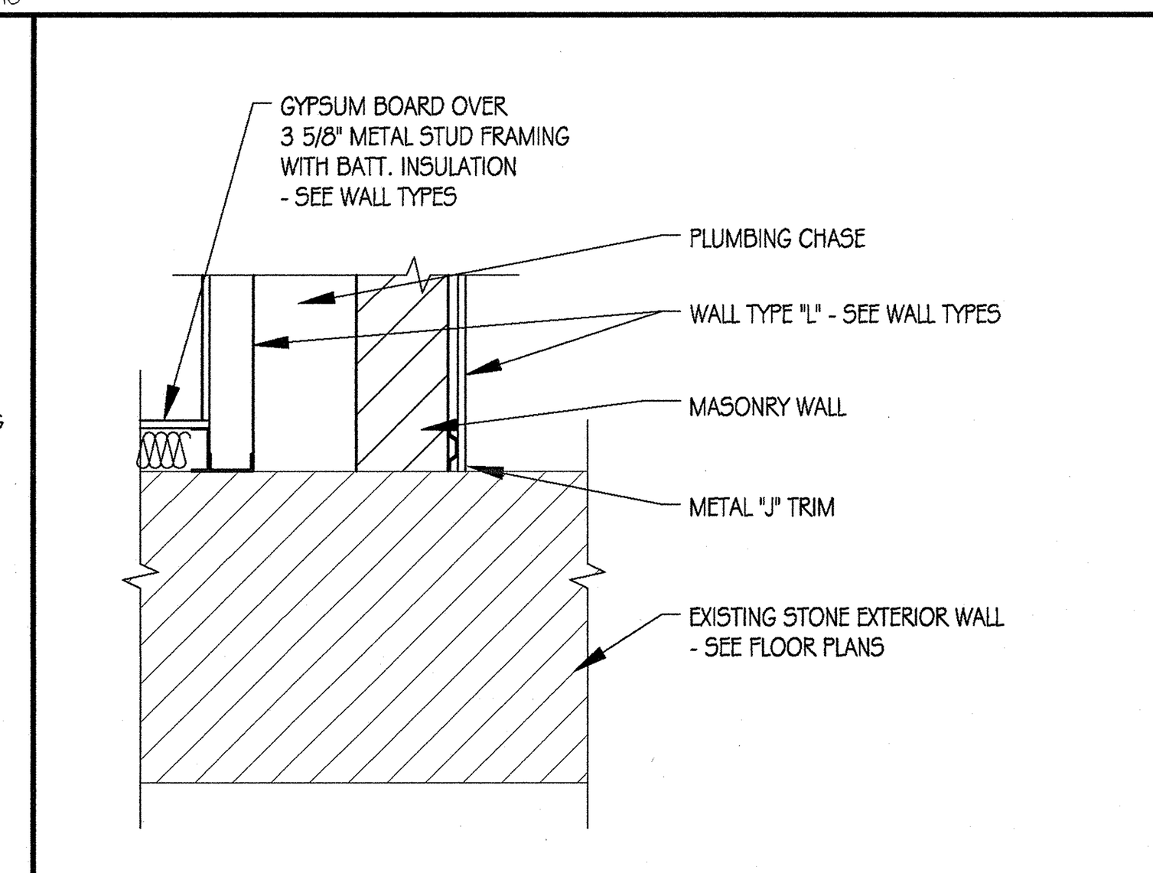
C4 TYP. WALL CONNECTION
3/4"=1'-0"

AE503-A3-16



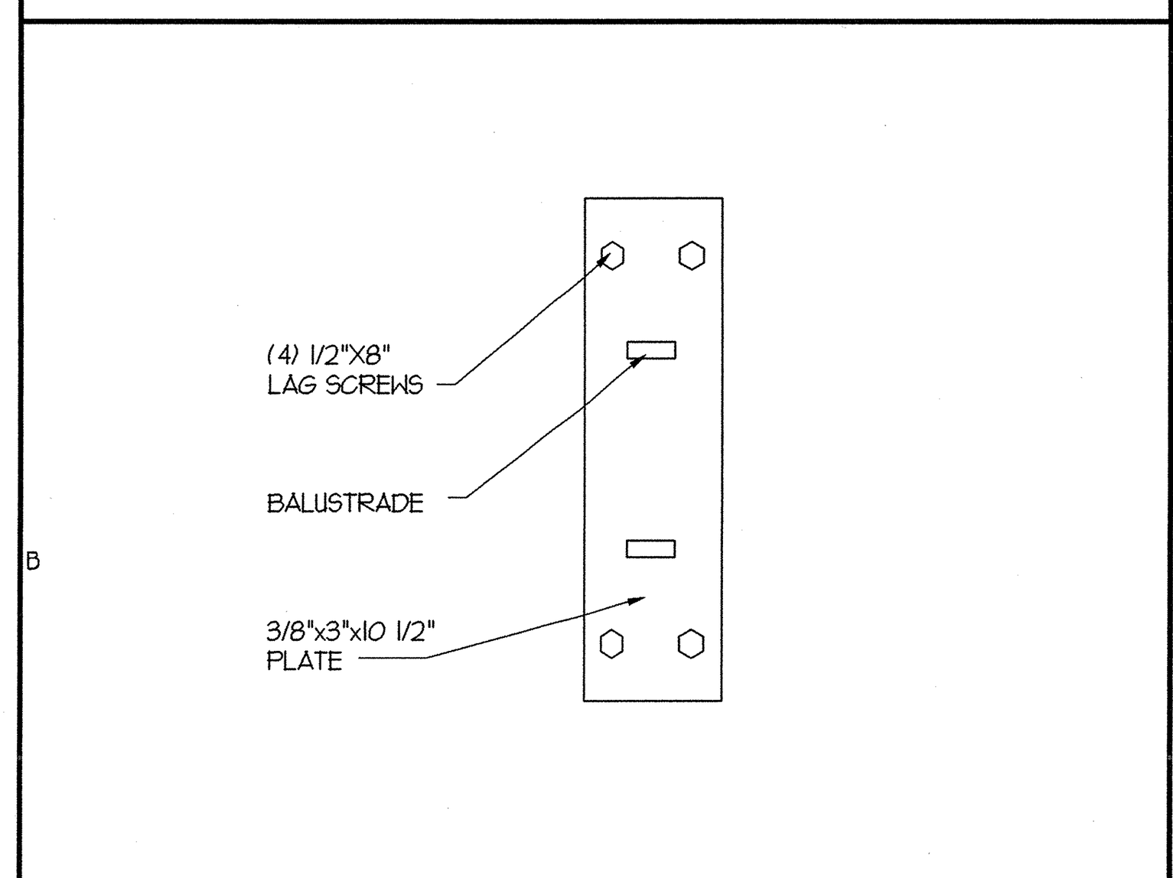
C5 CABINET SECTION
1"=1'-0"

AE503-C5-12



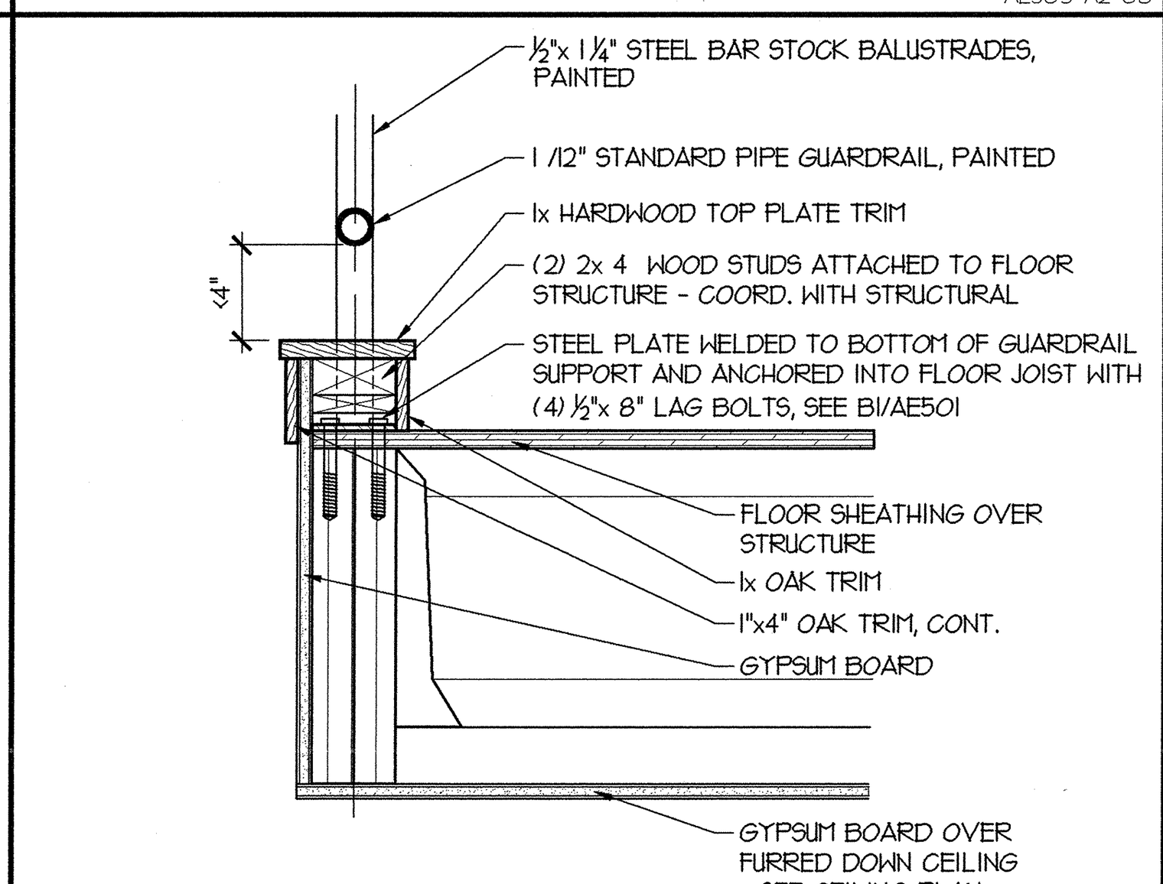
C6 TYP. WALL CONNECTION
3/4"=1'-0"

AE503-A3-16



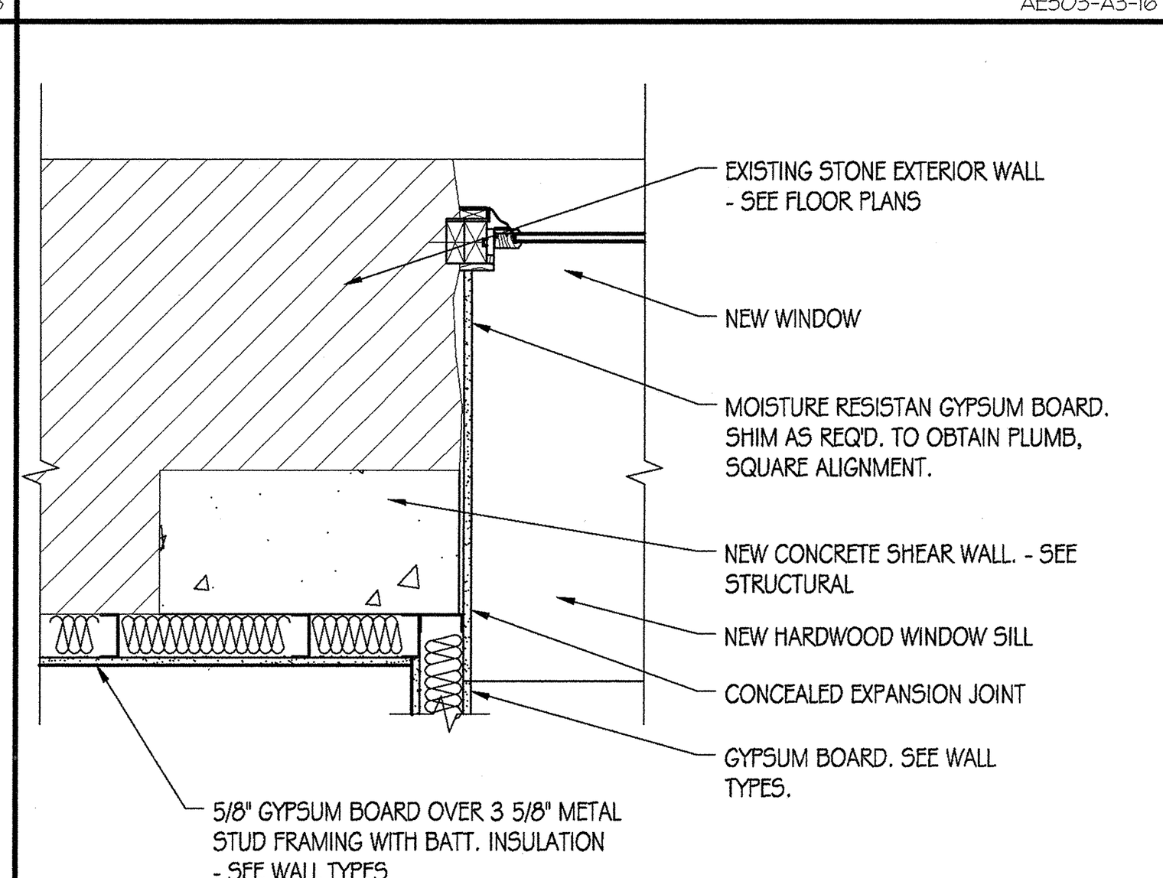
B1 PLATE DETAIL
3"=1'-0"

AE503-B1-04



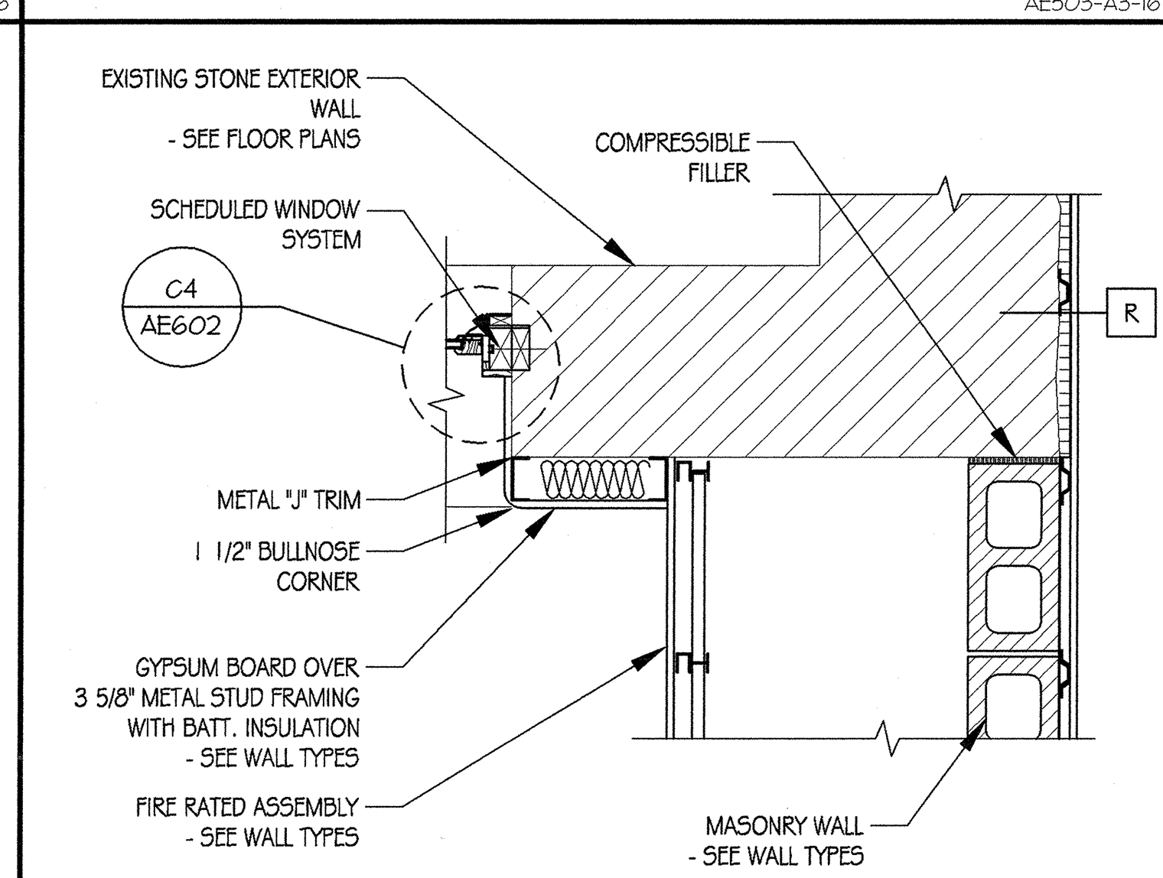
B2 STAIR DETAIL
1-1/2"=1'-0"

AE503-A2-08



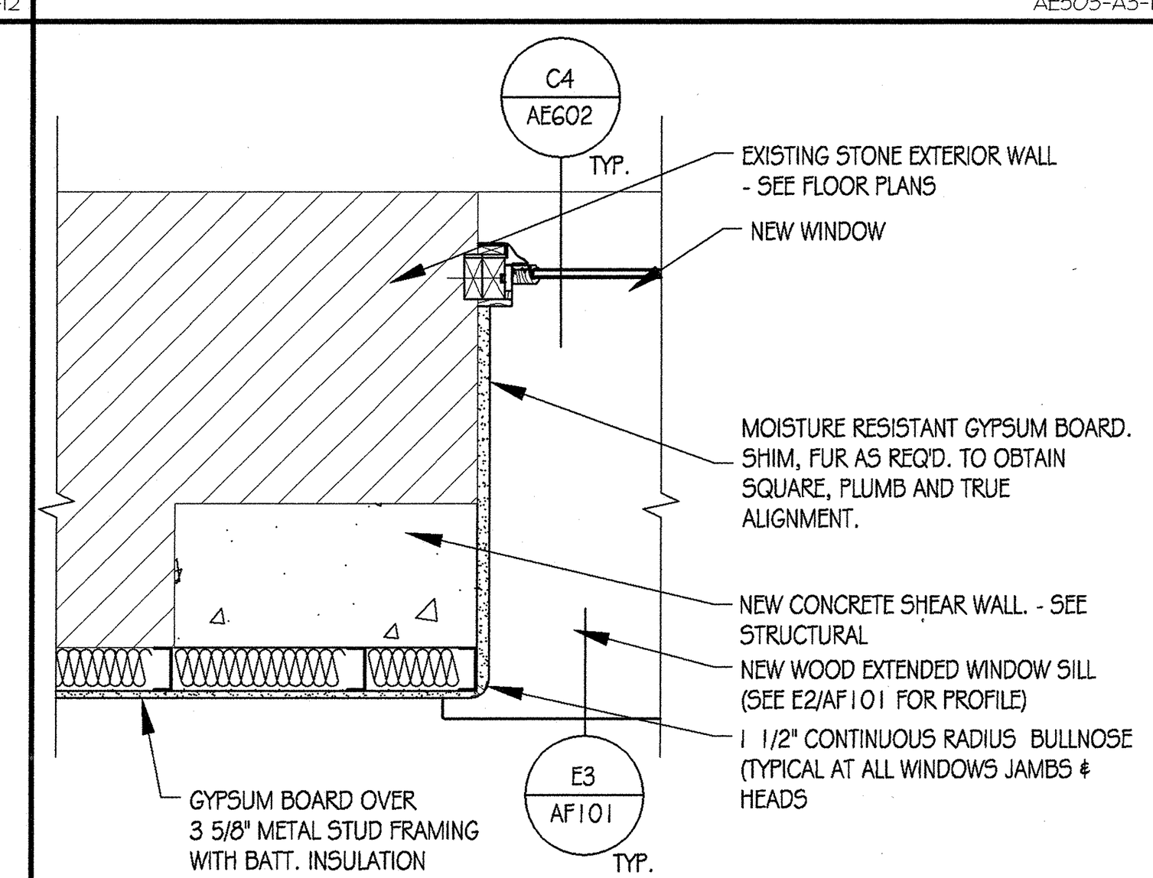
B3 TYP. WALL CONNECTION
3/4"=1'-0"

AE503-A3-16



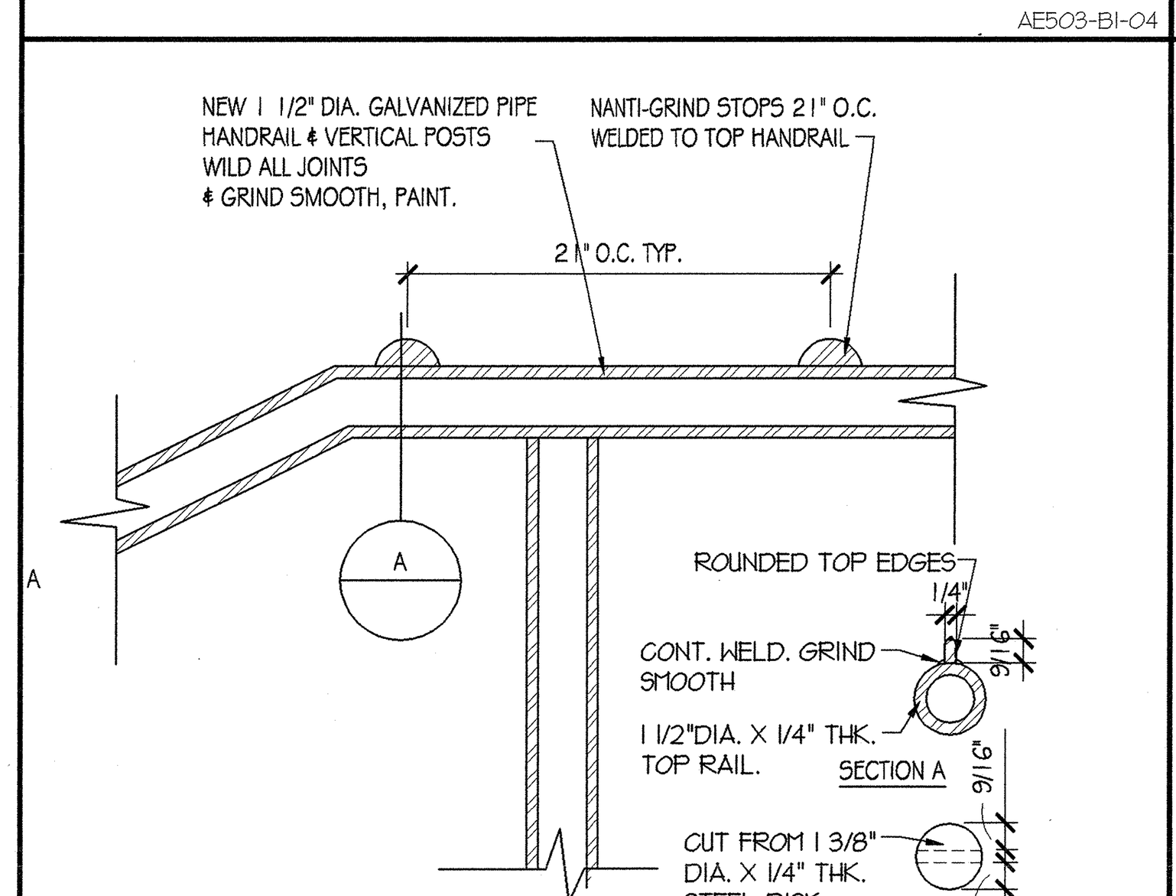
B4 SHAFT WALL DETAIL
3/4"=1'-0"

AE503-A3-16



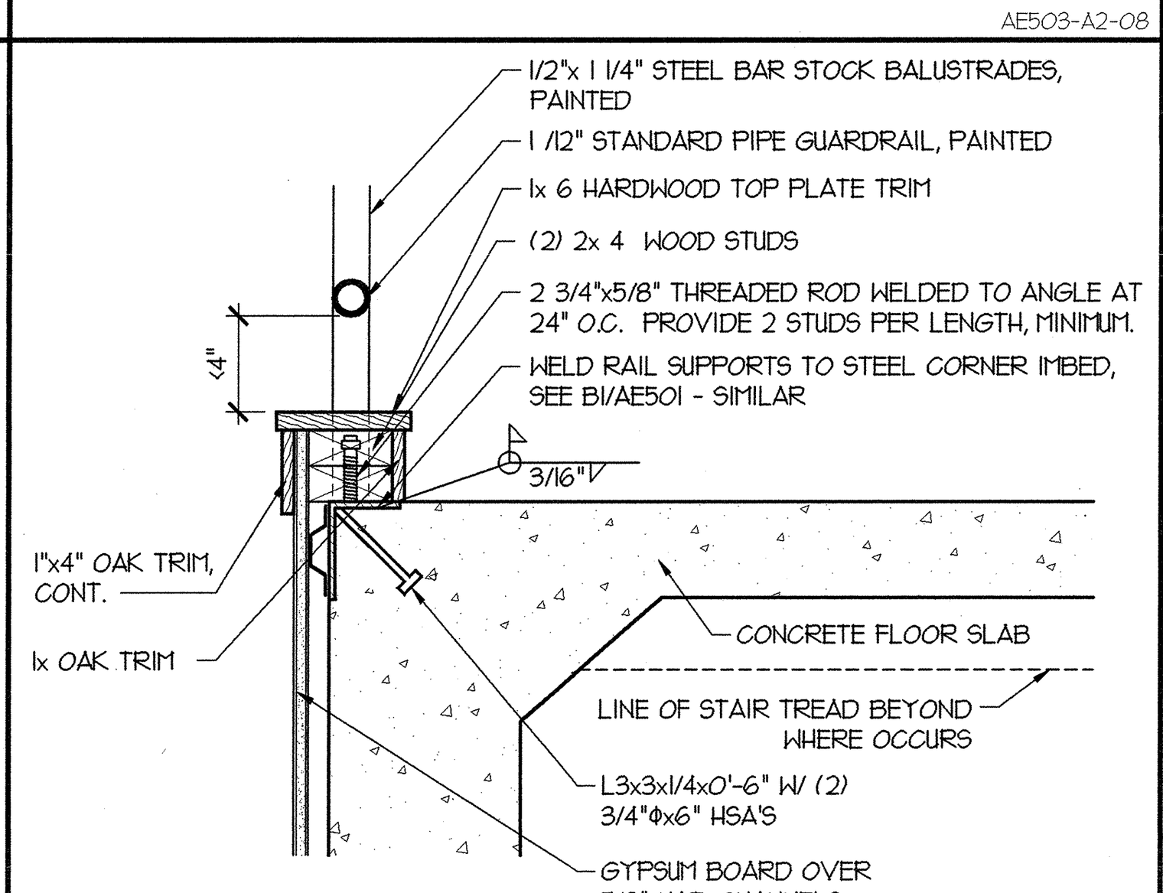
B6 TYP. WALL CONNECTION
3/4"=1'-0"

AE503-A3-16



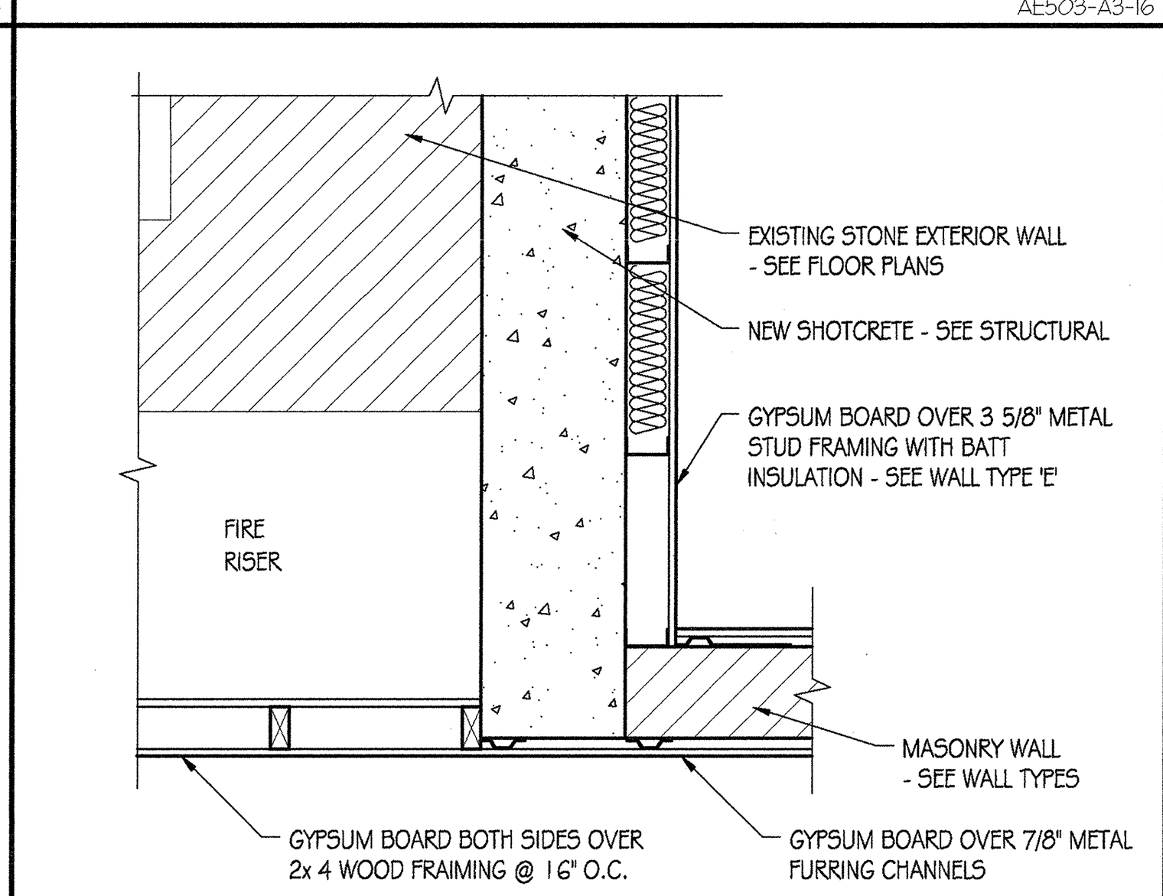
B1 EXT. HANDRAIL DETAIL
3"=1'-0"

AE503-A1-04



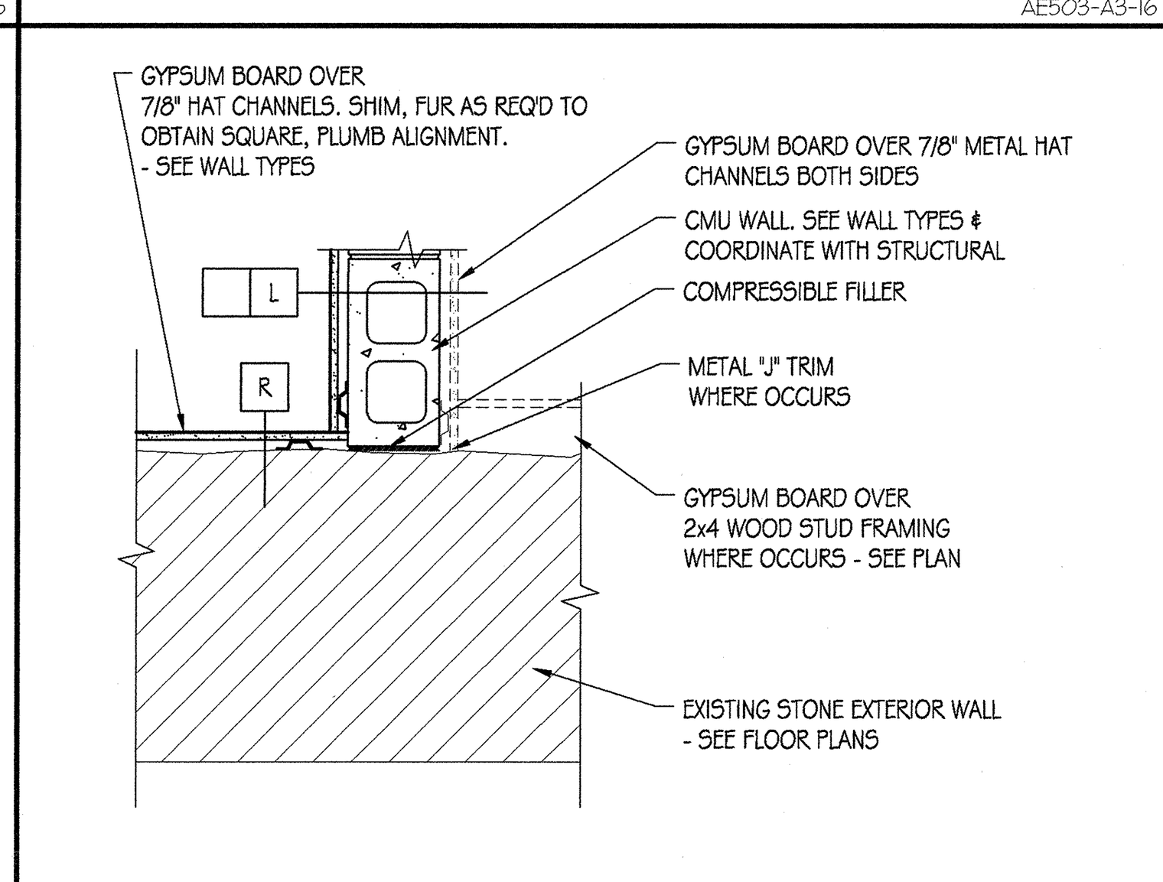
A2 STAIR HANDRAIL DETAIL
1-1/2"=1'-0"

AE503-A2-08



A3 WALL CONNECTION
3/4"=1'-0"

AE503-A3-16



A4 WALL CONNECTION
3/4"=1'-0"

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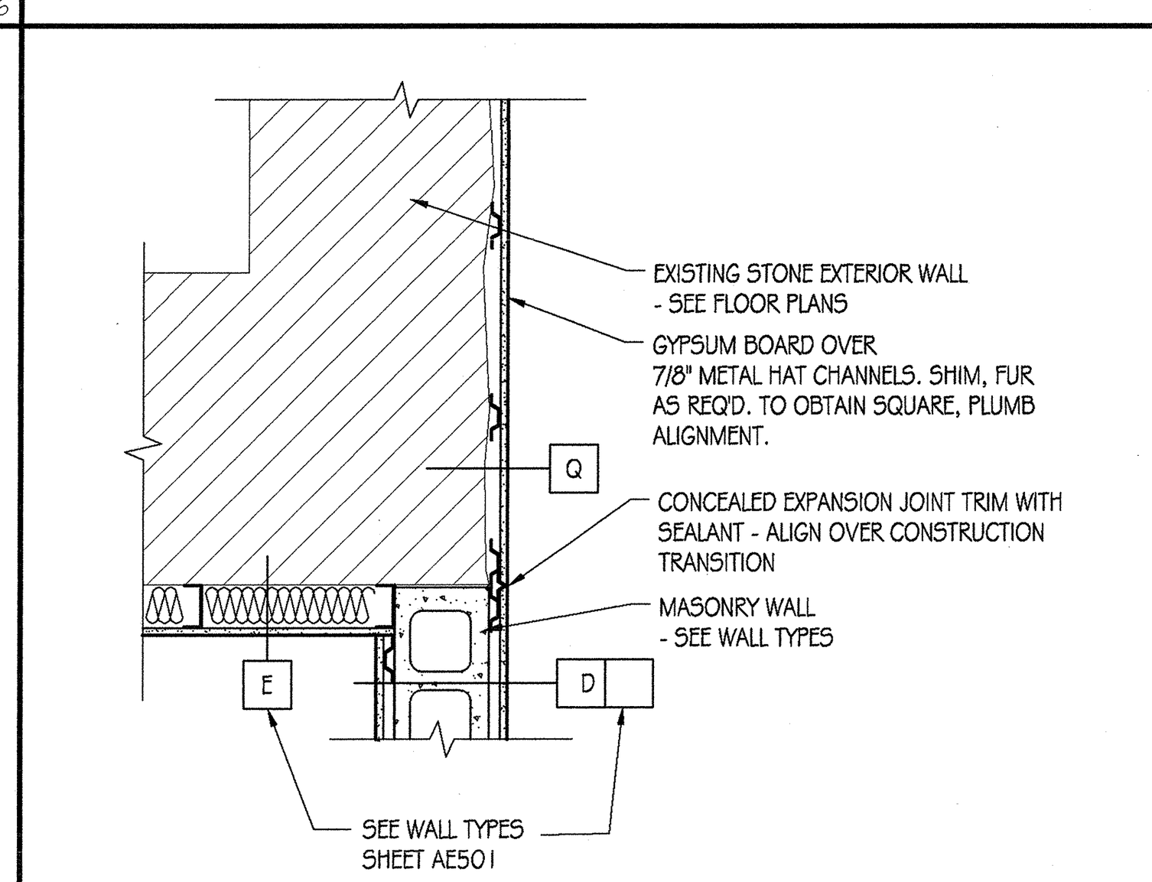
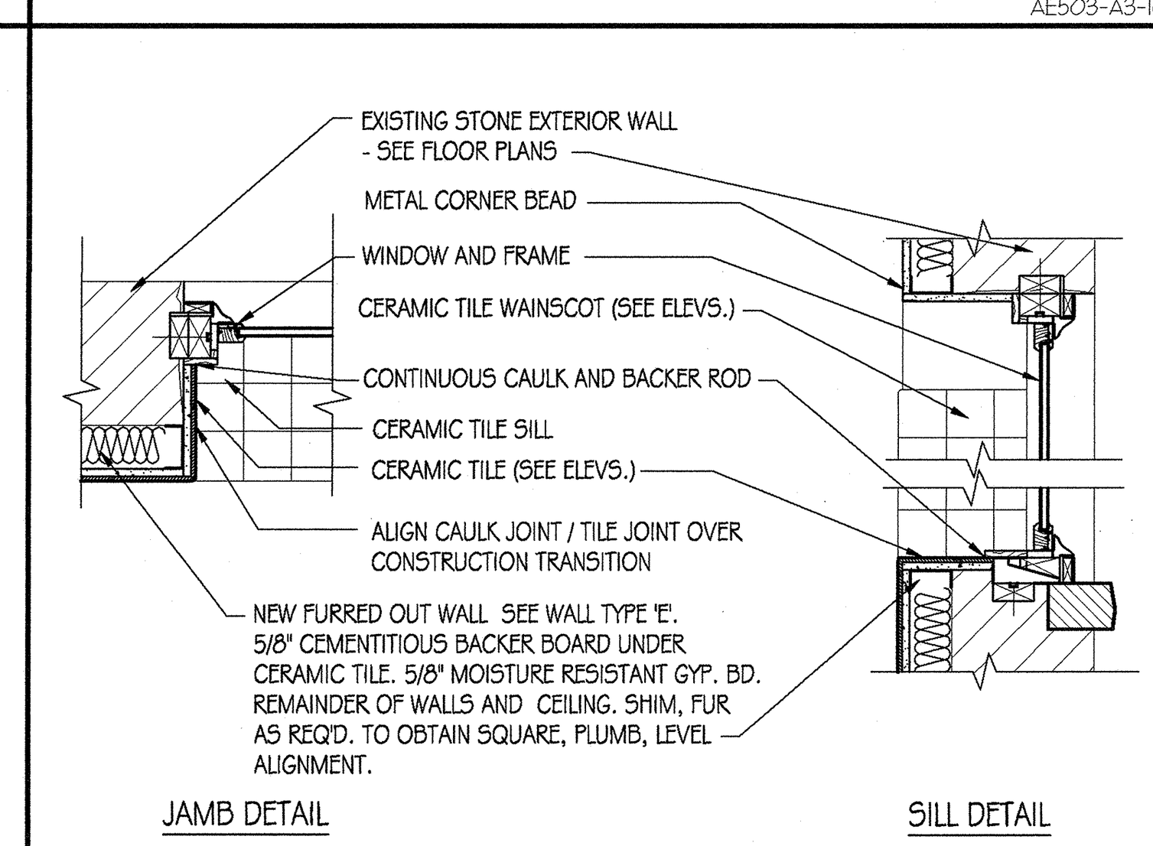


A5 WALL CONNECTION
3/4"=1'-0"

AE503-A3-16



A6 TYP. HEAD, JAMB, SILL RESTRM. WINDOWS
3/4"=1'-0"

AE503-E5-16

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ARCHITECT PROJECT NO.: B04-012
DFCM PROJECT NO.: 03234730
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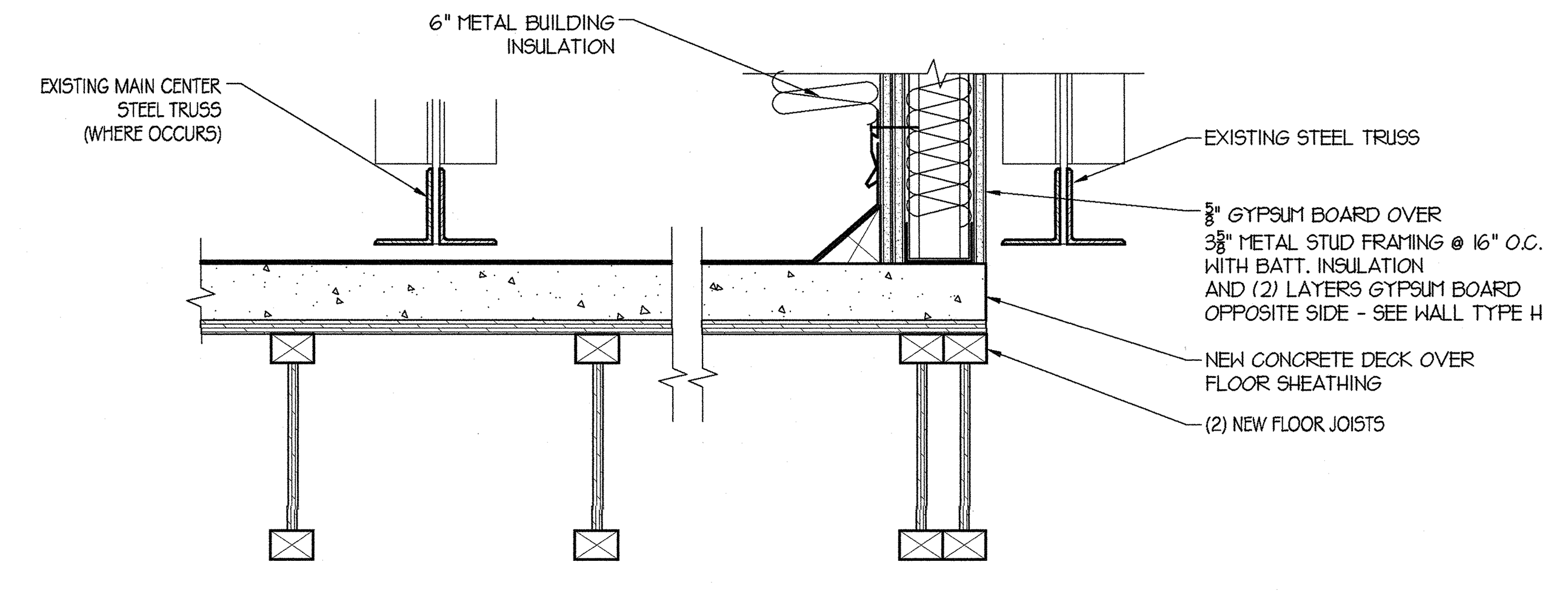
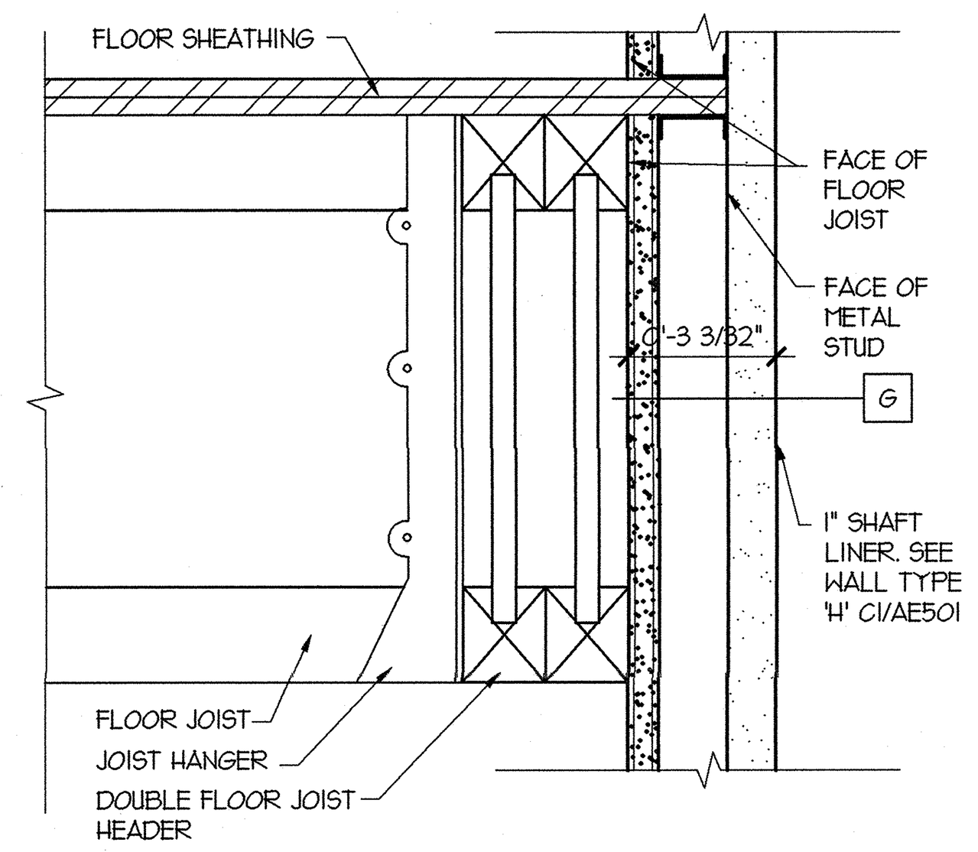
TYP. DETAILS

AE503



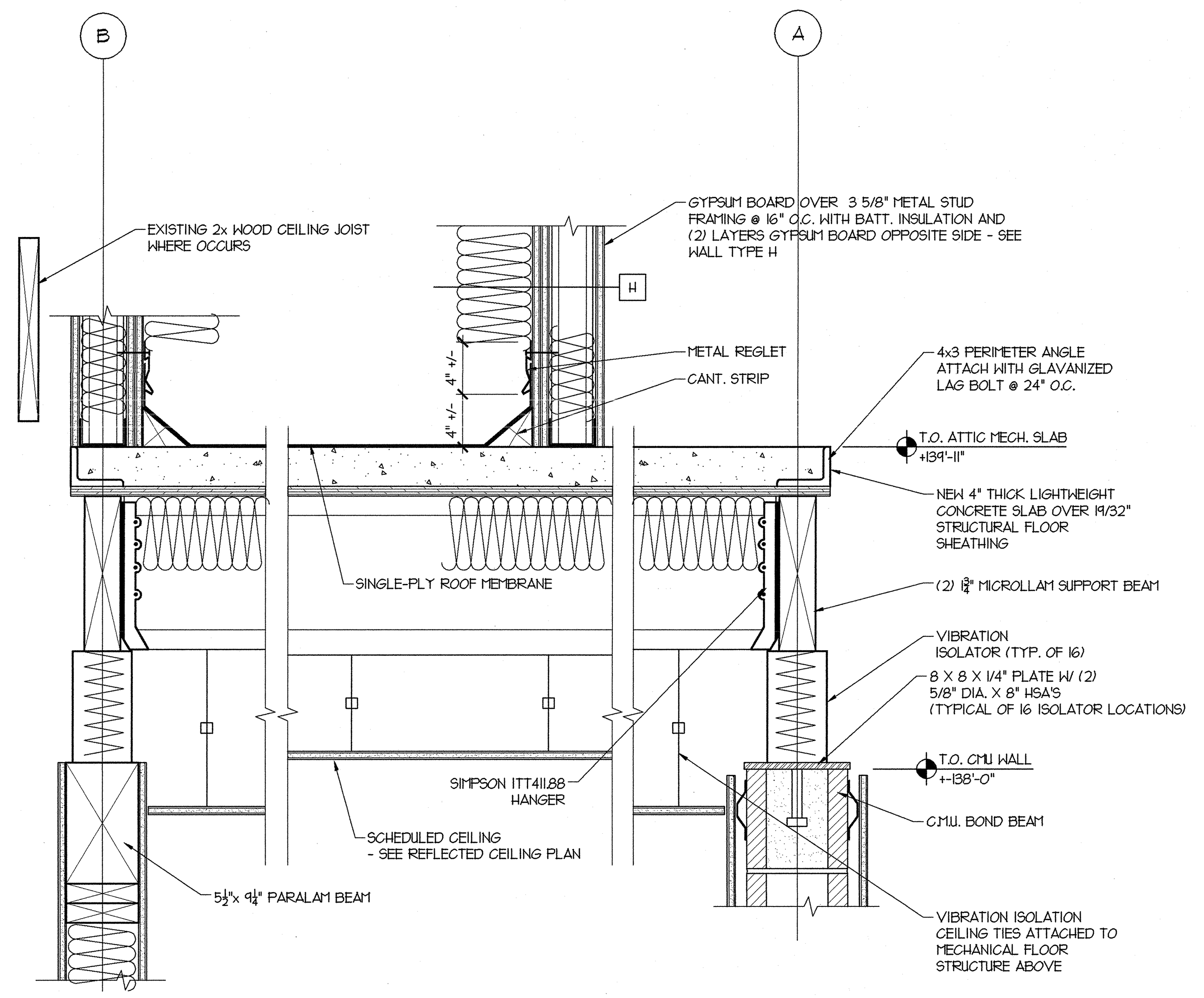
E3 ATTIC FLOOR SECTION
1-1/2" = 1'-0"

AE504-E3-08



E6 SHAFT DETAIL
3" = 1'-0"

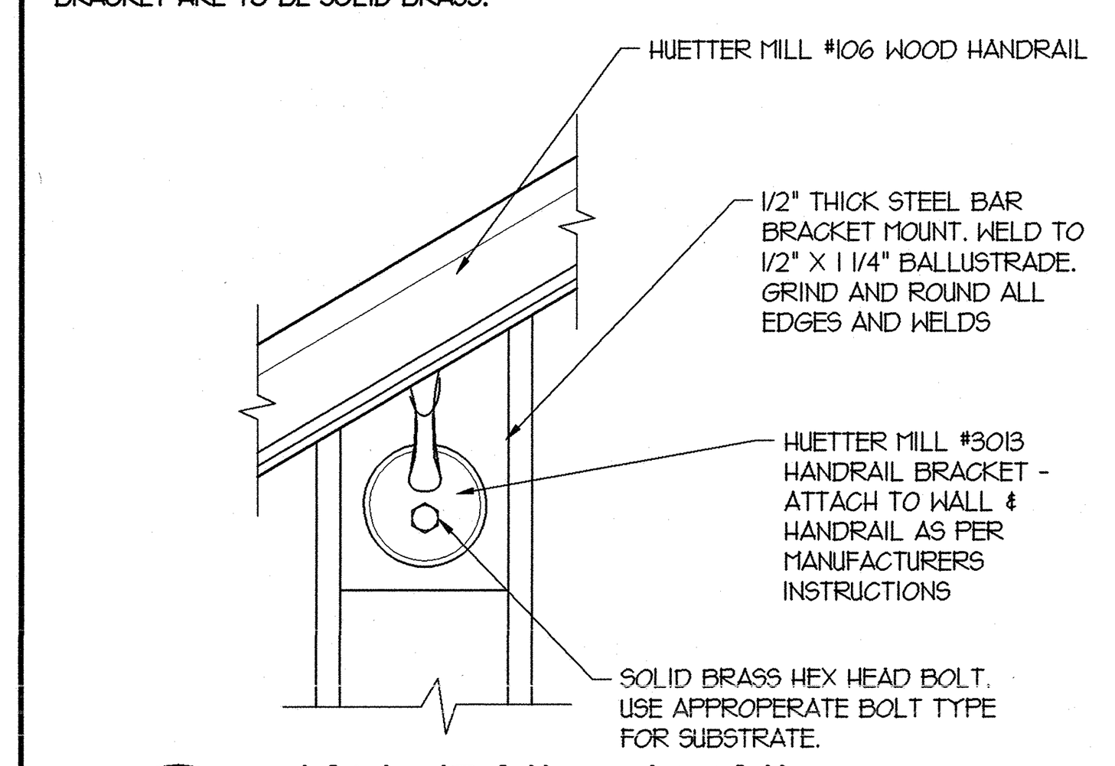
AE501-E6-04



C3 ATTIC FLOOR SECTION
1-1/2" = 1'-0"

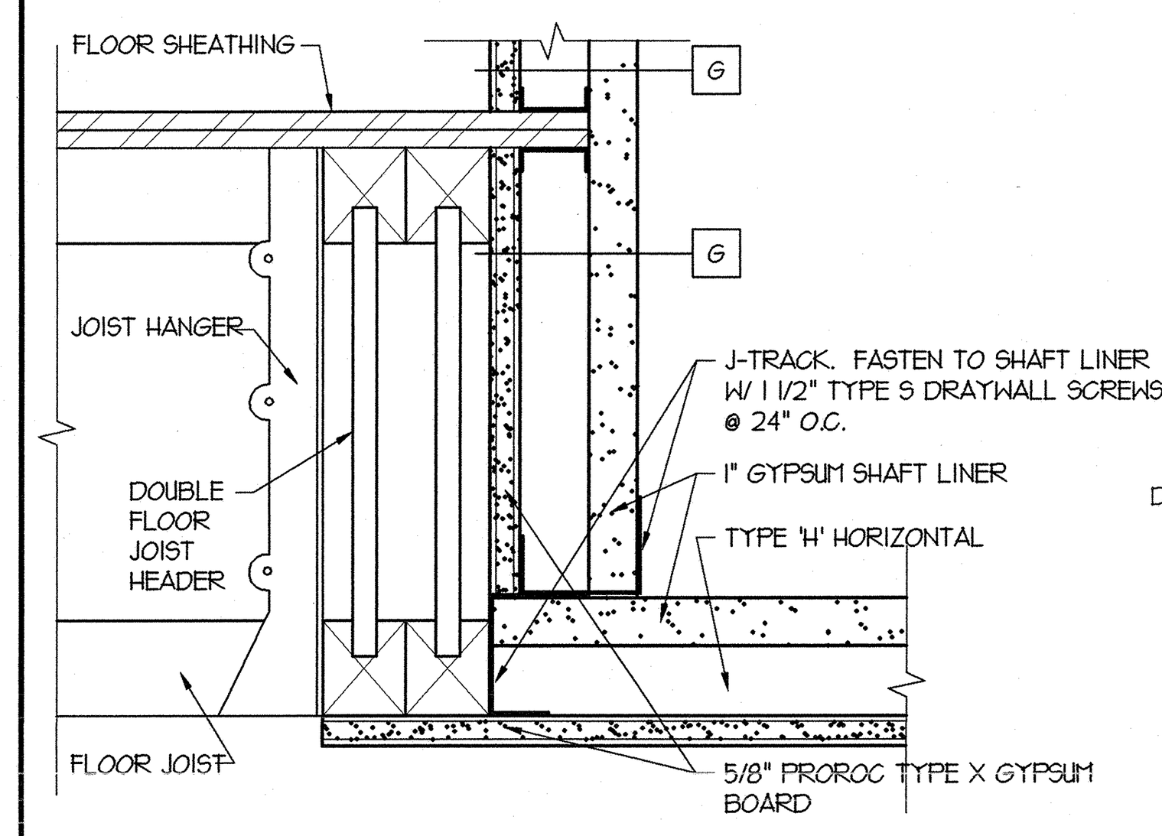
AE504-C3-08

NOTE:
1. ALL FASTENERS AND COMPONENTS IN CONTACT WITH THE HANDRAIL BRACKET ARE TO BE SOLID BRASS.



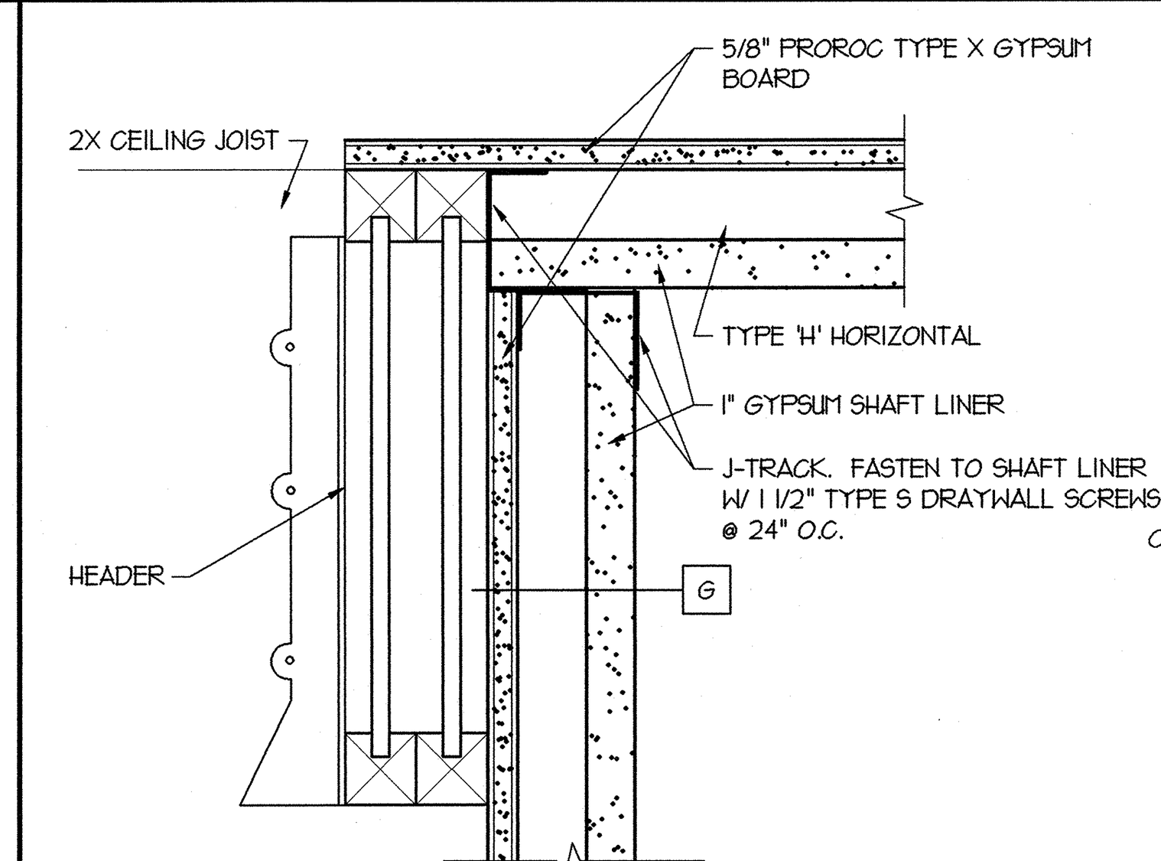
D5 HANDRAIL DETAIL
3" = 1'-0"

AE504-D5-04



D6 SHAFT DETAIL
3" = 1'-0"

AE501-D6-04



C6 SHAFT DETAIL
3" = 1'-0"

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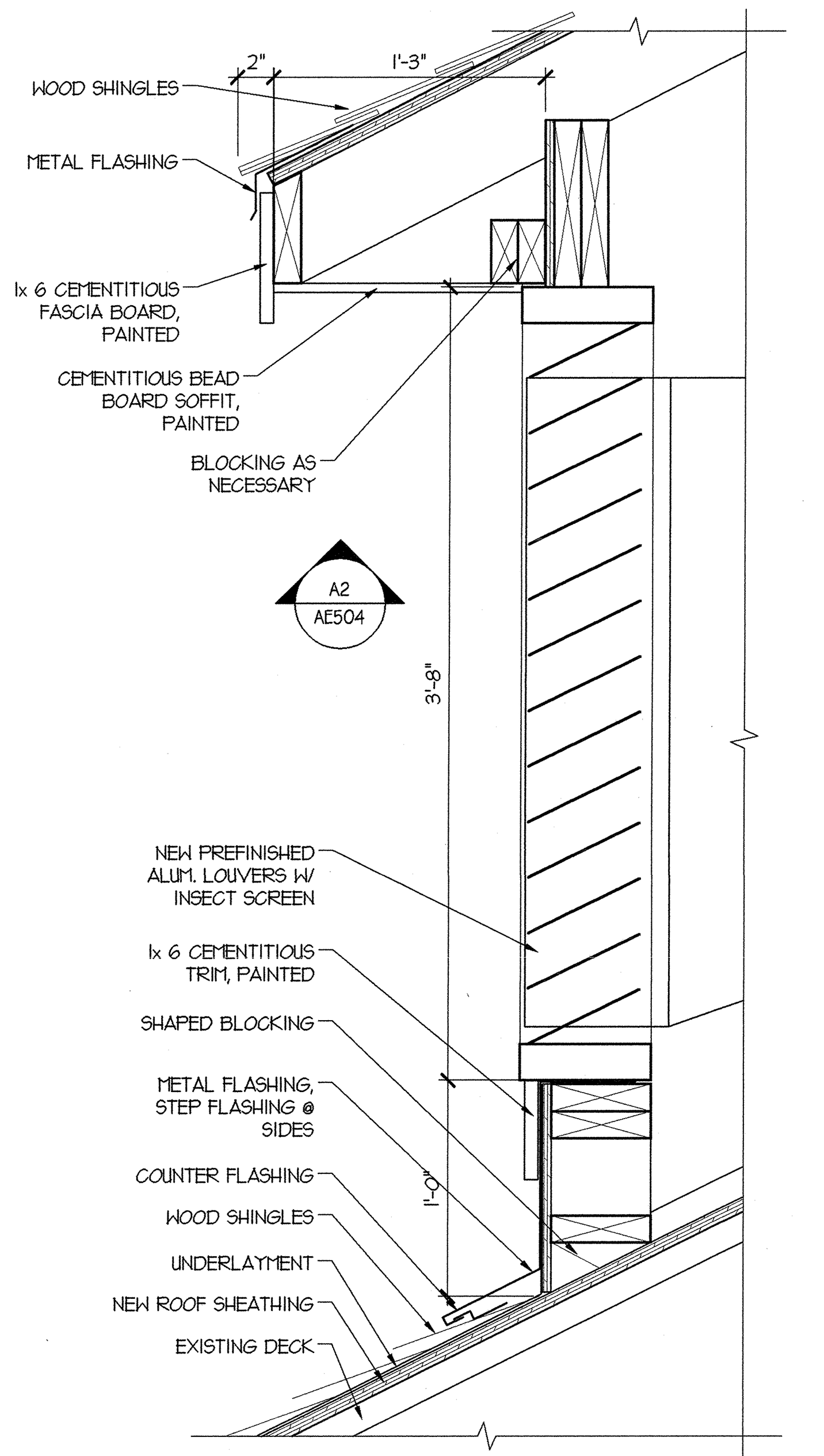
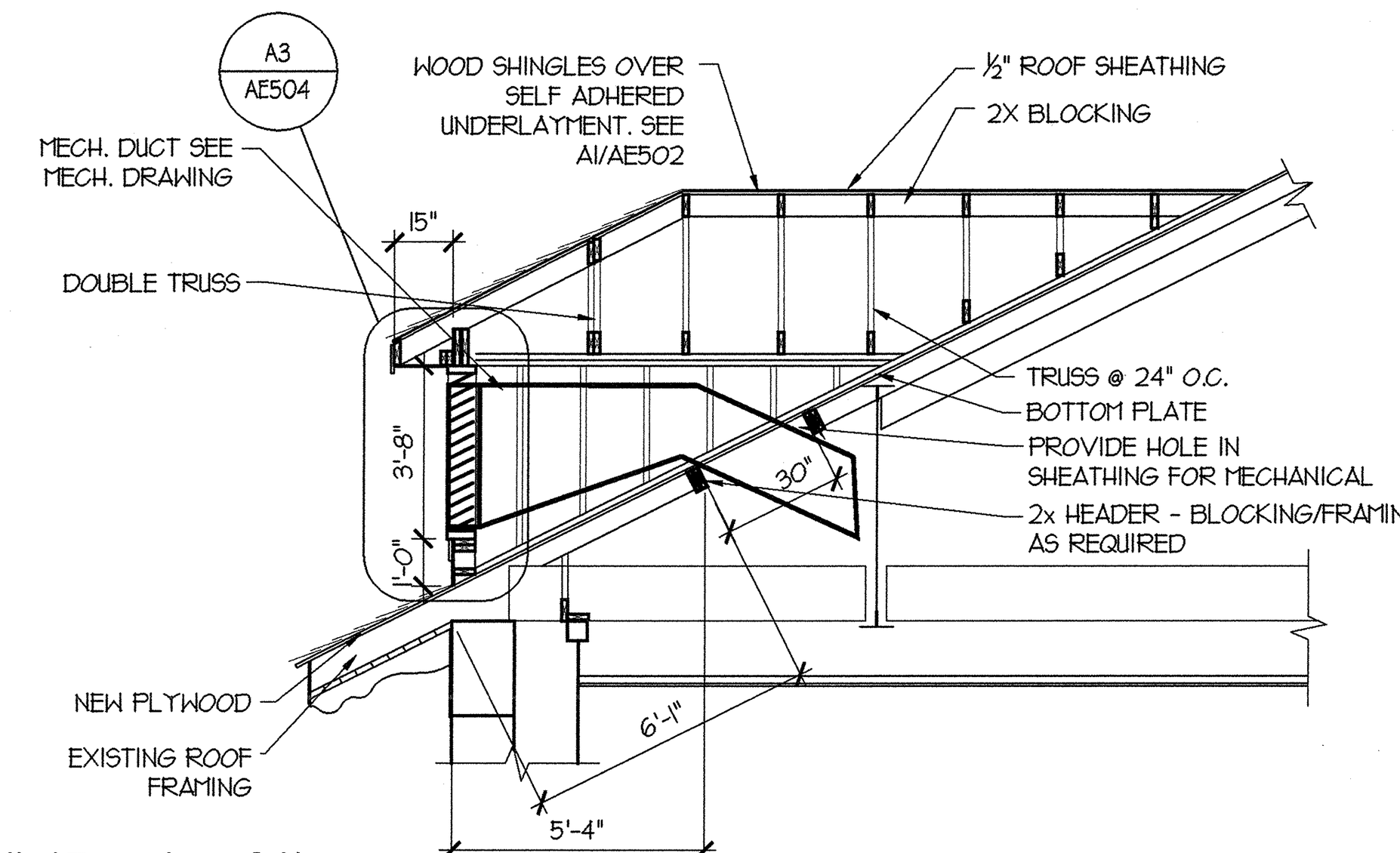
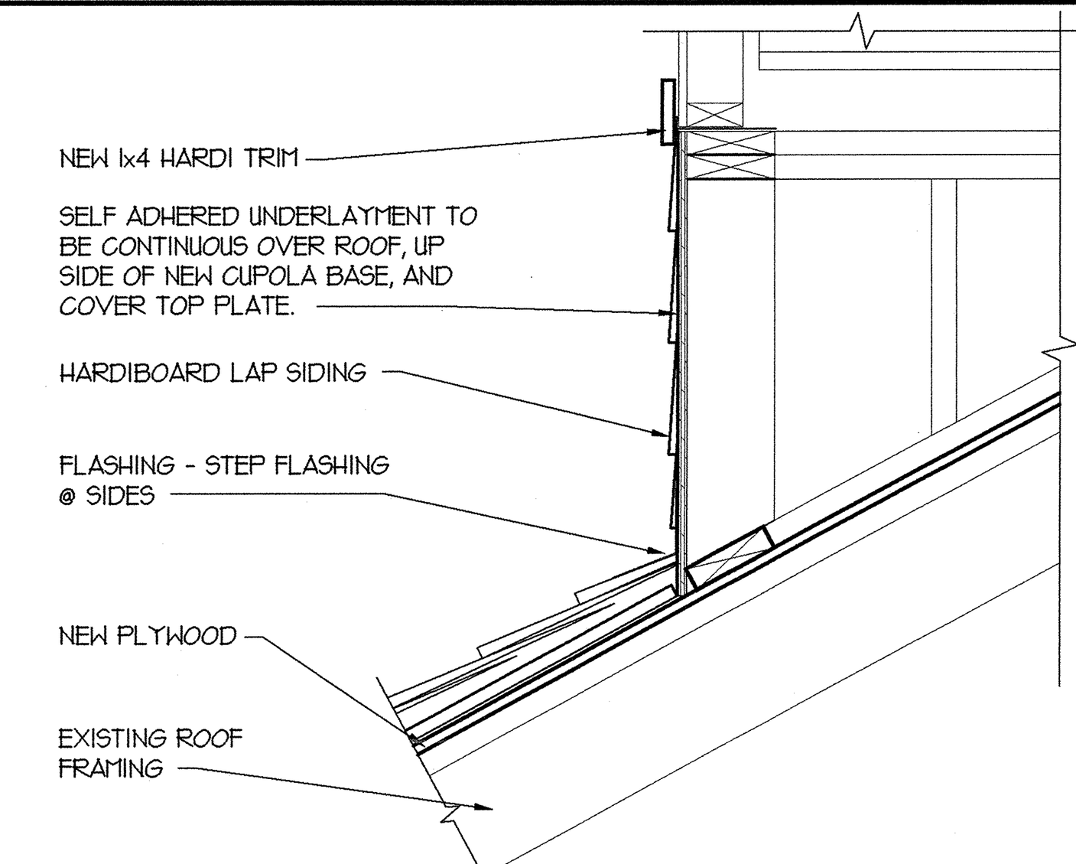




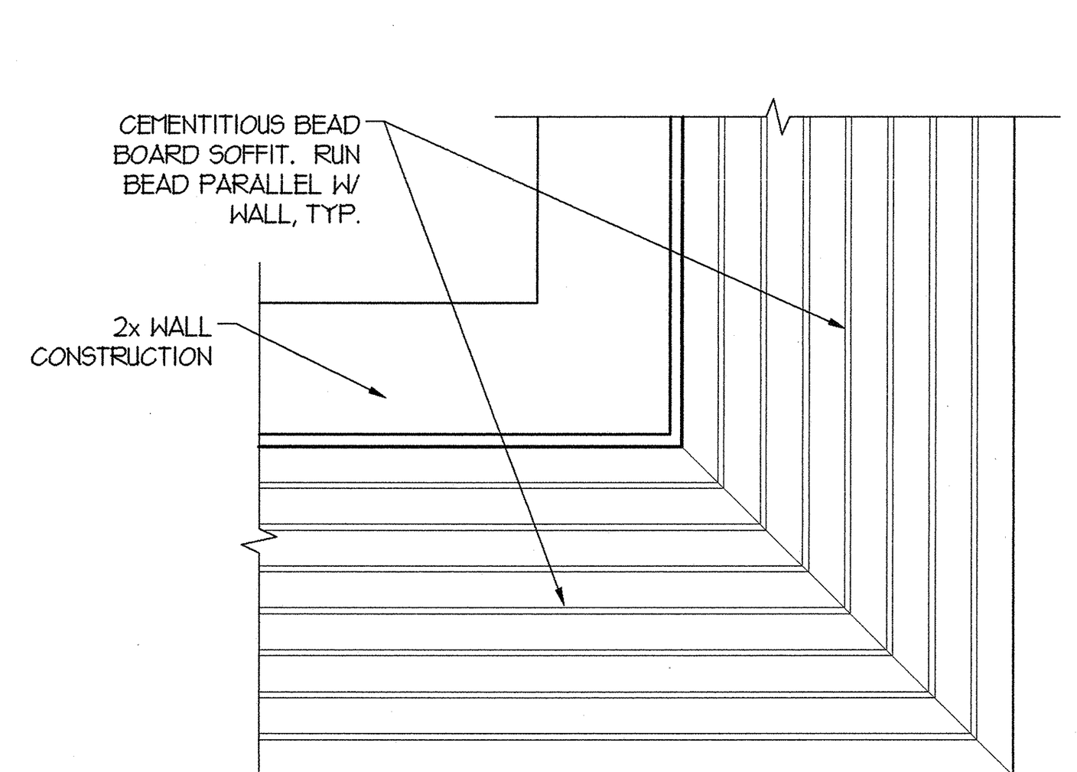
B4 DORMER DETAIL
1/4" = 1'-0"

AE503-C3-04B



B6 CUPOLA BASE
1" = 1'-0"

AE504-B6-12

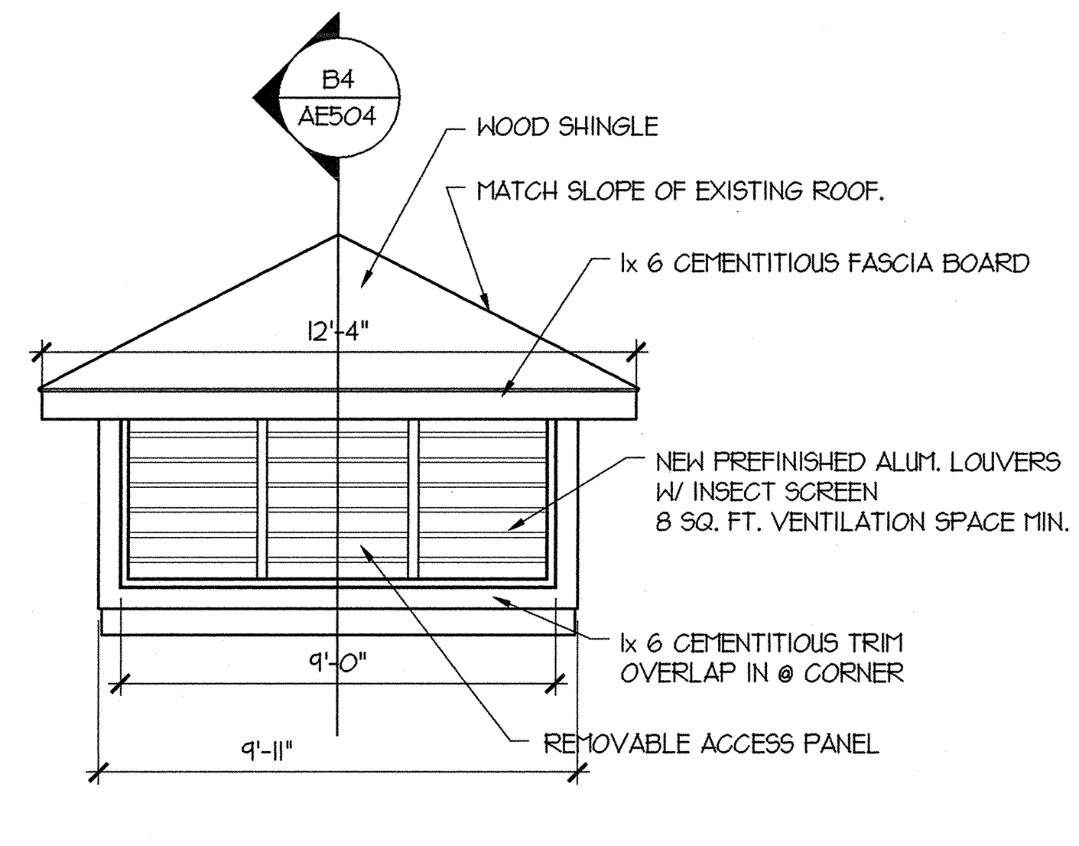


A2 SOFFIT DETAIL
1-1/2" = 1'-0"

AE504-A2-08

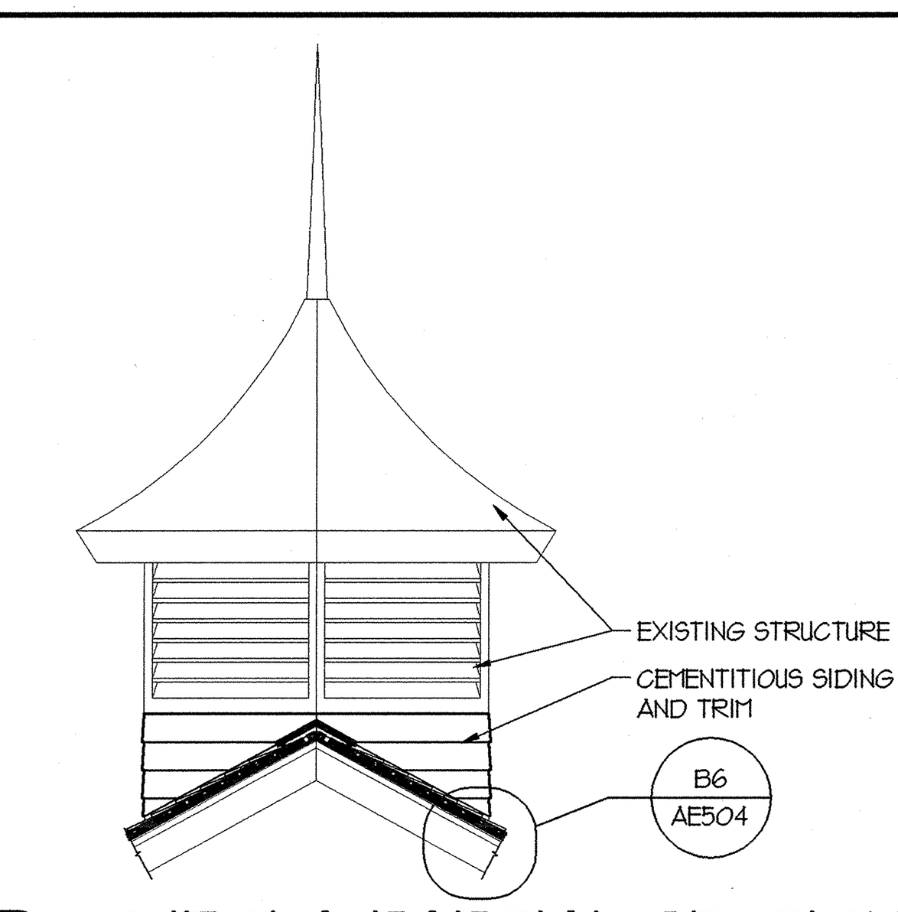
A3 DORMER LOUVER DETAIL
1-1/2" = 1'-0"

AE504-A3-08



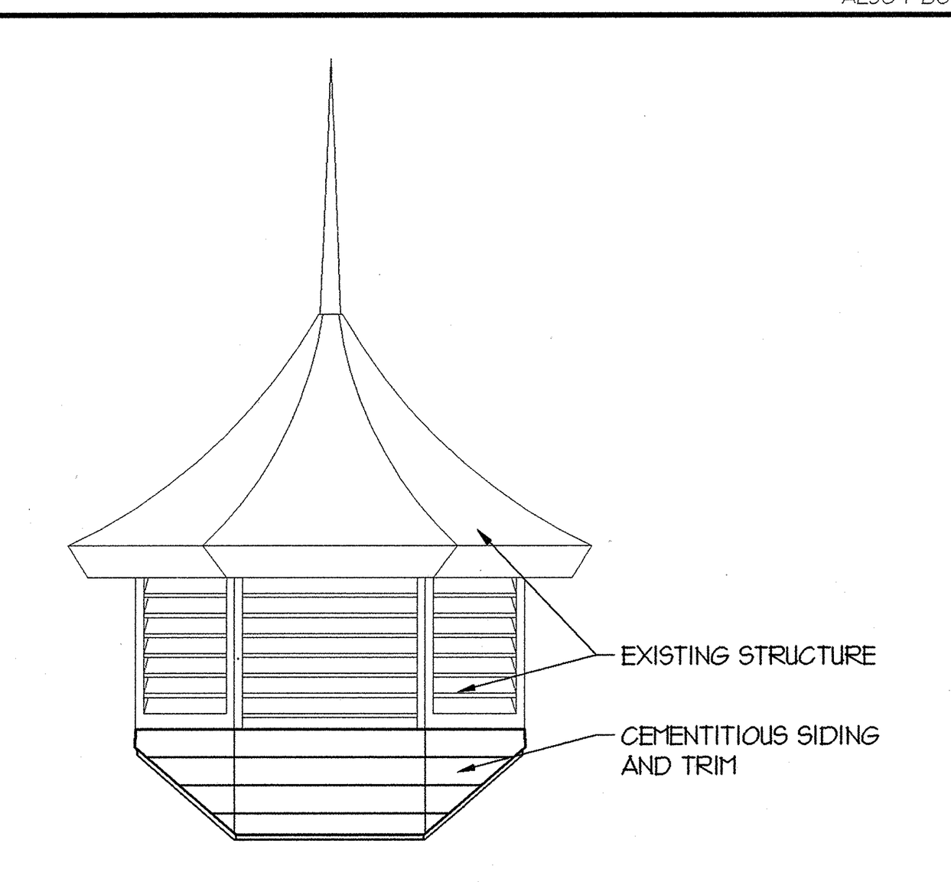
A4 DORMER ELEVATION
1/4" = 1'-0"

AE504-A4-04B



A5 CUPOLA PARTIAL SECTION
1/4" = 1'-0"

AE504-A5-04B



A6 CUPOLA ELEVATION
1/4" = 1'-0"

AE504-A6-04B

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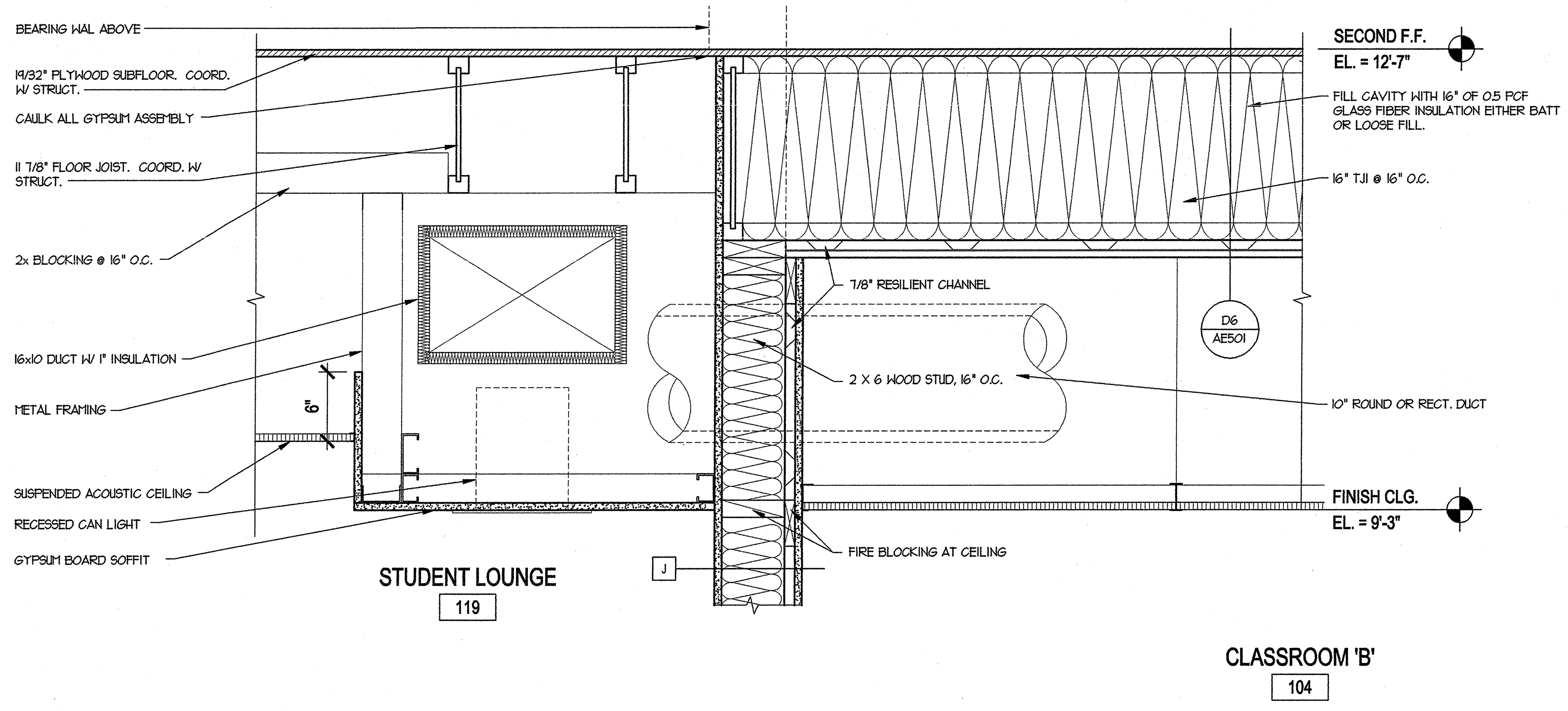
ARCHITECT PROJECT NO.: B04-012
DFCM PROJECT NO.: 03234730

CONSTRUCTION -FINISH DETAILS

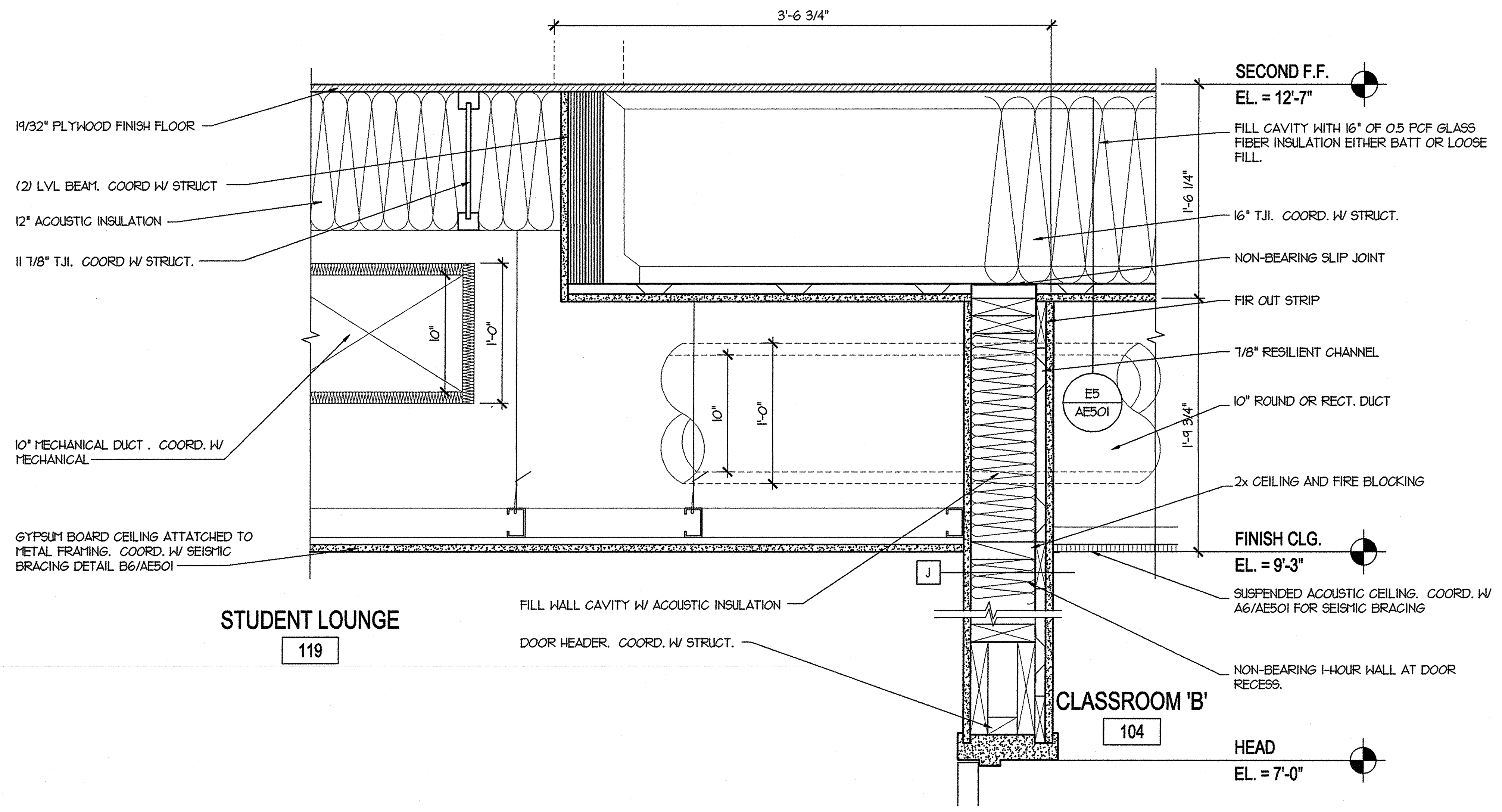
AE504



C1 SOUND WALL TERMINATION DETAIL

1-1/2"=1'-0"

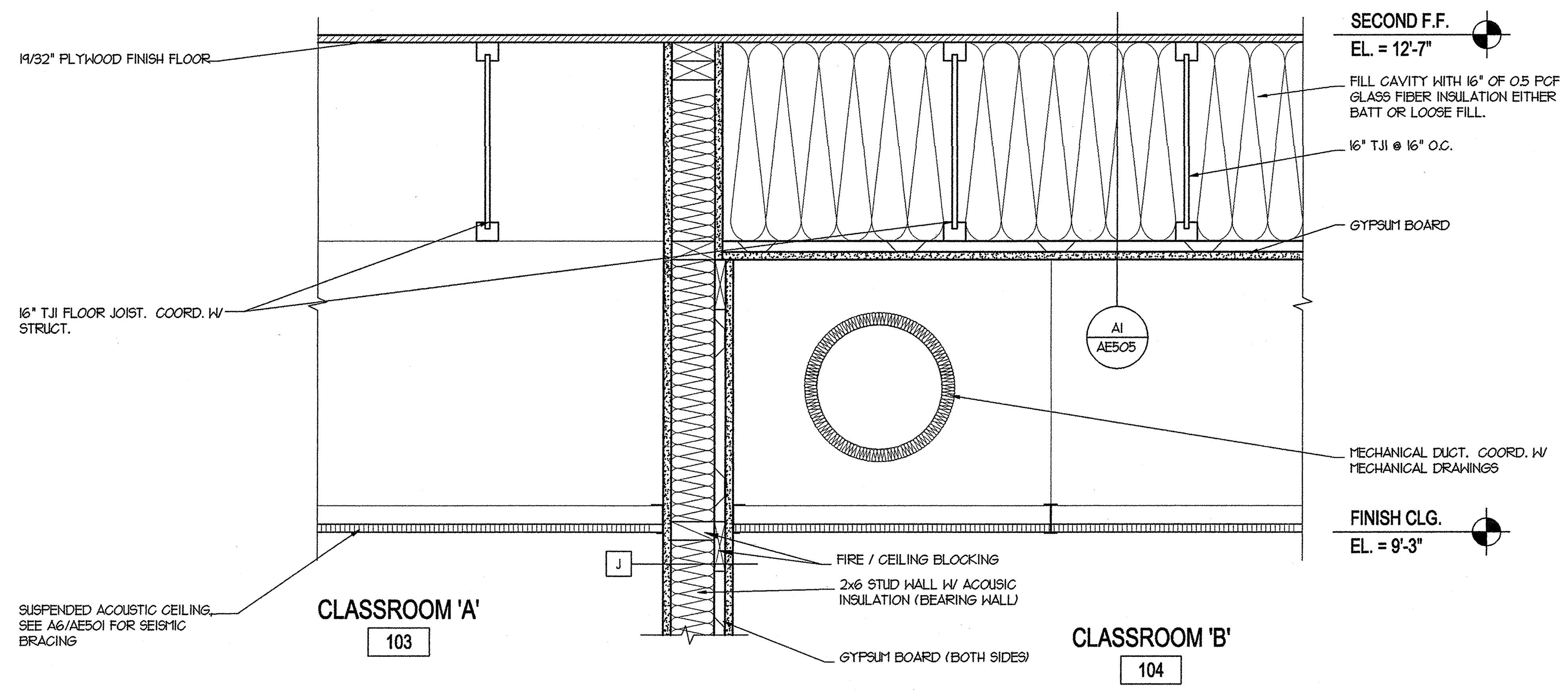
AE504-E1-08



A1 SOUND WALL TERMINATION DETAIL

1-1/2" =1'-0"

AE504-E8-08



A4 SOUND WALL TERMINATION DETAIL

1 1/2"=1'-0"

AE504-E6-08

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1/19/06

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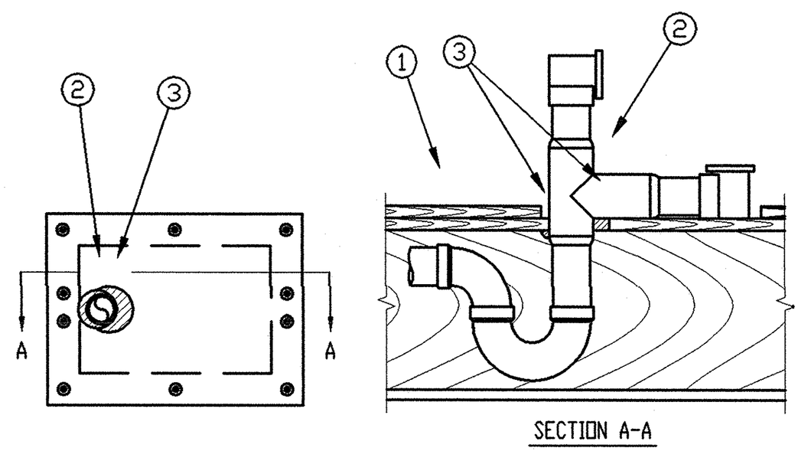
ARCHITECT PROJECT NO.: B04-012
DFCM PROJECT NO.: 03234730
BR

CONSTRUCTION FINISH DETAILS

AE505

System No. F-C-2204
F Rating = 1 Hr
T Rating = 1/2 Hr

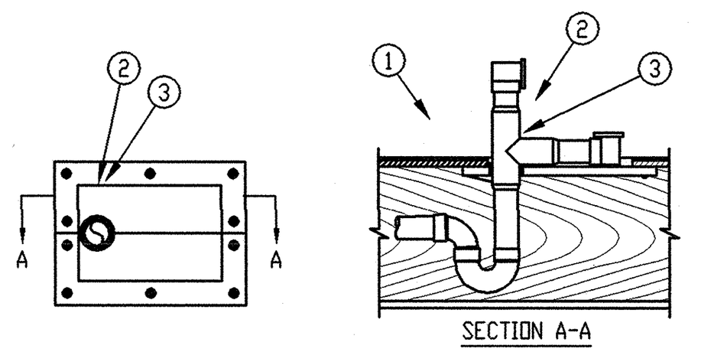


SECTION A-A

1. Floor — Ceiling Assembly The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in theUL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Rectangular cutout in flooring to accommodate the bathtub drain piping (Item 2) to be max 8 in. by 12 in. Cutout to be patched on underside of subfloor using one layer of min 3/4 in. thick plywood or min 5/8 in. thick gypsum board (Item 1C) sized to lap min 2 in. beyond each edge of rectangular cutout. Patch split into two pieces at opening and hole-sawed for bathtub drain piping. Diam of opening hole sawed through patch to accommodate drain piping (Item 2) to be 1 in. larger than outside diam of drain piping and positioned such that the annular space between drain piping and periphery of opening is min 0 in. (point contact) to max 1 in. Two pieces positioned around drain piping, with cut edges tightly butted, and screw-attached to underside of subfloor with 1-1/4 in. long steel screws spaced max 6 in. OC.
   B. Wood Joists* Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* Nom 5/8 in. thick, 4 ft wide as specified in the individual Floor-Ceiling Design.
2. Drain Piping Nom 1-1/2 in. (or smaller) diam Schedule 40 acrylonitrile butadiene styrene (ABS) or polyvinyl chloride (PVC) pipe and drain fittings cemented together and provided with ABS or PVC bathtub waste/overflow fittings. Annular space shall be min 0 in. (point contact) to max 1 in.
3. Fill Void or Cavity Materials* Min 5/8 in. depth or fill material applied within the annulus, flush with both surfaces of plywood or gypsum board patch.

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC — FS-ONE Sealant
*Bearing the UL Classification Mark

System No. F-C-2205
F Rating = 1 Hr
T Rating = 1 Hr

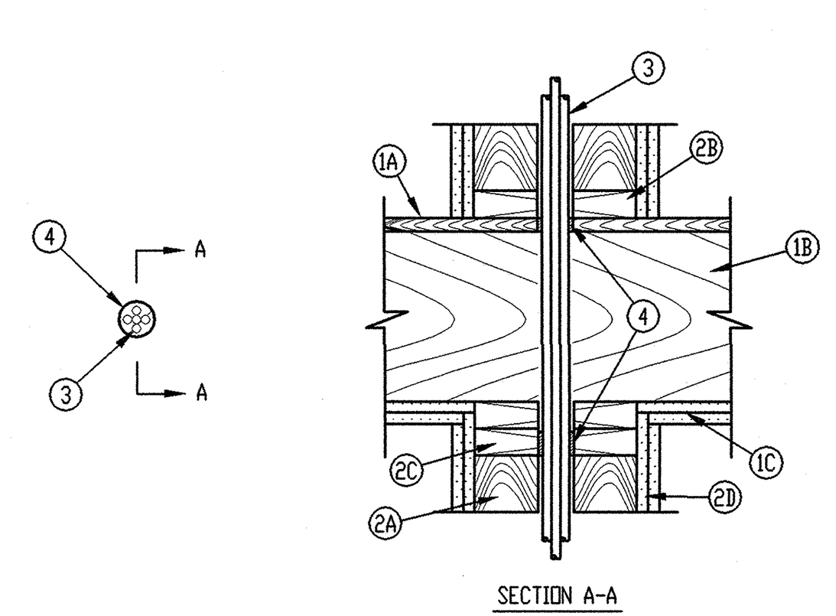


SECTION A-A

1. Floor -- Ceiling Assembly The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Rectangular cutout in flooring to accommodate the bathtub drain piping (Item 2) to be max 8 in. by 12 in. Cutout to be patched on underside of subfloor using one layer of min 3/4 in. thick plywood or min 5/8 in. thick gypsum board (Item 1C) sized to lap min 2 in. beyond each edge of rectangular cutout. Patch split into two pieces at opening and hole-sawed for bathtub drain piping. Diam of opening hole sawed through patch to accommodate drain piping (Item 2) to be 1/2 in. larger than outside diam of drain piping and positioned such that the drain piping is centered in opening. Two pieces positioned around drain piping, with cut edges tightly butted, and screw-attached to underside of subfloor with 1-1/4 in. long steel screws spaced max 6 in. OC.
   B. Wood Joists* Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* Nom 5/8 in. thick, 4 ft wide as specified in the individual Floor-Ceiling Design.
2. Drain Piping Nom 1-1/2 in. (or smaller) diam Schedule 40 acrylonitrile butadiene styrene (ABS) or polyvinyl chloride (PVC) pipe and drain fittings cemented together and provided with ABS or PVC bathtub waste/overflow fittings. Annular space shall be 1/4 in.
3. Fill Void or Cavity Materials* -- Wrap Strip Nom 1/4 in. thick by 1 in. wide intumescent wrap strip. One layer of wrap strip wrapped around drain piping with ends butted and held in place with masking tape. Wrap strip installed within annulus flush with bottom surface of plywood or gypsum board patch.

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC -- CP 645 Wrap Strip
*Bearing the UL Classification Mark

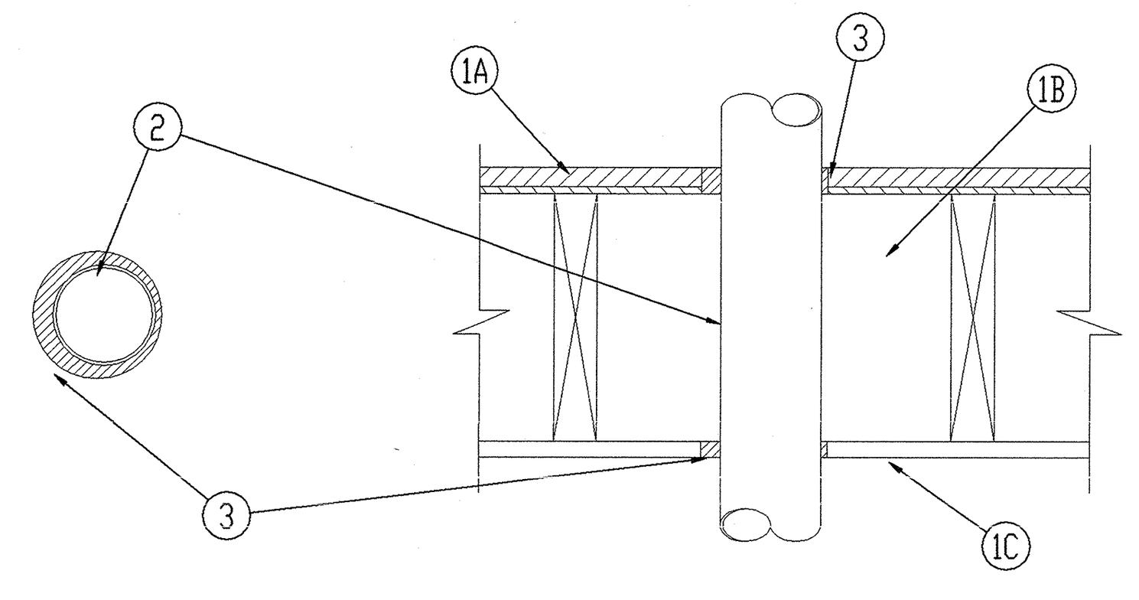
System No. F-C-3012
F Ratings = 1 and 2 Hr (See Item 1)
T Ratings = 1 and 2 Hr (See Item 1)



SECTION A-A

1. Floor-Ceiling Assembly – The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the Design No. L505, L511 or L536 in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the rating of the floor-ceiling assembly. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening for 1 or 2 hr assembly is 2-1/2 in. or 2 in., respectively.
   B. Wood Joists* For 1 hr fire-rated floor-ceiling assemblies nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped. For 2 hr fire-rated floor-ceiling assemblies, nom 2 by 10 in. lumber joists spaced 16 in. OC with nom 1 by 3 in. lumber bridging and with ends firestopped.
   C. Furring Channels (Not Shown) – Resilient galv steel furring installed perpendicular to wood joists between first and second layers of wallboard in 2 hr fire-rated assembly. Furring channels spaced max 24 in. OC.
   D. Gypsum Board* Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. First layer of wallboard nailed to wood joists. Second layer (2 hr fire-rated assembly) of wallboard screw-attached to furring channels.
2. Chase Wall – The through penetrant (Item 3) shall be routed through a fire-rated single, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. Sole Plate Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. Top Plate The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening for 1 or 2 hr rated assembly is 2-1/2 in. or 2 in., respectively.
   D. Gypsum Board* Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.
3. Cables – In 1 hr fire-rated assemblies, aggregate cross-sectional area of cables in opening to be max 45 percent of the cross-sectional area of the opening (max 2 in. diam bundle). Cables to be rigidly supported on both sides of floor assembly. Any combination of the following types and sizes of copper conductors may be used:
   A. RG 59 coaxial cable with single copper conductor, cellular polyethylene cellular foam insulation and polyvinyl chloride (PVC) jacket.
   B. Max 8/C No. 22 AWG telephone cable with polyvinyl chloride (PVC) jacketing.
   C. Max 2/C No. 12 AWG cable with polyvinyl chloride (PVC) insulation and jacketing.
   D. Max 3/C with ground No. 2/0 AWG aluminum or copper Type SER cable with polyvinyl chloride (PVC) insulation.
   E. Max 3/C with ground No. 2/0 AWG Type NM cable with polyvinyl chloride (PVC) insulation.
   F. Max 3/C No. 12 AWG MC (BX) cable with polyvinyl chloride (PVC) insulation.
4. Fill, Void or Cavity Material* – Sealant – Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor. A generous bead of fill material also applied within the annulus of the top plate, flush with bottom surface of lower top plate.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC – FS611A Sealant or FS-One Sealant
*Bearing the UL Classification Marking

System No. F-C-7013
F Rating = 1 Hr
T Rating = 0 Hr

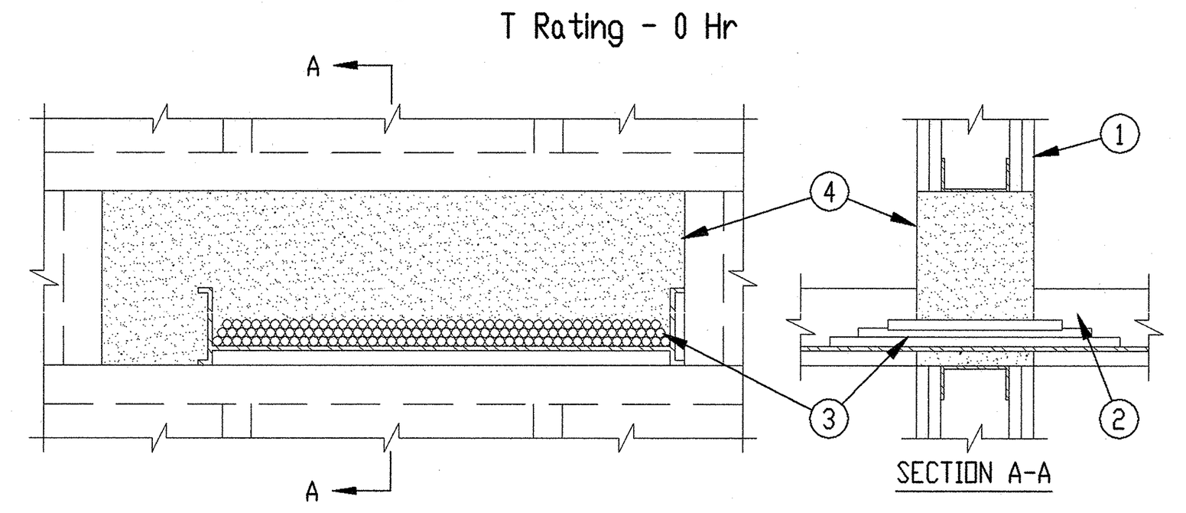


SECTION A-A

1. Floor-Ceiling Assembly – The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1-1/4 in. larger than the nom diam of duct (Item 2).
   B. Wood Joist* Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Diam of opening shall be 1-1/4 in. larger than nom diam of duct (Item 2).

1.1 Chase Wall (Not shown, Optional) – The through penetrants (Item 2) may be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Nom 2 by 6 in. lumber or double nom 2 by 4 in. lumber studs.
   B. Sole Plate Nom 2 by 6 in. lumber or parallel 2 by 4 in. lumber plates, tightly butted.
   C. Top Plate The double top plate shall consist of two nom 2 by 6 in. lumber plates or two sets of nom 2 by 4 in. lumber plates tightly butted. Max diam of opening is 5-1/4 in.
   D. Gypsum Board* Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.
2. Steel Duct – Nom 4 in. diam (or smaller) No. 28 gauge (or heavier) steel duct to be installed either concentrically or eccentrically within the firestop system. The annular space between duct and periphery of opening shall be min of 1/4 in. to max 3/4 in. Steel duct to be rigidly supported on both sides of floor-ceiling assembly.
3. Fill, Void or Cavity Materials* – Sealant – Min 3/4 in. thickness of sealant applied within the annular space, flush with top surface of floor. Min 5/8 in. thickness of sealant applied within annular space, flush with bottom surface of gypsum wallboard or lower top plate.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC – FS-ONE Sealant
*Bearing the UL Classification Marking

System No. W-L-4034
F Ratings – 1 and 2 Hr (See Items 1 and 4)
T Rating – 0 Hr



SECTION A-A

1. Wall Assembly The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features.
   A. Studs Steel studs 3-1/2 in. deep, fabricated from 25 MSG galv steel, spaced max 24 in. OC.
   B. Gypsum Boards* The gypsum board type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max area of opening is 270 sq in. with max dimension of 30 in.

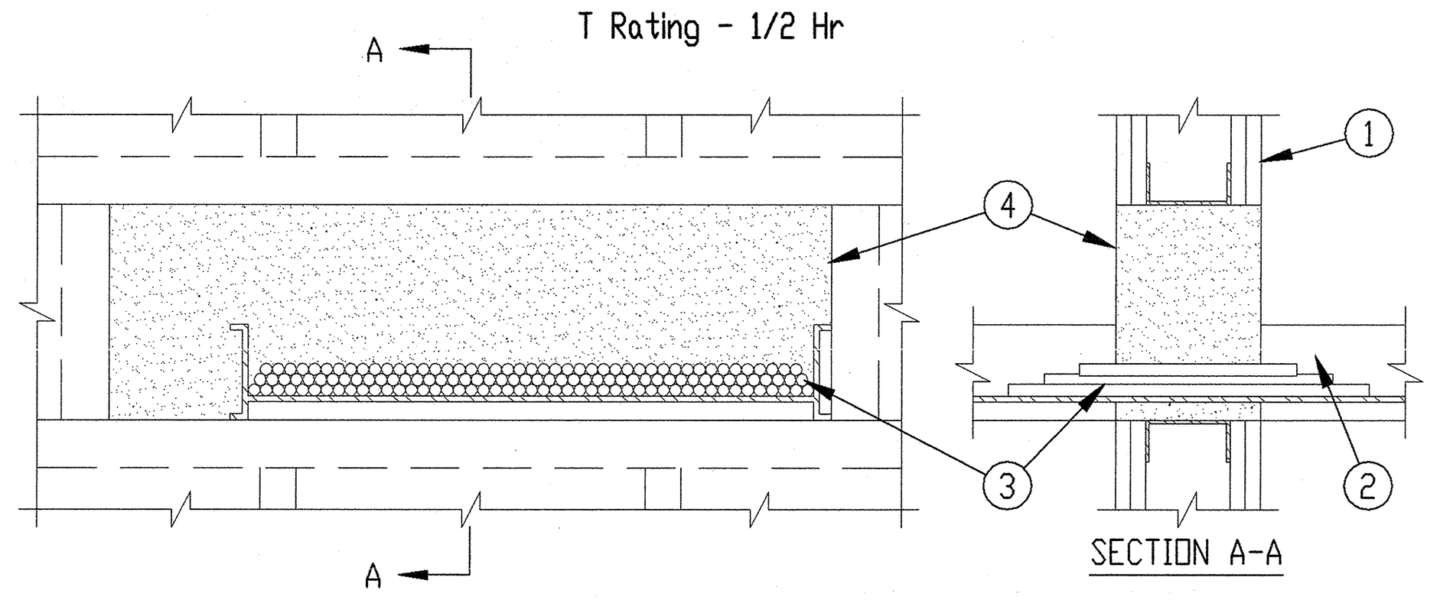
The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Cable Tray* Max 24 in. wide by 4 in. deep open-ladder cable tray with channel-shaped side rails formed of 0.10 thick aluminum and 1-1/2 in. wide by 1 in. channel shaped rungs spaced on 9 in. OC. The annular space between cable tray and periphery of opening shall be min 0 in. (point contact) to max 5 in. Cable tray to be rigidly supported on both sides of wall assembly.
3. Cables Aggregate cross-sectional area of cable tray to be max 45 percent of the cross-sectional area of the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:
   A. Max 300 pair No. 24 AWG telephone cable with polyvinyl chloride (PVC) insulation and jacket.
   B. Max 500 kcmil single conductor power cable with PVC jacket material.
   C. Multiple fiber optical communication cable jacketed with PVC and having a max OD of 3/8 in.
   D. Max 3/C No. 12 AWG copper conductor steel clad cable with PVC insulation material.
4. Firestop System The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material -- Foam Fill material applied within annulus, flush with both surfaces of the wall. Min fill material thickness for 1 Hr F Rating is 4-3/4 in. Min fill material thickness for 2 Hr F Rating is 6 in.
   B. Fill, Void or Cavity Material* -- Fire Blocks (Optional -- Not Shown) -- Nom 2 in. deep Fire Blocks applied in a single layer above cables within cable tray with 5 in. dimension projecting through opening in wall and long dimension parallel to wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC -- FS 657 Fire Block

*Bearing the UL Classification Mark

System No. W-L-1249
F Ratings – 1 and 2 Hr (See Items 1 and 3)
T Rating – 1/2 Hr



SECTION A-A

1. Wall Assembly The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features.
   A. Studs Steel studs 3-1/2 in. deep, fabricated from 25 MSG galv steel, spaced max 24 in. OC.
   B. Gypsum Boards* The gypsum board type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max area of opening is 360 sq in. with max dimension of 30 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

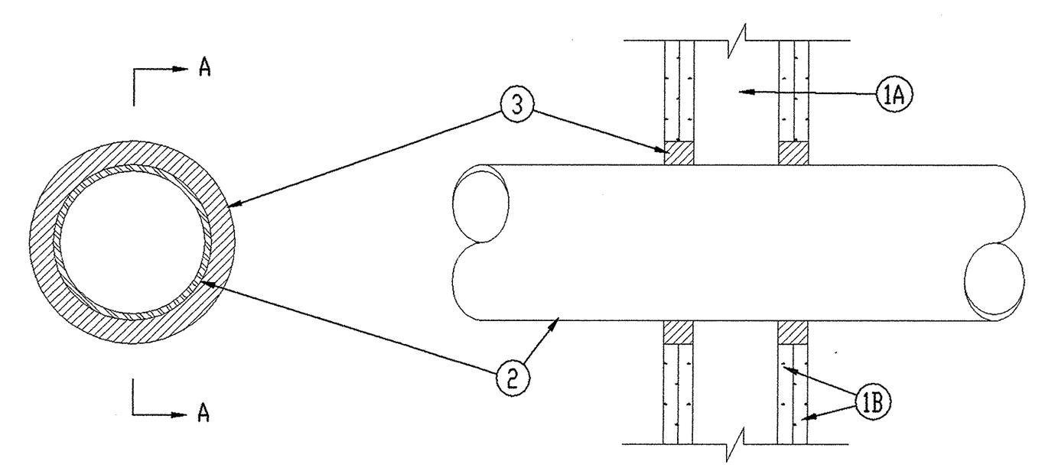
2. Through Penetrants One or more nom 2 in. diam (or smaller) rigid steel conduit or electrical metallic tubing (EMT) to be installed within the opening. The annular space between conduits or tubing shall be min 0 in. (point contact) to max 3-3/8 in. The annular space between conduits or tubing and periphery of opening shall be min 0 in. (point contact) to max 3 in. Conduit or tubing to be rigidly supported on both sides of wall assembly.
3. Fill Void or Cavity Material – Foam* Fill material applied within annulus flush with both surfaces of the wall. Min fill material thickness for 1 Hr F Rating is 4-3/4 in. Min fill material thickness for 2 Hr F Rating is 6 in.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 620 Fire Foam

*Bearing the UL Classification Mark

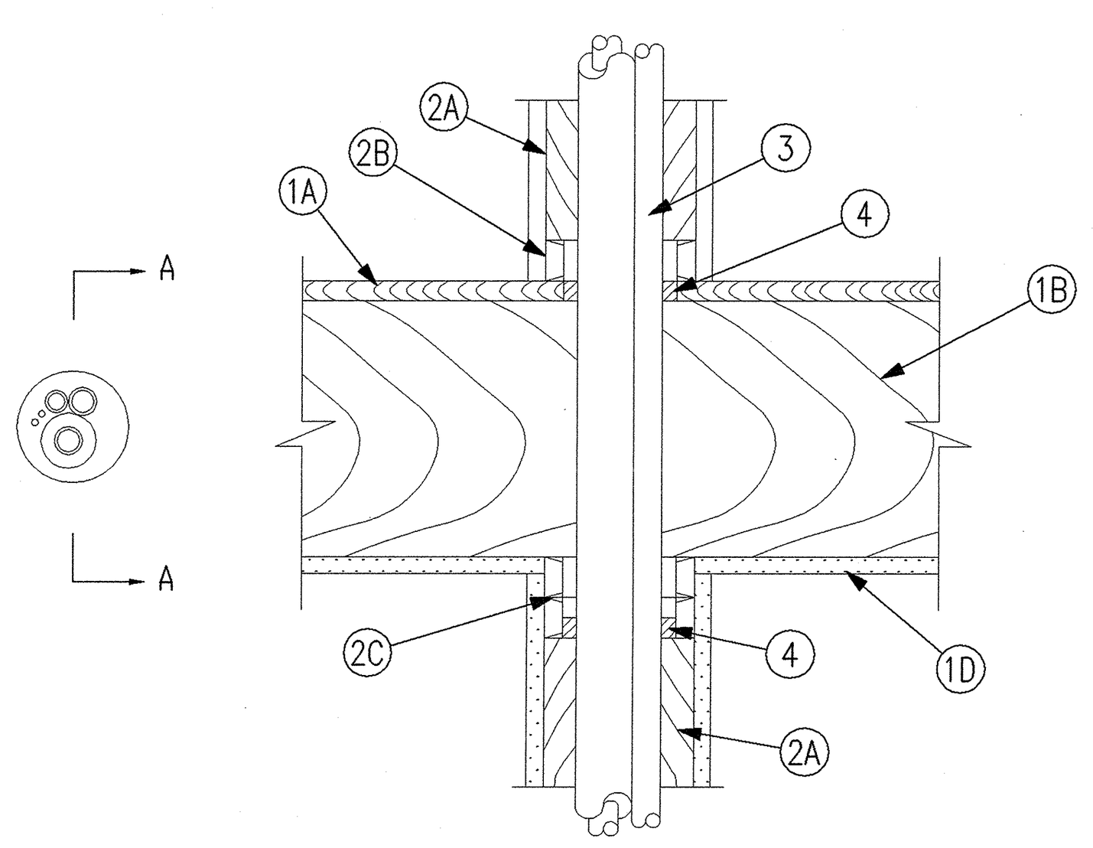
System No. W-L-1054
F Ratings – 1 and 2 Hr (See Items 1 and 3)
T Rating – 0 Hr
L Rating At Ambient – Less Than 1 CFM/Sq Ft
L Rating At 400 F – 4 CFM/Sq Ft



SECTION A-A

1. Wall Assembly The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls. The F Rating of the firestop system is equal to the fire rating of the wall assembly.
2. Through-Penetrants One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe Nom 30 in diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe Nom 30 in. diam (or smaller) cast or ductile iron pipe.
   C. Conduit Nom 4 in diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.
   D. Copper Tubing Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe Nom 6 in. diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* -- Sealant Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC -- FS-One Sealant
*Bearing the UL Classification Mark

System No. F-C-8014
F Rating = 1 Hr
T Rating = 1 Hr



SECTION A-A

1. Floor – Ceiling Assembly The 1 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory, as summarized below:
   A. Floor System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in individual Floor-Ceiling Design. Max diam of floor opening is 3 in.
   B. Joists Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with end firestopped.
   C. Gypsum Board* Nom 5/8 in. thick as specified in the individual Floor-Ceiling Design.
2. Chase Wall The through pendent (Item 3) shall be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. Sole Plate Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. Top Plate The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of openings is 3 in.
   D. Gypsum Board* Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition Design.
3. Through-Penetrants Pipes, conduits, tubing and cables to be bundled and centered in the opening. The space between penetrants and the periphery of the opening shall be min 1/4 in. to max 3/4 in. Penetrants to be rigidly supported on both sides of the floor-ceiling assembly.
   A. Metallic Pipes A max of two metallic pipes, conduits or tubing, (one 3/4 in. diam and one 1/2 in. diam) to be installed within the firestop system. The following types and sizes of metallic pipes, conduits or tubing may be used:
      A1. Steel Pipe Nom 3/4 in. diam (or smaller) Schedule 5 (or heavier) steel pipe.
      A2. Conduit Nom 3/4 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
      A3. Copper Tubing Nom 3/4 in. diam (or smaller) Type L (or heavier) copper tubing.
      A4. Copper Pipe Nom 3/4 in. diam (or smaller) Regular (or heavier) copper pipe.
   B. Nonmetallic Pipes A max of one nonmetallic pipe to be installed within the firestop system. The following types and sizes of nonmetallic pipes may be used:
      B1. Polyvinyl Chloride (PVC) Pipe Nom 1/2 in. diam (or smaller) Schedule 40 solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
      B2. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 1/2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. Cables A max of two 4/C No. 18 AWG (or smaller) thermostat cables with PVC insulation and PVC/nylon jacketing material.
   D. Tube Insulation – Plastic+ Nom 1/2 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Tube insulation to be installed on a max of one metallic pipe or tubing.
   See Plastics+ (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
4. Fill, Void or Cavity Material* – Sealant Min 3/4 in. thickness of fill material forced within the annulus on top surface of floor. Min 3/4 in. thickness of fill material forced within the annulus of the top plate flush with the bottom surface of the lower top plate.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC – FS – ONE Sealant
*Bearing the UL Classification Marking
+Bearing the UL Recognized Component Mark

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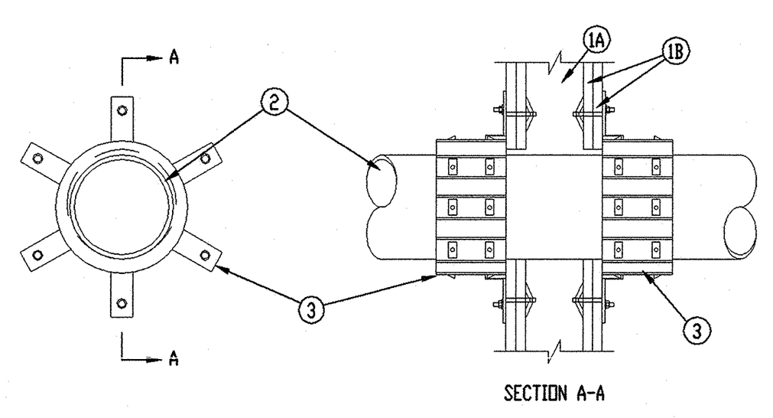
FIRE PENETRATION DETAILS

AE506



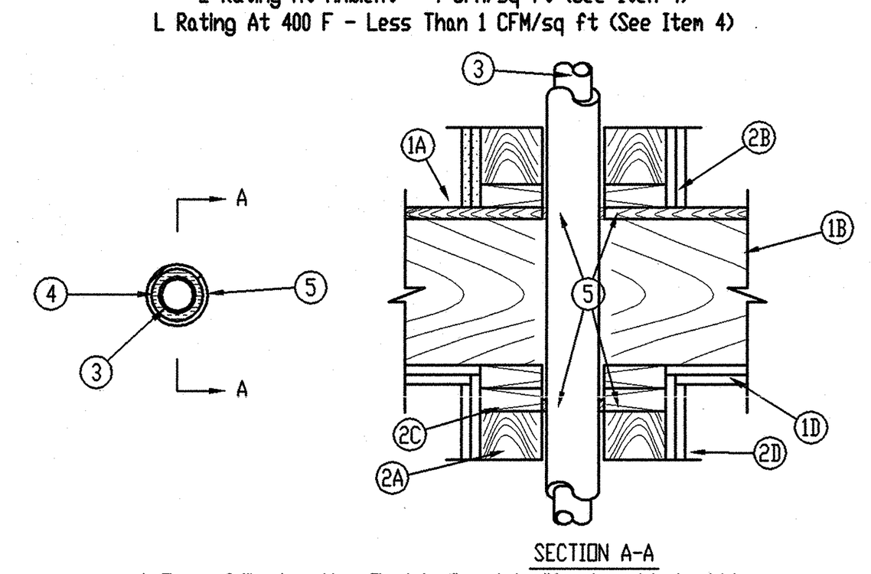
System No. W-L-2078
F Ratings - 1 & 2 Hr (See Item 1)
T Ratings - 1 & 2 Hr (see Item 1)

1. **Wall Assembly** The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL fire Resistance Directory and shall include the construction features noted below. The hourly F Rating and T Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed:
   A. **Studs** Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. **Gypsum Board*** Nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 7 in.
2. **Through-Penetrants** One nonmetallic pipe, conduit or tubing to be installed within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:
   A. **Polyvinyl Chloride (PVC) Pipe** Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   B. **Chlorinated Polyvinyl Chloride (CPVC) Pipe** Nom 6 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. **Acrylonitrile Butadiene Styrene (ABS) Pipe** Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   D. **Flame Retardant Polypropylene (FRPP) Pipe** Nom 6 in. diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
   E. Polyvinylidene Fluoride (PVDF) Pipe Nom 4 in. diam (or smaller) PVDF pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system.
3. Firestop Device* -- Firestop Collar Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. (Minimum 2 anchor hooks for 1-1/2 and 2 in. diam pipes, 3 anchor hooks for 3 and 4 in. diam pipes, and 6 anchor hooks for 6 in. diam pipes). The anchor hooks are to be secured to the surface of wall with 3/16 2-1/2 in. long toggle bolts along with washers.

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC -- CP 643 50/1.5", CP 643 63/2", CP 643 90/3", CP 643 110/4" or CP 642 160/6" Firestop Collar

*Bearing the UL Classification Mark

System No. F-C-5004
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1 and 2 Hr (See Item 1)
L Rating At Ambient - 4 CFM/sq ft (See Item 4)
L Rating At 400 F - Less Than 1 CFM/sq ft (See Item 4)

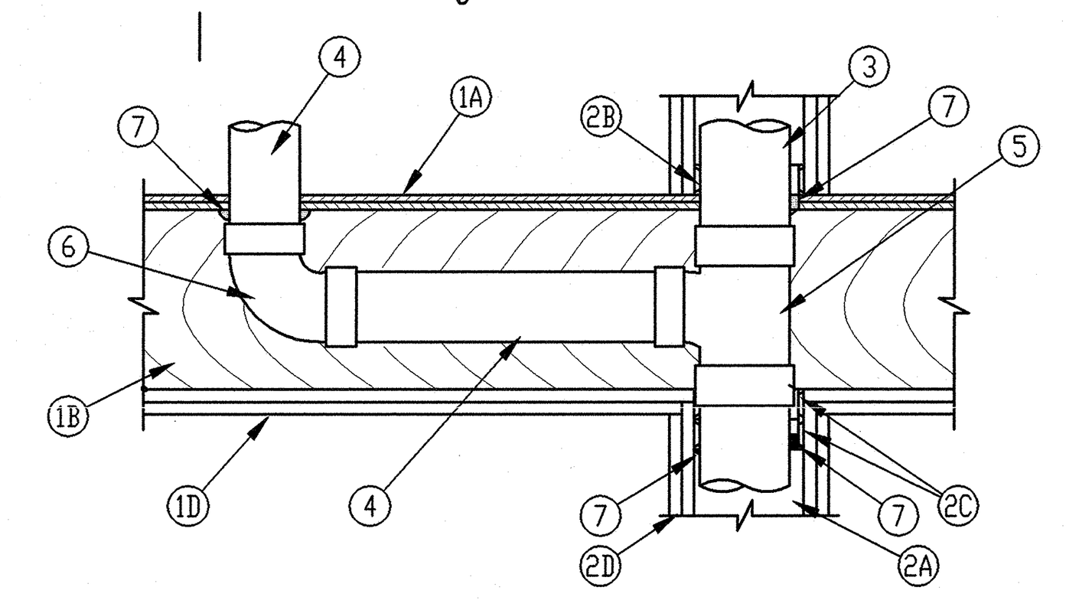


1. Floor - Ceiling Assembly - The 1 hr. fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The 2 hr fire-rated wood joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the Design No. L505, L511 or L536 in the UL Fire Resistance Directory. The F and T Rating of the firestop system is equal to the rating of the floor-ceiling assembly. The general constuction features of the floor-ceiling assembly are summarized below:
   A. Flooring System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 4 in.
   B. Wood Joists* - For 1 hr fire-rated floor-ceiling assemblies nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped. For 2 hr fire-rated floor-ceiling assemblies, nom 2 by 10 in. lumber joists spaced 16 in. OC with nom 1 by 3 in. lumber bridging and with ends firestopped.
   C. Furring Channels - (Not Shown) - Resilient galv steel furring installed perpendicular to wood joists between first and second layers of wallboard in 2 hr fire-rated assembly. Furring channels spaced max 24 in. OC.
   D. Wallboard, Gypsum* - Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. First layer of wallboard nailed to wood joists. Second layer (2hr fire-rated assembly) of wallboard screw-attached to furring channels.
2. Chase Wall - The through penetrant (Item 3) shall be routed through a 1 or 2 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs - Nom 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. Sole Plate - Nom 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted.
   C. Top Plate - The double top plate shall consist of two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 4 in.
   D. Wallboard, Gypsum* - Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.
3. Through Penetrants - One metallic pipe, conduit or tubing to be installed within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor assembly. The following types and sizes of metallic pipes or conduits may be used:
4. Pipe Covering - Nom 1/2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. A nom annular space of 1/8 in. is required within the firestop system.
   See Pipe and Equipment Covering - Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   A. Steel Pipe - Nom 2 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Conduit - Nom 2 in. diam (or smaller) steel electrical metallic tubing or steel conduit.
   C. Copper Tubing - Nom 2 in. diam (or smaller) Type L (or heavier) copper tubing
   D. Copper Pipe - Nom 2 in. diam (or smaller) Regular (or heavier) copper pipe.

4A. Tube Insulation - Platics+ - Nom 3/4 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. An annular space of min 1/8 in. to max 3/8 in. is required within the firestop system.
   See Plastics+ (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammabilty Classification of 94-5VA may be used.
   (Note: L Ratings apply only when glass fiber insulation is used.)
5. Fill, Void or Cavity Material* - Sealant - Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor. A generous bead of fill material also applied within the annulus of the top plate, flush with bottom surface of lower top plate.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI, Inc. - FS611A Sealant or FS-ONE Sealant
   (Note: L Ratings apply only when FS-ONE Sealant is used.)

*Bearing the UL Classification Marking

System No. F-C-2126
F Rating - 1 and 2 Hr (See Item 1)
T Rating - 3/4 and 1-3/4 Hr



1. Floor-Ceiling Assembly The 1or 2 hr fire-rated solid or trussed lumber joist Floor-Ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the rating of the floor-ceiling and wall assemblies. The general construction features of the floor-ceiling assembly are summarized below:

   A. Floor System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 5-1/2 in.

   B. Wood Joints Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and ends firestopped.

   C. Furring Channels (Not Shown) -- Resilient galv steel furring installed perpendicular to wood joists between wallboard and wood joists as required in the individual Floor-Ceiling Design. Furring channels spaced max 24 in. OC.

   D. Gypsum Board* Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Wallboard secured to wood joints or furring channels as specified in the individual Floor-Ceiling Design.

2. Chase Wall The through penetrants shall be routed through 1 or 2 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs Nom 2 by 6 in. lumber studs.

   B. Sole Plate Nom 2 by 6 in. lumber plates.

   C. Top Plate The double top plate shall consist of two nom 2 by 6 in. lumber plates. Max diam of opening is 5-1/2 in.

   D. Gypsum Board* Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.

3. Nonmetallic Penetrants One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be continuous contact, 0 in. (point contact) to max ¼ in. or 0 in. (point contact) to max 1 in.(See Item 7). Pipe to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of nonmetallic penetrants may be used:

   A. Polyvinyl Chloride (PVC) Pipe Nom 4 in. diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

   B. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 4 in. diam (or smaller) SDR17C PVC pipe for used in closed (process or supply) or vented (drain, waste or vent) piping systems.

   C. Acrylonitrile Butadiene Styrene (ABS) Pipe Nom 4 in. diam (or smaller) Schedule 40 cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

4. Branch Piping One nonmetallic pipe to be centered within the firestop system. Pipe to be rigidly supported on both sides of the floor-ceiling assembly. Max diam of floor opening is 3 1/2 in. The following types and sizes of nonmetallic penetrants may be used:

   A. Polyvinyl Chloride (PVC) Pipe Nom 3 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. A continuous point contact annular space is required within the firestop system.

   B. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 3 in. diameter (or smaller) SDR17C PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. A continuous point contact annular space is required within the firestop system.

   C. Acrylonitrile Butadiene Styrene (ABS) Pipe Nom 3 in. diam (or smaller) Schedule 40 cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. A continuous point contact annular space is required within the firestop system.

5. Nonmetallic Reducing Tee The following types and sizes of nonmetallic reducing tees may be used:

   A. Polyvinyl Chloride (PVC) Reducing Tee Nom 4 in. by 4 in. by 3 in. (or smaller) Schedule 40 solid core PVC reducing tee for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

   B. Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee Nom 4 in. by 4 in. by 3 in. (or smaller) SDR17 CPVC reducing tee for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

   C. Acrylonitrile Butadiene Styrene (ABS) Reducing Tee Nom 4 in. by 4 in. by 3 in. (or smaller) Schedule 40 solid core ABS reducing tee for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

6. Nonmetallic Elbow One nonmetallic elbow to be installed flush with the underside of the flooring system directly below the opening. Max diam of floor opening is 3 1/2 in. The following types and sizes of nonmetallic elbows may be used:

   A. Polyvinyl Chloride (PVC) Reducing Tee Nom 3 in. (or smaller) Schedule 40 solid core PVC elbow for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

   B. Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee Nom 3 in. (or smaller) SDR17 CPVC elbow for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

   C. Acrylonitrile Butadiene Styrene (ABS) Pipe Nom 4 in. by 4 in. by 3 in. (or smaller) Schedule 40 solid or cellular core ABS reducing tee for use in closed (process or supply) or vented (drain, waste or vent) piping systems.

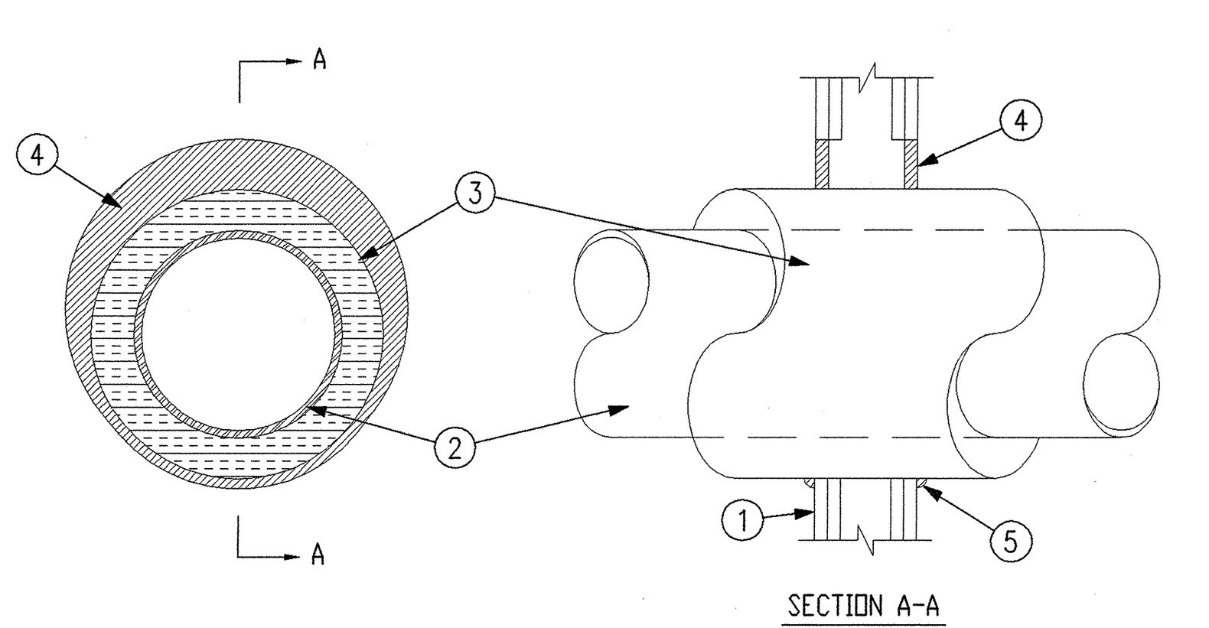
7. Fill, Void or Cavity Material+ -- Sealant Min 3/4 in. thickness of fill material applied around through penetrant within the annulus on top surface of floor or sole plate of chase wall . Min 3/4 in. thickness of fill material applied within the annulus of the top plate flush with the bottom surface of the lower top plate. Min 1/2 in. bead of fill material applied at the penetrant/ plate interfaces at point contact locations on both sides of assembly . Min 1/2 in. bead of fill material applied around the pipe or top socket of the elbow at the intersection of the flooring system. When penetrants are installed at continuous contact or min 0 in. to max ¼ in. annular spaces, a ½ in. bead of sealant shall be applied at the penetrant/plate interfaces and over ¼ in. annular space on both sides of the assembly.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- FS -- ONE Sealant

*Bearing the UL Classification Mark

System No. W-L-5029
F Ratings - 1 and 2 Hr (See Item 1)
T Ratings - 1/2, 3/4, 1 and 1-3/4 Hr (See Item 3)
L Rating At Ambient - 4 CFM/Sq Ft
L Rating At 400 F - Less Than 1 CFM/Sq Ft



1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.
   B. Wallboard, Gypsum* - 5/8 in. thick, 4 ft wide, with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 18-5/8 in.
   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants - One metallic pipe, conduit or tubing to be centered within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe - Nom 12 in diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Conduit - Nom 4 in. diam (or smaller) electrical metallic tubing or steel conduit.
   C. Copper Tubing - Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   D. Copper Pipe - Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
3. Pipe Covering* - Nom 1, 1-1/2 or 2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.
   See Pipe and Equipment Covering - Materials (BRGU) category in the Building Material Directory for the names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   The hour T Rating of the firestop system is dependent on the hourly fire rating of the wall assembly in which it is installed, the size and type of through penetrant and the pipe covering thickness, as shown in the table below:

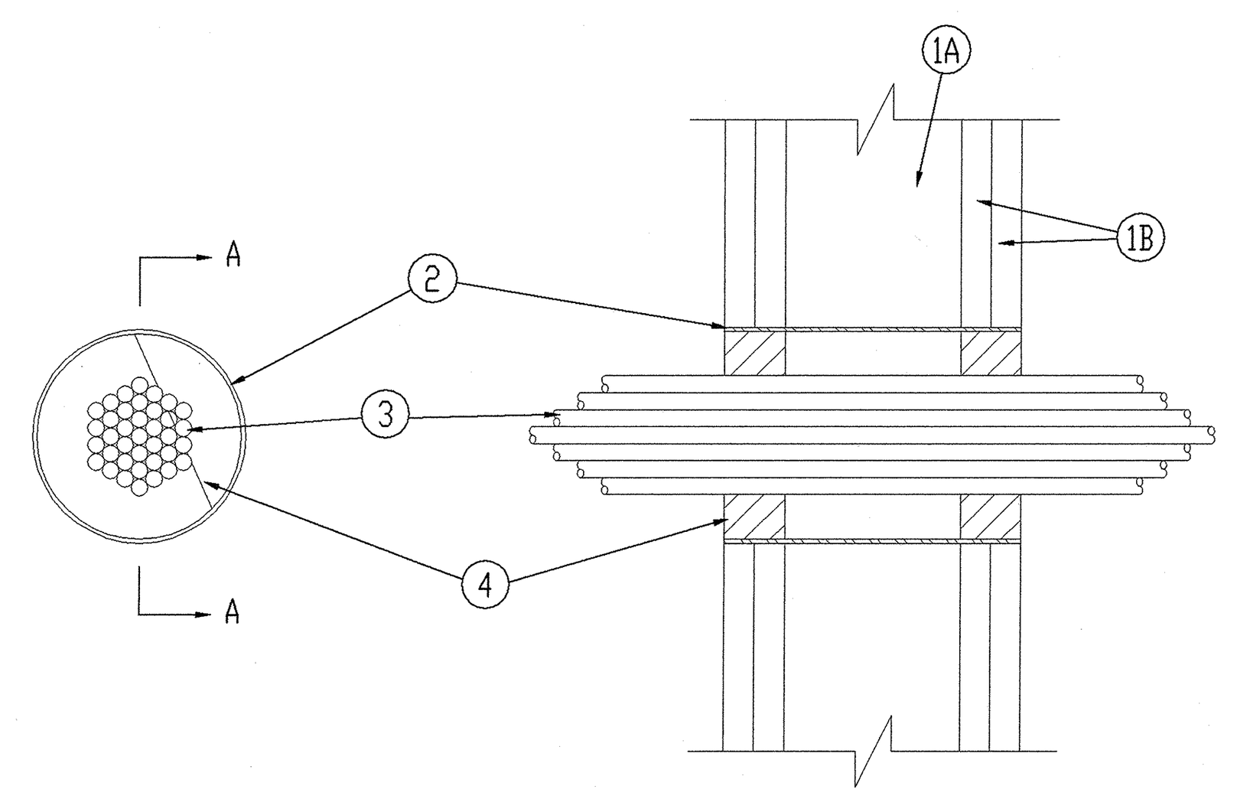
Wall Assembly Rating Hr	Type+	Through Penetrant Max Diam In.	Pipe Covering Thkns In.	Annular Space Min In.	Annular Space Max In.	T Rating Hr
1	A or B	4	1	0	1-1/2	1/2
1	C or D	2	1 or 1-1/2	0	1-1/2	1/2
1	A or B	4	1-1/2	0	1-1/2	1
1	A	12	2	0	1-7/8	3/4
1	C or D	6	2	0	1-7/8	1
2	A or B	4	1	0	1-1/2	1
2	C or D	4	1 or 1-1/2	0	1-1/2	1
2	C or D	6	2	0	1-7/8	1
2	A or B	4	1-1/2	0	1-1/2	1-3/4
2	A	12	2	0	1-7/8	1-1/2
2	C or D	6	2	0	1-7/8	1

+Indicates penetrant type as itemized in Item 2.

4. Fill Void or Cavity Material* - Sealant - Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall for 1 or 2 hr walls, respectively. At the point contact location between pipe covering and gypsum wallboard, a min 1/2 in. diam bead of fill material shall be applied at the pipe covering/gypsum wallboard interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI, Inc - FS-ONE Sealant

*Bearing the UL Classification Marking

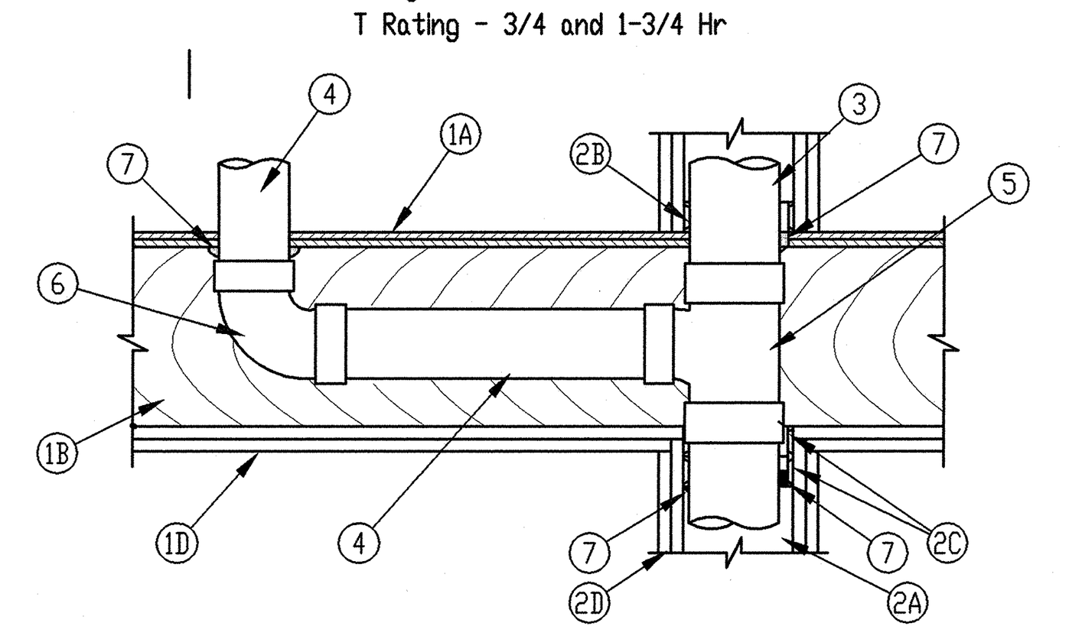
System No. W-L-3065
F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr



1. Wall Assembly The 1 or 2 fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in . wide and spaced max 24 in. OC.
   B. Gypsum Board* Nom 5/8 in. thick gypsum wallboard, with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Designs in the UL Fire Resistance Directory. Max diam of opening is 4 in.
   The F Rating of the firestop system is equal to the fire rating of the wall assembly.
2. Metallic Sleeve (Optional) - Nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT) or Schedule 5 (or heavier) steel pipe or min 0.016 in. thick (28 MSG) galv steel sleeve cast into wall assembly with joint compound and installed flush with wall surfaces. When Schedule 5 steel pipe or EMT is used, sleeve may extend up to 18 in. beyond the wall surfaces.
3. Cables Aggregate cross-sectional area of cable in opening to be max 45 percent of the cross-sectional area of the opening. The annular space between the cable bundle and the periphery of the opening to be min 1/4 in. to max 3/4 in. Cables to be ridigly supported on both sides of the wall assembly. Any combination of the following types and sizes of copper conductor cables may be used:
   A. Max 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.
   B. Max 25 pair No. 24 AWG telephone cable with PVC insulation and jacket.
   C. Type RG 59/U coaxial cable with polyethylene (PE) insulation and PVC jacket.
   D. Multiple fiber optical communication cable jacketed with PVC and having a max OD of 5/8 in.
   E. Through Penetrating Products* - Max three copper conductor No. 8 AWG . Metal-Clad Cable+ .
   AFC CABLE SYSTEMS INC
4. Fill, Void or Cavity Material* Sealant Fill material applied within the annulus, flush with each end of the steel sleeve or wall surface. Fill material installed symmetrically on both sides of the wall. A min 5/8 in. thickness of sealant is required for the 1 or 2 hr F Rating . An additional 1/2 in. diam bead of fill material shall be applied around the perimeter of sleeve on both sides of the wall when sleeve extends beyond surface of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
   HILTI INC - CP601S, CP606 or FS-One Sealant

*Bearing the UL Classification Mark

System No. F-C-2126
F Rating - 1 and 2 Hr (See Item 1)
T Rating - 3/4 and 1-3/4 Hr



1. Floor-Ceiling Assembly The 1or 2 hr fire-rated solid or trussed lumber joist Floor-Ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The F Rating of the firestop system is equal to the rating of the floor-ceiling and wall assemblies. The general construction features of the floor-ceiling assembly are summarized below:
A. Floor System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 5-1/2 in.
B. Wood Joints Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and ends firestopped.
C. Furring Channels (Not Shown) -- Resilient galv steel furring installed perpendicular to wood joists between wallboard and wood joists as required in the individual Floor-Ceiling Design. Furring channels spaced max 24 in. OC.
D. Gypsum Board* Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Wallboard secured to wood joints or furring channels as specified in the individual Floor-Ceiling Design.
2. Chase Wall The through penetrants shall be routed through 1 or 2 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
A. Studs Nom 2 by 6 in. lumber studs.
B. Sole Plate Nom 2 by 6 in. lumber plates.
C. Top Plate The double top plate shall consist of two nom 2 by 6 in. lumber plates. Max diam of opening is 5-1/2 in.
D. Gypsum Board* Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.
3. Nonmetallic Penetrants One nonmetallic pipe to be installed either concentrically or eccentrically within the firestop system. The annular space between pipe and periphery of opening shall be continuous contact, 0 in. (point contact) to max ¼ in. or 0 in. (point contact) to max 1 in.(See Item 7). Pipe to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of nonmetallic penetrants may be used:
A. Polyvinyl Chloride (PVC) Pipe Nom 4 in. diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
B. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 4 in. diam (or smaller) SDR17C PVC pipe for used in closed (process or supply) or vented (drain, waste or vent) piping systems.
C. Acrylonitrile Butadiene Styrene (ABS) Pipe Nom 4 in. diam (or smaller) Schedule 40 cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
4. Branch Piping One nonmetallic pipe to be centered within the firestop system. Pipe to be rigidly supported on both sides of the floor-ceiling assembly. Max diam of floor opening is 3 1/2 in. The following types and sizes of nonmetallic penetrants may be used:
A. Polyvinyl Chloride (PVC) Pipe Nom 3 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. A continuous point contact annular space is required within the firestop system.
B. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 3 in. diameter (or smaller) SDR17C PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. A continuous point contact annular space is required within the firestop system.
C. Acrylonitrile Butadiene Styrene (ABS) Pipe Nom 3 in. diam (or smaller) Schedule 40 cellular core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems. A continuous point contact annular space is required within the firestop system.
5. Nonmetallic Reducing Tee The following types and sizes of nonmetallic reducing tees may be used:
A. Polyvinyl Chloride (PVC) Reducing Tee Nom 4 in. by 4 in. by 3 in. (or smaller) Schedule 40 solid core PVC reducing tee for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
B. Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee Nom 4 in. by 4 in. by 3 in. (or smaller) SDR17 CPVC reducing tee for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
C. Acrylonitrile Butadiene Styrene (ABS) Reducing Tee Nom 4 in. by 4 in. by 3 in. (or smaller) Schedule 40 solid core ABS reducing tee for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
6. Nonmetallic Elbow One nonmetallic elbow to be installed flush with the underside of the flooring system directly below the opening. Max diam of floor opening is 3 1/2 in. The following types and sizes of nonmetallic elbows may be used:
A. Polyvinyl Chloride (PVC) Reducing Tee Nom 3 in. (or smaller) Schedule 40 solid core PVC elbow for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
B. Chlorinated Polyvinyl Chloride (CPVC) Reducing Tee Nom 3 in. (or smaller) SDR17 CPVC elbow for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
C. Acrylonitrile Butadiene Styrene (ABS) Pipe Nom 4 in. by 4 in. by 3 in. (or smaller) Schedule 40 solid or cellular core ABS reducing tee for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
7. Fill, Void or Cavity Material+ -- Sealant Min 3/4 in. thickness of fill material applied around through penetrant within the annulus on top surface of floor or sole plate of chase wall . Min 3/4 in. thickness of fill material applied within the annulus of the top plate flush with the bottom surface of the lower top plate. Min 1/2 in. bead of fill material applied at the penetrant/ plate interfaces at point contact locations on both sides of assembly . Min 1/2 in. bead of fill material applied around the pipe or top socket of the elbow at the intersection of the flooring system. When penetrants are installed at continuous contact or min 0 in. to max ¼ in. annular spaces, a ½ in. bead of sealant shall be applied at the penetrant/plate interfaces and over ¼ in. annular space on both sides of the assembly.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC -- FS -- ONE Sealant
*Bearing the UL Classification Mark

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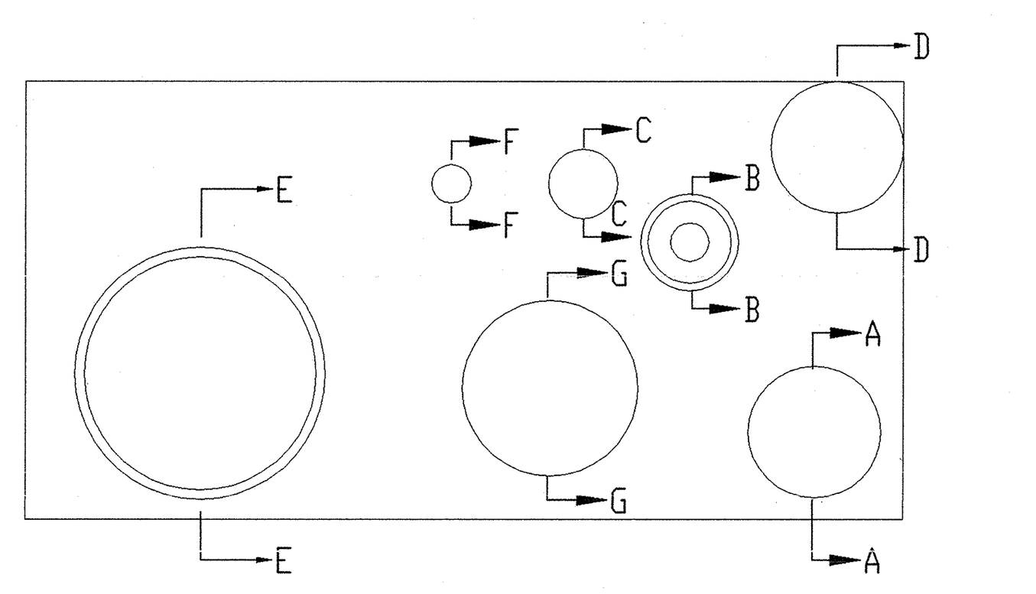
ARCHITECT PROJECT NO.: B04-012
DFCM PROJECT NO.: 03234730

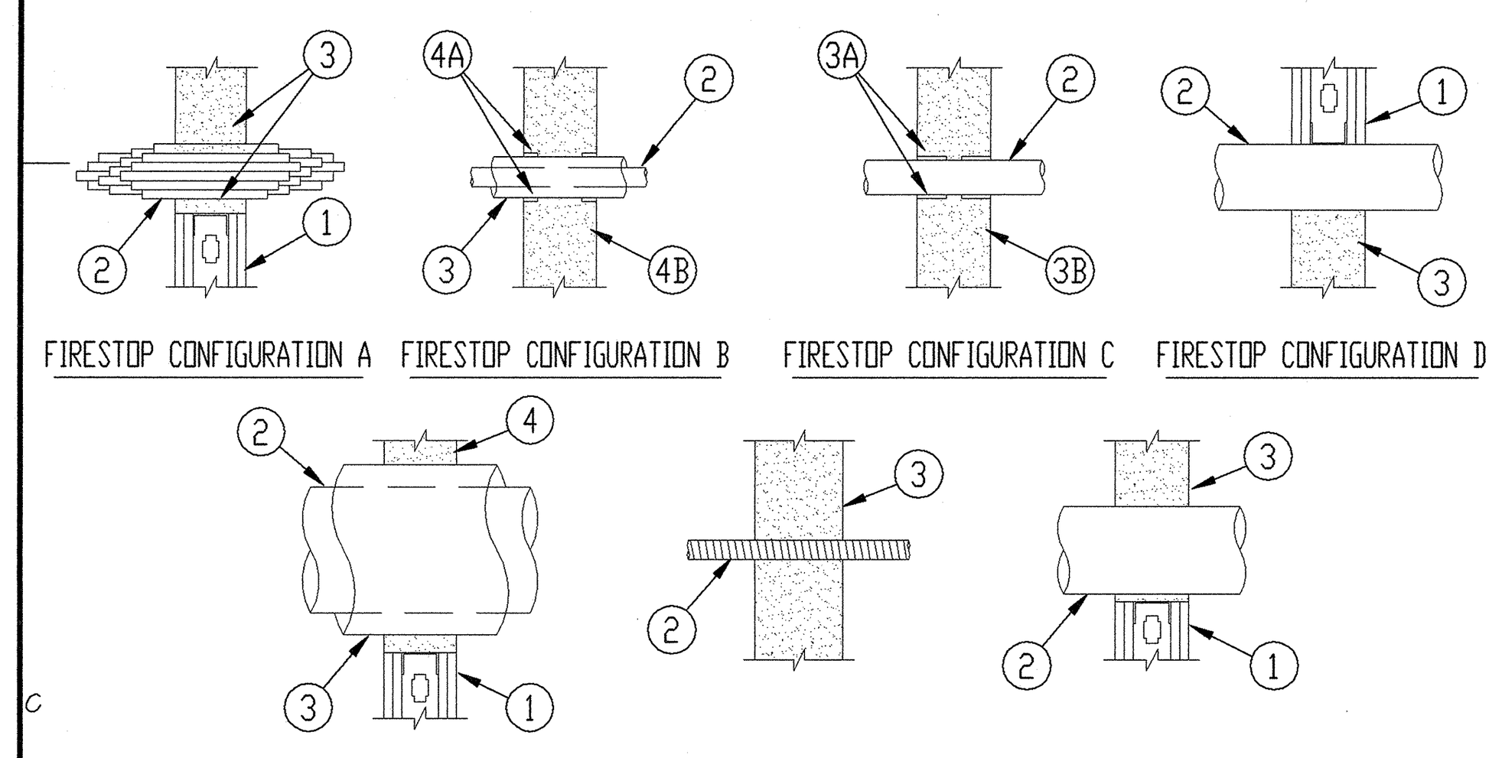
FIRE PENETRATION DETAILS

AE507
#

System No. W-L-8019

F Rating - 1 and 2 Hr (See Items 1, 3 and 4)
T Rating - 0, 1/2, 1, 1-1/2 and 2 Hr (See Item 2)





FIRESTOP CONFIGURATION A FIRESTOP CONFIGURATION B FIRESTOP CONFIGURATION C FIRESTOP CONFIGURATION D

FIRESTOP CONFIGURATION E FIRESTOP CONFIGURATION F FIRESTOP CONFIGURATION G

1. Wall Assembly The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 Series Wall or Partition Design in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Steel studs 3-1/2 in. deep, fabricated from 25 MSG galv steel, spaced max 24 in. OC.
   B. Gypsum Board* The gypsum board type, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max area of opening is 450 sq in with max dimension of 30 in.

The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall asembly in which it is installed.

2. Through Penetrants A max of seven firestop configurations may be installed within the opening. The space between firestop configurations. Unless otherwise indicated, the space between firestop configurations and periphery of opening shall be min 3/8 in. Pipe, conduit, tubing or cables to be rigidly supported on both sides of floor or wall assembly. The T Rating of the sytem is dependent on the firestop configurations, as shown in the table below. Any combination of the following firestop configurations detailed herein may be used:

Firestop Configuration	1 Hr F Rating T Rating Hr	2 Hr F Rating T Rating Hr
A	0	1/2
B	1	1-1/2
C	1/2	1
D	0	0
E	1	2
F	0	0
G	0	0

Firestop Configuration A

2. Cables Max 4 in. diam tightly bundled cable. The min space between adjacent penetrants shall be 4 in. Cable bundle may be any combinatio of the following types and sizes of cables:
   G. Max 25 pair No. 24 AWG copper telephone cable with polyvinyl chloride (PVC) insulation and jacket materials.
   H. Max 7/C No. 12 AWG cable with PVC insulation and jacket materials.
   I. Multiple fiber optical communication cables with PVC jacket material and having a max outside diameter of 3/8 in.
   J. Max 3/C No. 12 AWG steel clad cables with PVC insulation and jacket materials.
   K. Max 3/C No. 8 AWG cablew with ground with PVC insulation and jacket materials.
   L. Max RG 59 coaxial cables with PVC insulation and jacket materials.
3. Fill, Void or Cavity Material* – Foam Fill materiial applied within annulus flush with both surfaces of the wall. Min fill material thickness for 1 hr F Rating is 4-3/4 in. Min fill material thickness for 2 hr F Rating is 6 in.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 620 Fire Foam

Firestop Configuration B

2. Copper Tuber or Pipe Nom 1 in. diam (or smaller) Type L copper tube or nom 1 in diam (or smaller) Regulary (or heavier) copper pipe. Min space between adjacent penetrants shall be 3 in.
3. Tube Insulation – Plastics+ Nom 3/4 in. thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The min space between adjacent penetrants shall be 1-1/2 in.

See Plastics+ (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classificationof 94-5VA may be used.

4. Firestop System The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material* – Wrap Strip Two min 1 in. wide wrap strips applied in a single wrap, flush with both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 645 Wrap Strip

   B. Fill, Void or Cavity Material* – Foam Fill material applied within annulus flush with both surfaces of the wall. Min fill material thickness for 1 hr F Rating is 4-3/4 in. Min fill material thickness for 2 hr F Rating is 6 in.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 620 Fire Foam

Firestop Configuration C

2. Polyvinyl Chloride (PVC) Pipe Nom 2 in. diam (or smaller) Schedule 40 solid or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping system. The min space between non-metallic penetrants shall be 1 in. The min space between metallic penetrants shall be 3-1/2 in.
3. Firestop System The firestop shall consist of the following:
   A. Fill, Void or Cavity Material* – Wrap Strip Two min 2 in. wide wrap strips applied in a single wrap, flush with both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 645 Wrap Strip

   B. Fill, Void or Cavity Material* – Foam Fill material applied within annulus flush with both surfaces of the wall. Min fill material thickness for 1 hr F Rating is 4-3/4 in. Min fill material thickness for 2 hr F Rating is 6 in.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 620 Fire Foam

Firestop Configuration D

2. Through Penetrant One metallic pipe, conduit or tube to be installed either concentrically or eccentrically within the firestop system. The min annular space between the pipe, conduit or tube and the periphery of the opening shall be min. 0 in. (point contact). The annular space between adjacent penetrants shall be min 3-1/2 in. The following types and sizes of metallic pipes, conduits or tubes may be used:
   Steel Pipe Nom 4 in. diam (or smaller) Schedul 10 (or heavier) steel pipe.
   Iron Pipe Nom 4 in. diam (or smaller) cast or ductile iron pipe.
   Conduit Nom 4 in. diam (or smaller) rigid steel conduit.
   Conduit Nom 4 in. diam (or smaller) steel electrical metallic conduit.
   Copper Tubing Nom 4 in. diam (or smaller) Type L (or heavier) copper tubing.
   Copper Pipe Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* – Foam Fill material applied within annulus flush with both surfaces of the wall. Min fill material thickess for 1 hr F Rating is 4-3/4 in. Min fill material thickness for 2 hr F Rating is 6 in.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 620 Fire Foam

Firestop Configuration E

2. Steel Pipe Nom 8 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.
3. Pipe Covering Materials* Nom 1-1/2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all-service jacket. Longitudinal joints sealed with metal fasteners or factory-applied, self-sealing lap tape. Transverse joints secured with metal fasteners of with butt tape supplied with product. The min space between adjacent penetrants shall be 2 in.

See Pipe and Equipment Covering – Materials (BRGU) Category in the Building Materials Directory for names of manufacturers. Any pipe covering meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.

4. Fill, Void or Cavity Mateiral* – Foam Fill material applied within annulus flush with both surfaces of the wall. Min fill material thickness for 1 hr F Rating is 4-3/4 in. Min fill material thickness for 2 hr F Rating is 6 in.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 620 Fire Foam

Firestop Configuration F

2. Flexible Conduit Nom 1 in. diam (or smaller) flexible steel conduit. The min space between adjacent penetrants shall be 3-1/2 in.
3. Fill, Void or Cavity Mateiral* – Foam Fill material applied within annulus flush with both surfaces of the wall. Min fill material thickness for 1 hr F Rating is 4-3/4 in. Min fill material thickness for 2 hr F Rating is 6 in.

HILTI CONSTRUCTION CHEMICALS, DIV OF

HILTI INC -- CP 620 Fire Foam

Firestop Configuration G

2. Steel Duct Nom 6 in. diam (or smaller) No. 28 gauge (or heavier) galve steel duct. The min space between adjacent penetrants shall be 1-1/2 in.
3. Fill, Void or Cavity Material* – Foam Fill material applied within annulus flush with both surfaces of the wall. Min fil material thickness for 1 hr F Rating is 4-3/4 in. Min fill material thickness for 2 hr F Rating is 6 in.

HILTI CONSTRUCTION CHEMICALS, DIV OF

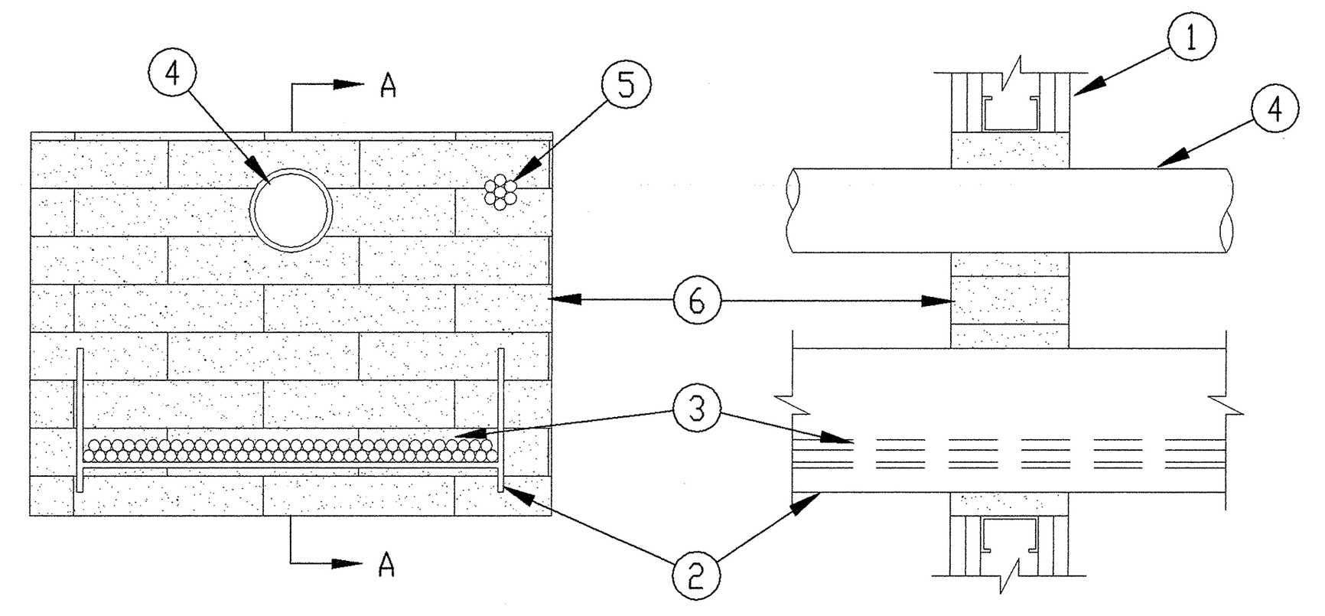
HILTI INC -- CP 620 Fire Foam

*Bearing the UL Classification Mark

HILTI FIRESTOP SYSTEMS

System No. W-L-8013

F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr
L Rating At Ambient - 5 CFM/Sq Ft
L Rating At 400 F - 2 CFM/Sq Ft



SECTION A-A

1. Wall Assembly The 1 or 2 hr fire-rated gypsum board/stud wall assembly shall be constucted of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC.

   B. Gypsum Board* 5/8 in. thick, 4 ft wide with square or tappered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max area of opening is 352 sq in. with max dimension of 22 in. wide.

   The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.

2. Cable Tray* Max 18 in. wide by max 6 in. deep open-ladder or solid-back cable tray with channel-shaped side rails formed of 0.065 in. thick aluminum or 0.060 in. thick steel and with 1-1/2 in. wide by 1 in. channel shape rungs spaced 9 in. OC or a 0.029 in. thick steel solid back, respectively. One cable tray to be installed in the opening. The max annular space between the cable tray and the periphery of the opening shall be min 1 in. to max 7 in. Cable tray to be rigidly supported on both sides of floor or wall assembly.

3. Cables Aggregate cross-sectional area of cables in cable tray to be max 30 percent of the cross-sectional area of the cable tray. Any combination of the following types and sizes of copper conductor cables may be used:

   A. 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and PVC jacket.

   B. 100 pair – No. 24 AWG cable with PVC insulation and jacket.

   C. 1/C, 750 kcmil (or smaller) with PVC insulation and jacket.

4. Through-Penetrants One or more pipe or tube to be installed within the opening. The total number of through-penetrants is dependent on the size of the opening and types and sizes of the penetrants. Any combination of the penetrants described below may be used provided that the following parameters relative to the annular spaces and the spacings between the pipes are maintained. The space between the pipe or tube and the periphery of the opening shall be min 1-1/2 in. to max 9-1/4 in. Pipe or tube to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of non-metallic or metallic pipes, or tubes may be used:

   A. Polyvinyl Chloride (PVC) Pipe Max 3 in. diam Schedule 40 solid core PVC pipe (or smaller) for use in closed (process or supply) or vented (drain, waste or vent) piping system.

   B. Steel Pipe Nom 6 in. diam (or smaller) Schedule 40 (or heavier) steel pipe.
   C. Conduit Nom 4 in. diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.

   D. Copper Pipe Nom 4 in. diam (or smaller) Regular (or heavier) copper pipe.

   E. Copper Tube Nom 4 in. diam (or smaller) Type L (or heavier) copper tube.

4A. Pipe Covering (Not Shown)Nom 1-1/2 in. thick hollow cylindrical heavy density (min 3.5 pcf) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product.

See Pipe and Equipment Covering and Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 may be used.

5. Cables Max 1-1/2 in. diam tight bundle of cables installed within the opening and rigidly supported on both surfaces of wall. The space between the cables and periphery of the opening shall range from 1-3/16 in. min to a max of 1-1/2 in. Any combination of the following types and sizes of cables may be used:

   A. 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.

   B. 25 pair -- No. 24 AWG cable with PVC insulation and jacket.

   C. Type R GU/59 coaxial cable with PVC outer jacket.

   D. 24 fiber optic cable with PVC sub unit and outer jacket.

6. Firestop System The firestop system shall consist of the following:

   A. Fill, Void or Cavity Material* Fill, Void or Cavity Material*–Fire Blocks For walls incorporating max 3-5/8 in. steel studs or max 2 by 4 in. wood studs, fire block installed with 5 in. dimension projecting through and centered in opening. For walls constructed of larger steel or wood studs, fire block installed with long dimension passing through and centered in opening. Blocks may or may not be cut flush with both surfaces of wall. When multiple layers of gypsum board are used, blocks may be recessed 1/2 in. from surface of wall .

   HILTI CONSTRUCTION CHEMICALS, DIV OF

   HILTI INC -- FS 657 Fire Block

   B. Fill, Void or Cavity Material* Sealant or Putty – Fill material to be forced into interstices of cables, between cables and cable trays, around each penetrant and where obvious voids are observed to max extent possible on both surfaces of the penetration.

   HILTI CONSTRUCTION CHEMICALS, DIV OF

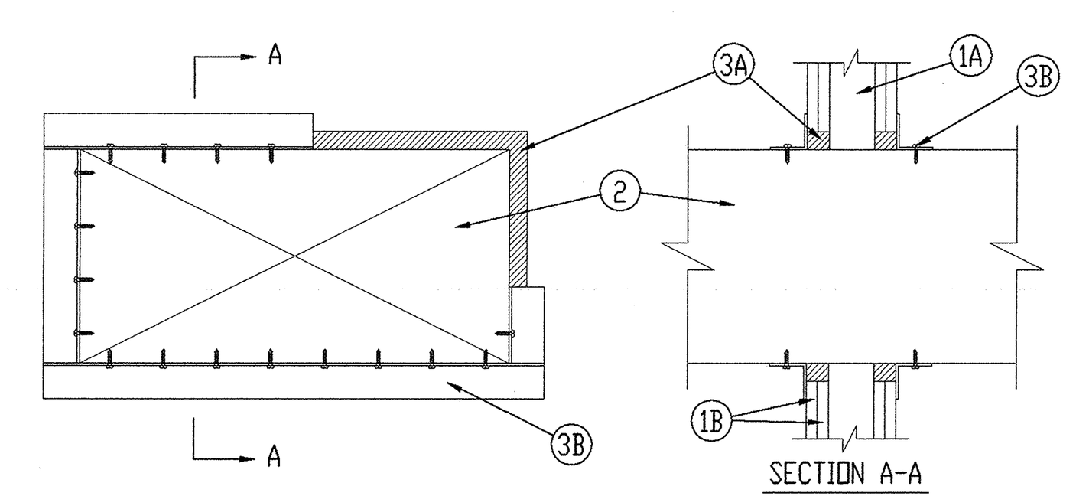
   HILTI INC -- FS-One Sealant, CP 618 Putty Stickor CP620 Fire Foam

*Bearing the UL Classification Mark

HILTI FIRESTOP SYSTEMS

System No. W-L-7040

F Ratings - 1 and 2 Hr (See Items 1 and 3)
T Rating - 0 Hr



SECTION A-A

1. Wall AssemblyThe fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the Fire Resistance Directory and shall include the following construction features:
   A. Studs Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. Additional framing members shall be used to completely frame around opening.
   B. Gypsum Board* Nom 5/8 in. thick with square or tapered edges. The gypsum wallboard type, number of layers and sheet orientation shall be as specified in the individual Wall and Partition Design Number. Max area of opening is 1300 in. with the dimension of 50 in. The hourly F rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Steel Duct Nom 24 in. by 48 in. (or smaller) No. 24 gauge (or heavier) galv steel duct to be installed within the firestop system. The annular space shall be min 0 (point contact) in. to a max 2 in. Duct to be rigidly supported on both sides of the wall assembly.

3. Firestop System The firestop system shall consist of the following:
   A. Fill, Void or Cavity Material*--Sealant Min 5/8 in. thickness of fill material applied within annulus flush with both surfaces of wall. At point contact location, a min 1/2 in. diam bead of fill material shall be applied to the wall/duct interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-ONE Sealant, CP601S Elastomeric Firestop Sealant or CP606 Flexible Sealant.
   B. Steel Retaining Angle No. 18 MSG (0.048 in.) galv steel angles cut to fit contour of duct with a 2 in. overlap on the duct and a min 1 in. overlap on the gypsum board assembly on both sufaces of wall. 2 in. leg of angle secured to duct with min No. 8 by 3/4 in. long sheet metal screws, spaced a max of 6 in. OC. When bead of fill material is used at joint contact locations, angles shall be installed prior to full material curing.

*Bearing the UL Classification Mark

HILTI FIRESTOP SYSTEMS

COOPER ROBERTS SIMONSEN ARCHITECTURE

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BNA Consulting Engineers
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STATE OF UTAH

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4110 STATE OFFICE BUILDING
SALT LAKE CITY, UTAH

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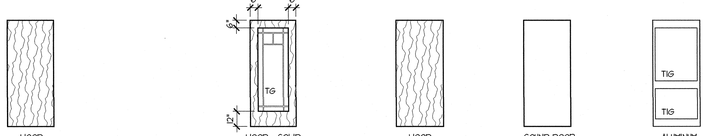
CD 100%	7/21/04
DD Sumbittal	7/12/04

ARCHITECT PROJECT NO.: B04-012
DFCM PROJECT NO. 03234730

FIRE PENETRATION DETAILS

AE508

DOOR TYPES



HOOD
SOLID CORE
TYPE '1'

HOOD - SOLID
TYPE '2'

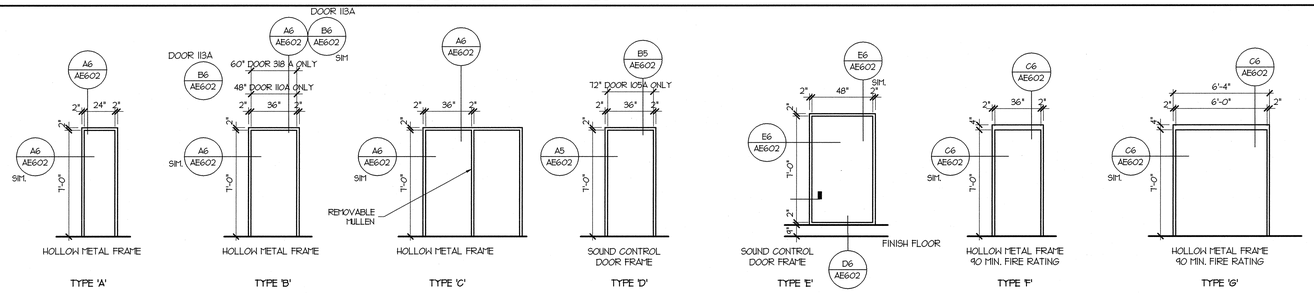
HOOD
SOLID CORE
90 MIN. FIRE RATING
TYPE '3'

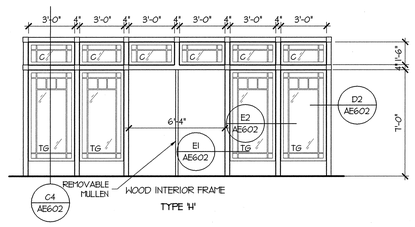
SOUND DOOR
TYPE '4'

ALUMINUM
STOREFRONT
TYPE '5'

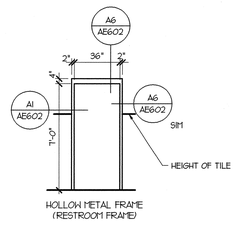
TYPE '6'

DOOR FRAME TYPES

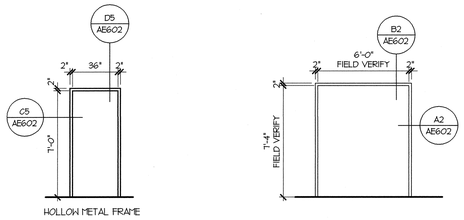




DOOR 113A



CONTRACTOR NOTE:
DETAIL CALLOUTS MAY VARY DEPENDING ON WALL TYPE. SEE DOOR SCHEDULE TO IDENTIFY EXACT DETAIL FOR EACH SPECIFIC DOOR.

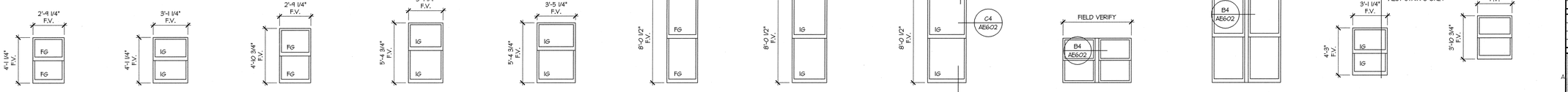


WINDOW TYPES

NOTES:
1)ALL WINDOWS NEW FITTING INTO EXISTING OPENINGS. CONTRACTOR IS TO FIELD VERIFY ALL DIMENSTION.

2)ALL WINDOWS TO BE FIXED SASH.

3) PRIVACY GLASS ALL BATHROOM WINDOWS



EXISTING WINDOW OPENING
NEW ALUM. WINDOW SYSTEM
FIELD VERIFY SIZE

MODIFIED WINDOW OPENING
NEW ALUM. WINDOW SYSTEM
FIELD VERIFY SIZE

MODIFIED EXISTING WINDOW OPENING
NEW ALUM. WINDOW SYSTEM
FIELD VERIFY SIZE

DOOR SCHEDULE

MARK	ROOM NAME	DOOR TYPE	PAIR	DOOR GLAZING	FRAME TYPE	FRAME CONSTRUCTION	HARDWARE GROUP	FIRE RATING	AUTOMATIC OPENER	THRESHOLD	NOTES	SIGNS
BASEMENT LEVEL												
002A	ELEVATOR MECH. ROOM	5			D		H7			T3	3,6	
MAIN LEVEL												
101A	EAST STAIR - A	6	●	TIG	M		H1			T1	1, 5	
101B	EAST STAIR - A	4			G		H3	90			2	A5
102A	ELECTRICAL/COMMUNICATIONS	5			D		H7			T3	3, 6	
103A	CLASSROOM A	1			B		H10					A8
104A	CLASSROOM B	1			B		H10					A6
104B	CLASSROOM B	1			B		H10					A6
105A	MECHANICAL ROOM	1	●		C		H8			T3	6, 7, 8	
106A	WEST STAIR "C"	6	●	TIG	K		H2		●	T1	1, 5, 7	
107A	MEN RESTROOM	1			N		H5			T2		A1
108A	WOMEN RESTROOM	1			N		H5			T2		A2
110A	ELECTRICAL	1			B		H7			T3	6	
111A	STUDENT INST. MAT. PROD.	1			B		H6				6	A6
112A	NORTH STAIR "B"	6		TIG	L		H1			T1	1	
112B	NORTH STAIR "B"	4			F		H11	90				A5
112C	FIRE SERVICE	1	●		A		H7			T3	6	
113A	STORAGE	4			F		H9	90			6	
115A	FIELD SERVICE DIRECTOR	1			J		H6					A6
116A	COPY AND MAIL WORK	1			B		H6				6	
117A	FIELD SERVICE ADVISOR	1			J		H6					A6
SECOND LEVEL												
201A	EAST STAIR "A"	4	●		G		H3	90			2	A5
202A	CONFL ROOM	1			B		H7			T3	6	
203A	ELEM. ED. CHAIR	1			J		H6					A6
204A	SEC. ED. SECRETARY	3		TG	J		H6					A6
205A	SEC. ED. CHAIR	1			J		H6					A6
206A	SHARED REC. MAT. STOR.	1			B		H6				6	A6
207A	SHARED OFFICE SUPPORT	1			J		H9					A6
208A	CONFERENCE	3		TG	J		H6					A4
209A	WOMEN RESTROOM	1			N		H4		●	T2		A2
210A	MEN RESTROOM	1			N		H4		●	T2		A1
213A	STORAGE	1			B		H9				6	
214A	SECRETARY	3		TG	J		H6					A6
215A	DEANS OFFICE	1			J		H6					A6
217A	NORTH STAIR "B"	4			F		H11	90				A5
218A	SECRETARY	3		TG	J		H6					A6
219A	ASSOC. DEAN OFFICE	1			J		H6					A6
220A	WORK ROOM	1			B		H6				6	A6
221A	ADVISOR	1			J		H6					A6
THIRD LEVEL												
301A	EAST STAIR - A	4	●		G		H3	90			2	A5
302A	ELECTRICAL/COMM.	5			D		H8			T3	6	
303A	DIST. LEARNING/GRAD. "A"	1			D		H6					A6
304A	DIST. LEARNING/GRAD. "B"	1			D		H6					A6
305A	DIST. LEARNING/GRAD. "C"	1			D		H6					A6
306A	DEANS CONF. & NCATE DOC.	3		TG	H		H6				7	A6
308A	MEN RESTROOM	1			N		H5			T2		A6
309A	CUSTODIAN	1			B		H7			T3	4, 6	
310A	WOMEN RESTROOM	1			N		H5			T2		A6
311A	FILES/STORAGE	1			B		H9				6	
313A	NORTH STAIR - B	4			F		H11	90				A5
314A	SECRETARY	3		TG	J		H6					A6
315A	GRAD. ED. CHAIR	1			J		H6					A6
316A	GRAD. ADVISOR	1			J		H6					A6
317A	SECRETARY	3		TG	J		H6					A6
318A	ATTIC ACCESS	1 (2)	●		B		H7			T3	6	
320A	FILES/STORAGE	1			B		H9				6	
ATTIC												
	ALL ATTIC DOORS	5			E		H12				3	

AE601-C3-01

GENERAL DOOR NOTES:

A. DUE TO MULTIPLE USE, SOME OF THE DETAILS, FRAME TYPES, ETC. REFERENCED TO ON THE DOOR SCHEDULE ARE REVISED AND/OR ROTATED FROM THE DIRECTION SHOWN ON THE FLOOR PLAN. THE CONTRACTOR SHALL COORDINATE WITH HALL TYPES (SHEET AE509) FOR HALL FINISHES.

B. THE GENERAL INTENT OF DETAILS SHALL, IN ALL CASES, BE FOLLOWED AND THE ARCHITECT CONSULTED SHOULD QUESTIONS ARISE.

C. DOORS TO BE SET TO CLEAR FINISHED FLOOR SURFACES BY 1/2".

D. THE CONTRACTOR SHALL FIELD VERIFY ALL FRAME/DOOR DIMENSIONS.

E. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT DOORS TO ROOFS WHERE VARIOUS WORK IS TAKING PLACE. DOORS MAY BE REMOVED AND STORED OR PROTECTED BY OTHER MEANS.

F. ALL WOOD IS TO BE STAINED TO MATCH ARCHITECTS SAMPLE. (MEDIUM COLORED OAK)

GLASS NOTES: THICKNESS SEE SPEC

TG - TEMPERED GLASS
TIG - TEMPERED INSULATED GLASS
IG - INSULATED GLASS
C - CLEAR FLOAT GLASS
FG - FIRE RATED INSULATED GLASS

THRESHOLD NOTES:

T1 - ALUMINUM THRESHOLD, SEE A5/A9O1
T2 - MARBLE THRESHOLD, SEE A1 & BVAE504
T3 - CARPET TERMINATION STRIP

KEYED NOTES

1. DOOR ALARM/SEQURITY. WIRE FOR FUTURE INSTALLATION.
2. MAGNETIC HOLD OPEN
3. SOUND DOOR - SEE SPEC
4. 1" BOTTOM DOOR SPACE FOR MECH. EXHAUST AIR BALANCE
5. EXISTING ARCHED HOOD TRANSOM TO REMAIN, STRIP PAINT AND REFINISH TO MATCH NEW DOOR AND FRAME COLOR. REPLACE BROKEN GLASS.
6. OMIT DOOR TRIM ON INSIDE FACE OF FRAME. EXTEND GYPSUM BOARD TO FRAME AND FINISH.
7. REMOVABLE MULLION.
8. OPPERABLE DOOR TO BE HEST LEAF.

ACCESSIBLE SIGNS

A1 - NOT USED
A2 - NOT USED
A3 - NOT USED
A4 - NOT USED
A5 - EXIT STAIR
A6 - OCCUPANT TITLE (ROOM NAME).

ALL SIGNS ARE TO BE MOUNTED AT 40" FROM THE BASELINE OF THE BRAILLE CHARACTERS TO THE FINISHED FLOOR. THE SIGNS WILL BE MOUNTED ON THE LATCH SIDE OF THE DOOR.

COOPER ROBERTS SIMONSEN ARCHITECTURE
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STATE OF UTAH

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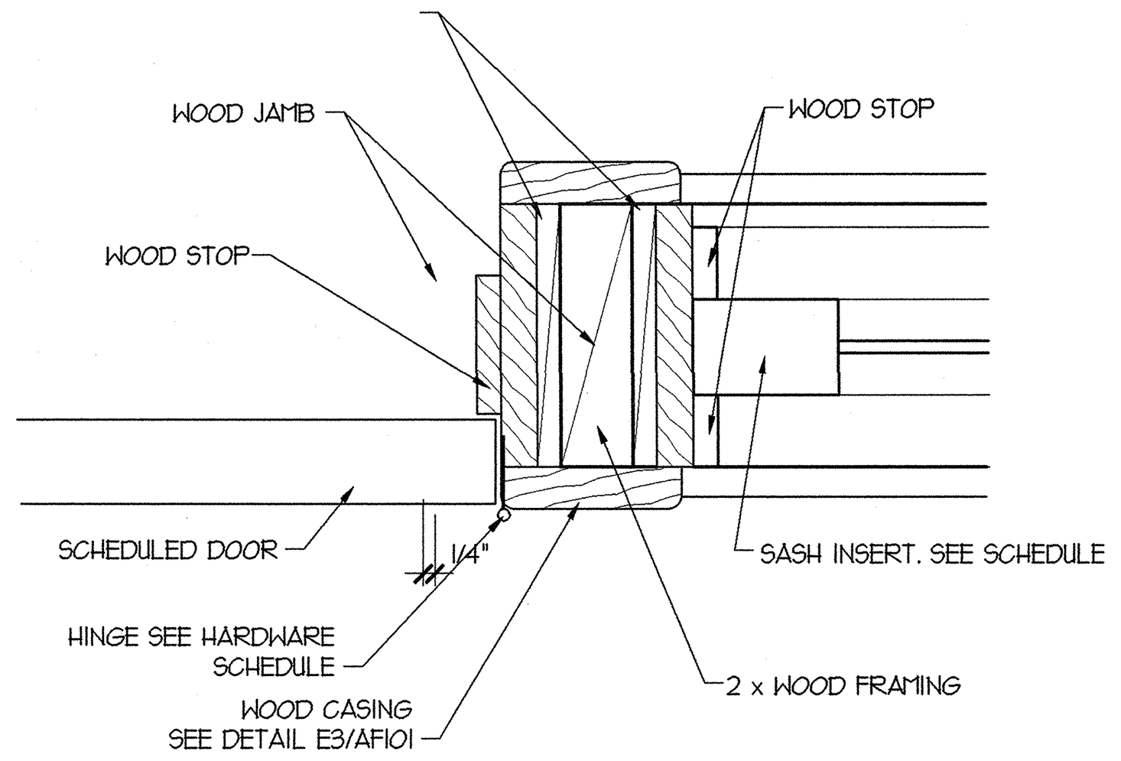
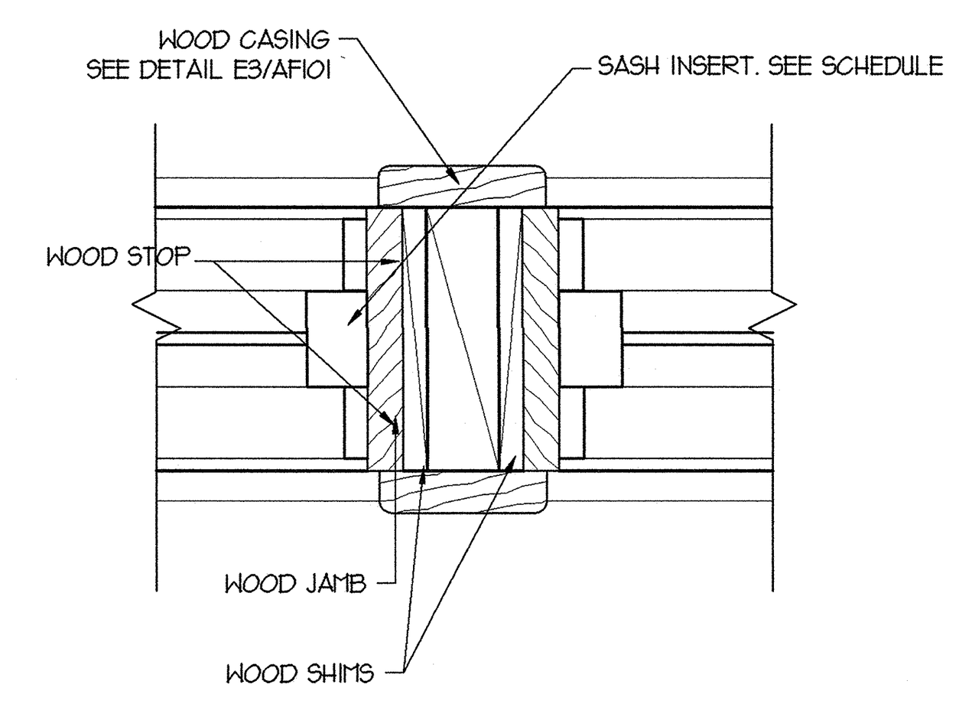
ARCHITECT PROJECT NO.:	B04-012
DFCM PROJECT NO.:	03234730
DTN	

DOOR SCHEDULE & DOOR TYPES

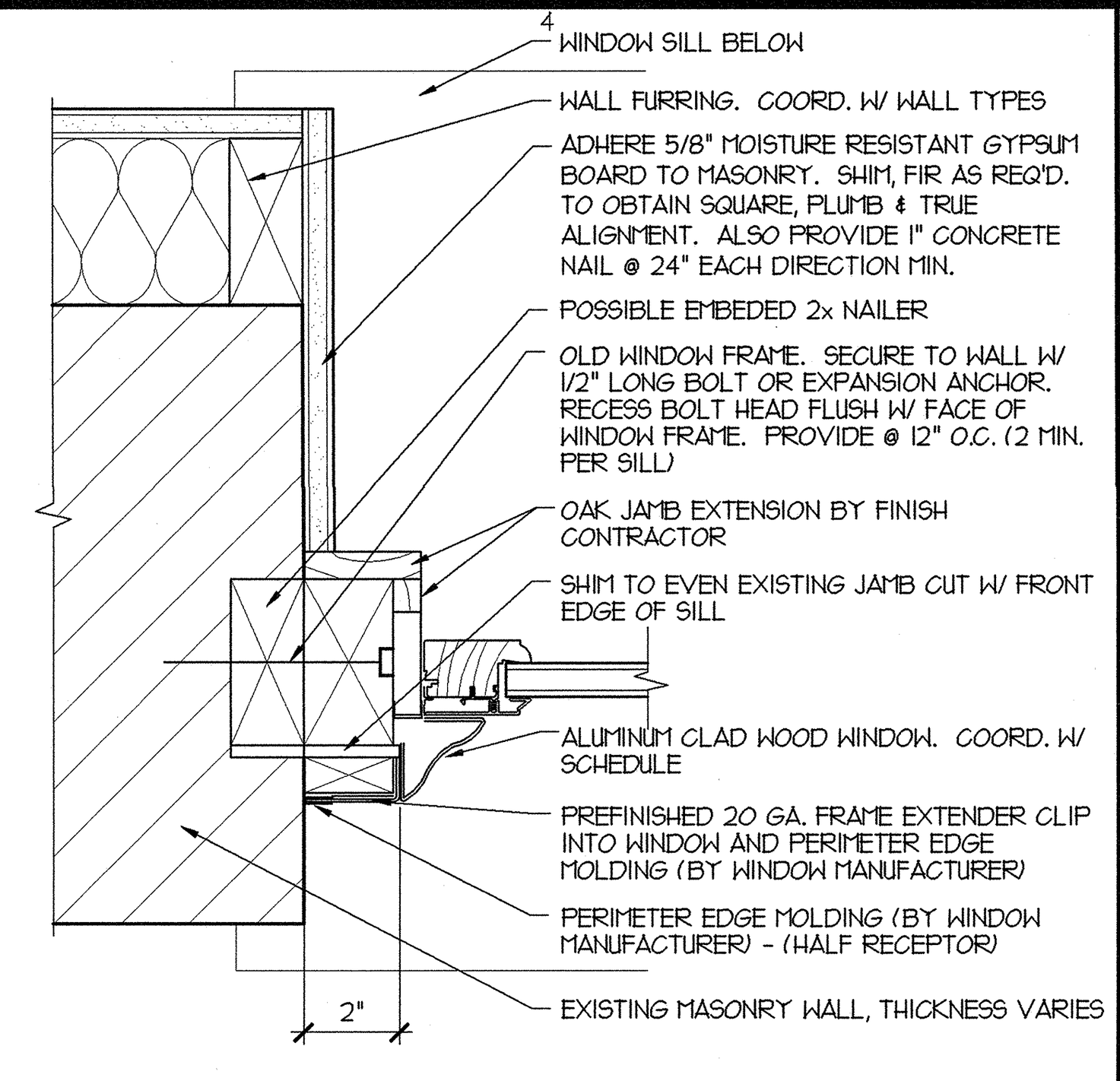
AE601



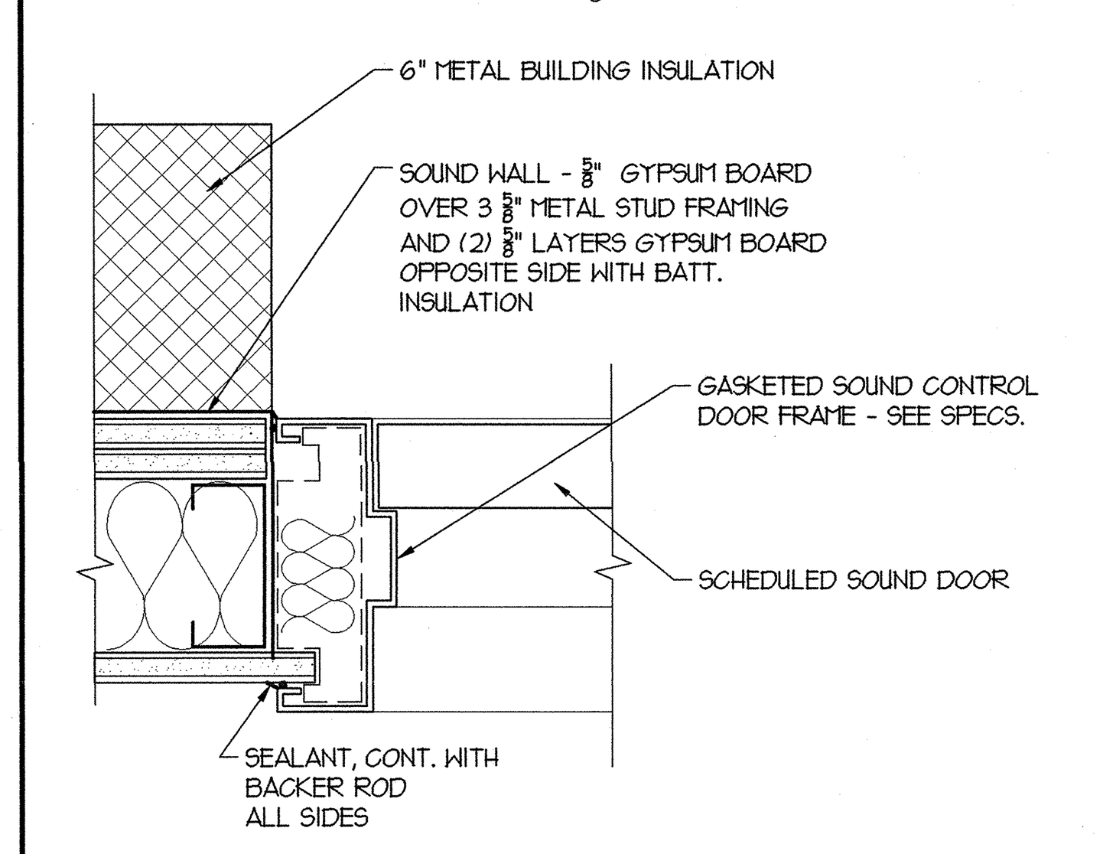
E1 MULLION DTL. / DOOR - WDO
3"=1'-0"
AE602-E1-04



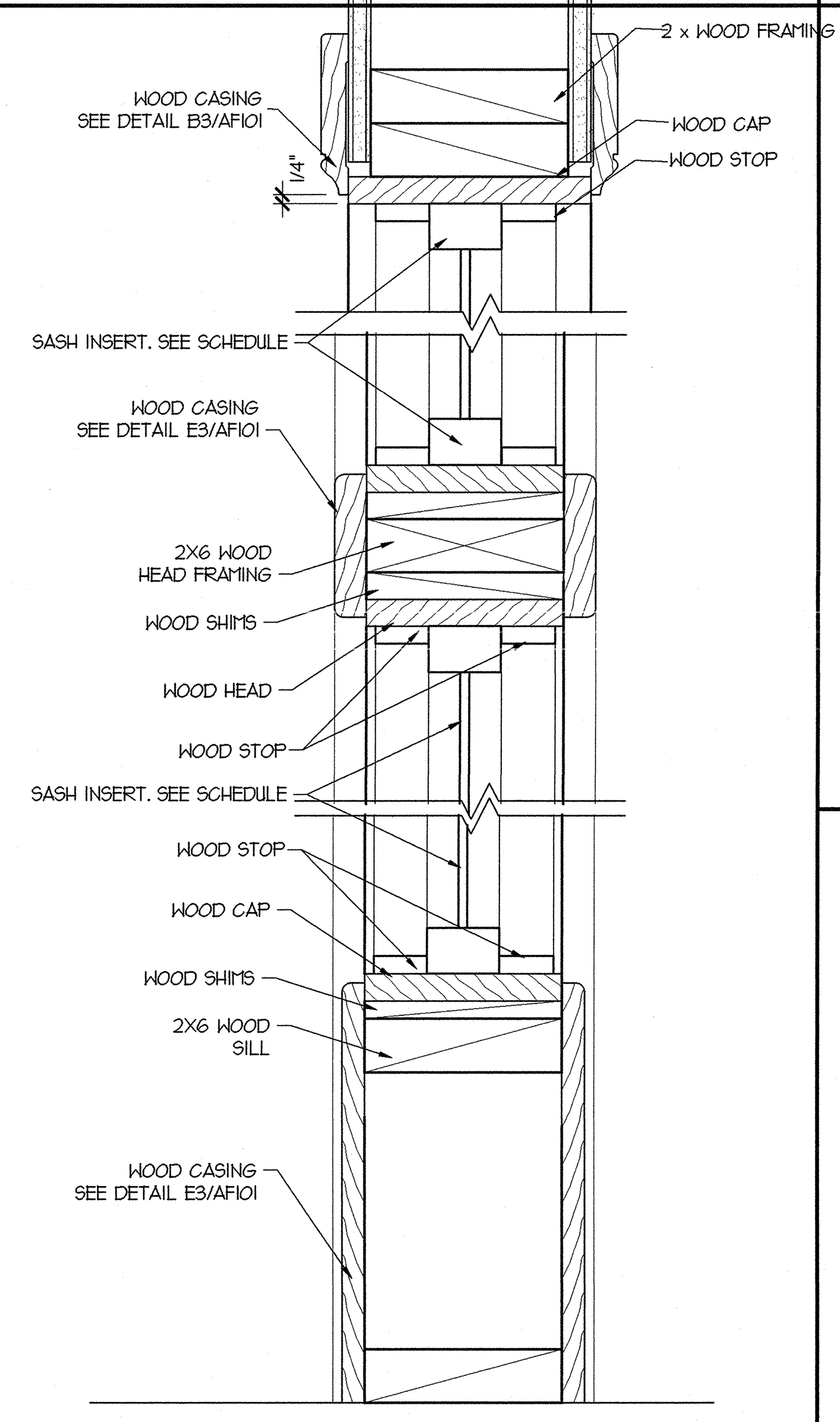
E2 MULLION DTL. / WDO - WDO
3"=1'-0"
AE602-E2-04



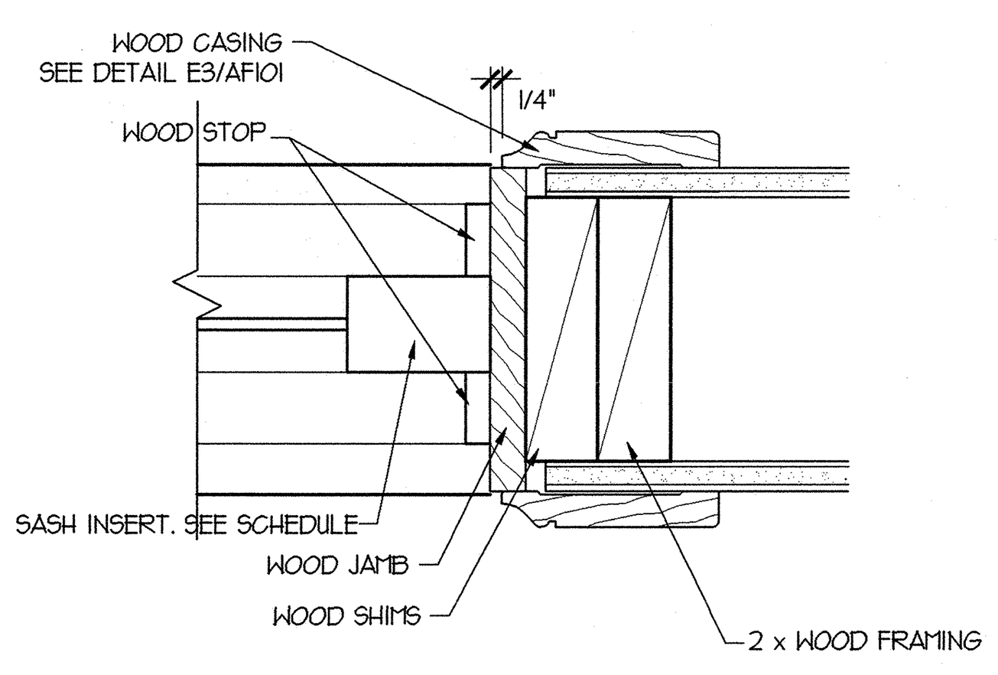
TYPICAL WINDOW JAMB



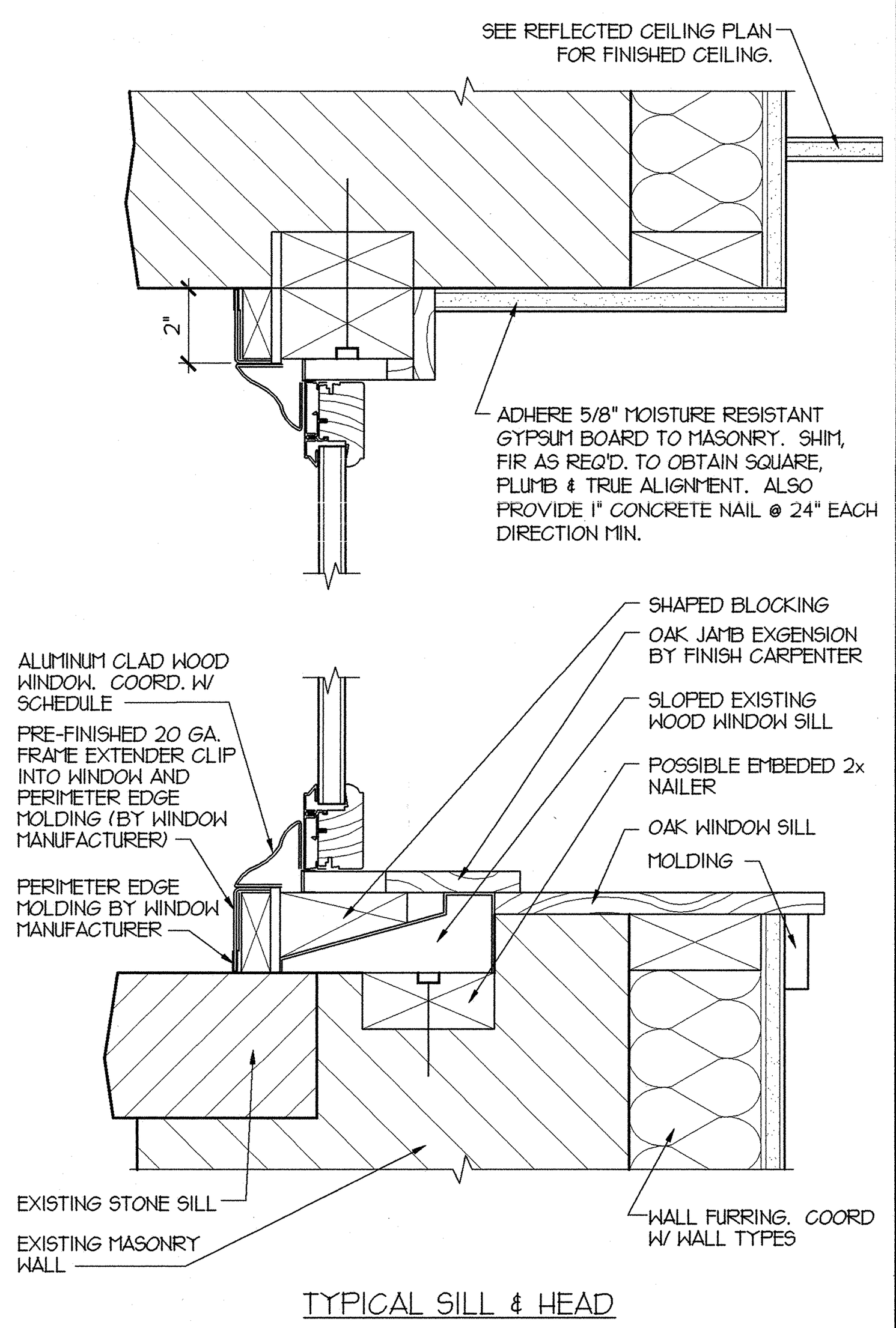
E6 ATTIC JAMB (HEAD SIM.)
3"=1'-0"
AE602-A1-04



C4 TYPICAL WINDOW SILL, JAMB HEAD DETAIL RM. #306
3"=1'-0"
AE602-C1-04

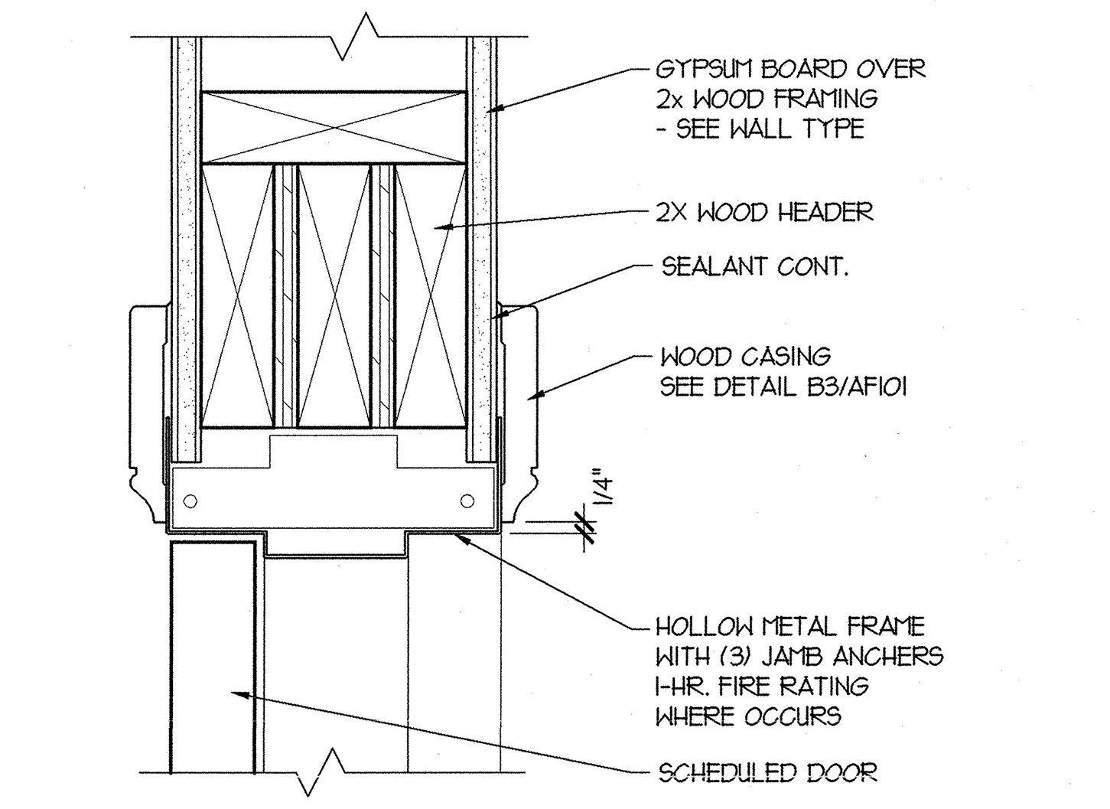


D2 INT. WINDOW JAMB DTL.
3"=1'-0"
AE601-D2-04

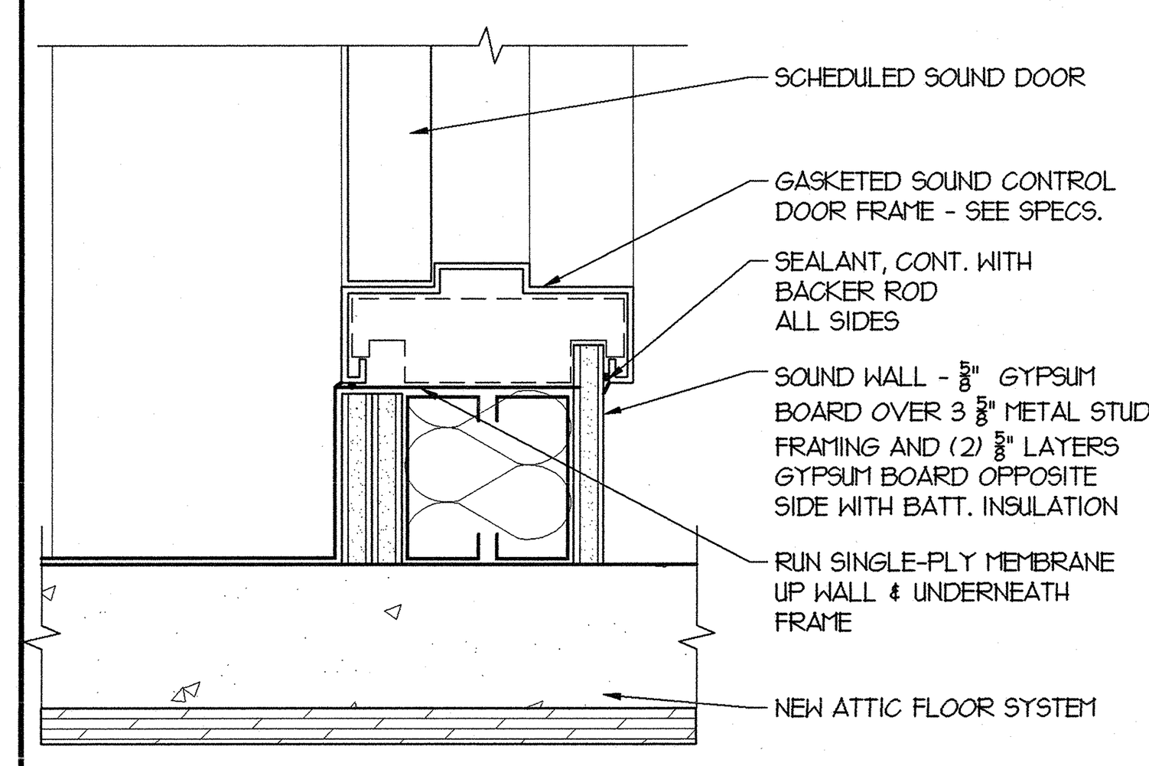


TYPICAL SILL & HEAD

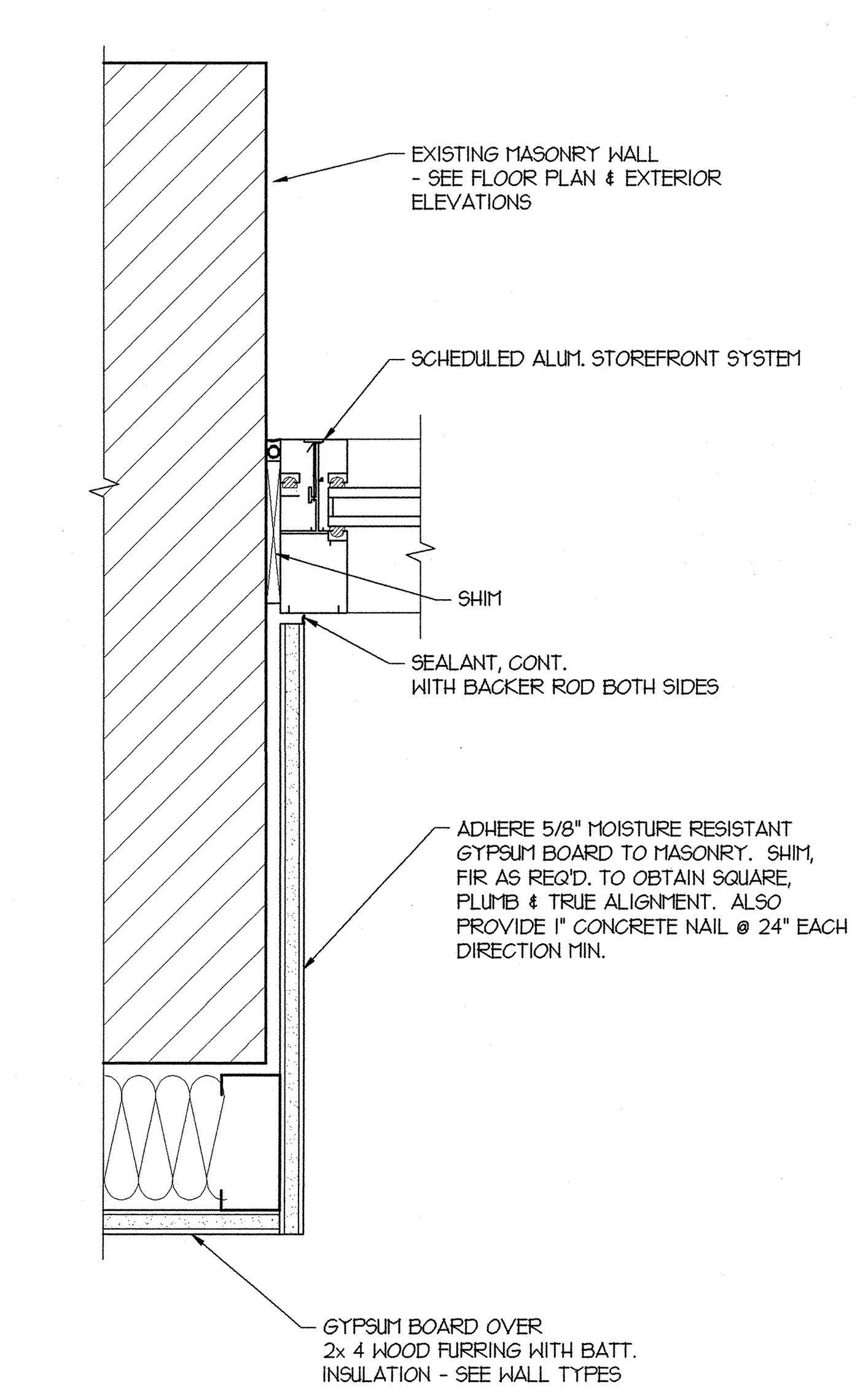
C4 TYPICAL WINDOW SILL, JAMB HEAD DETAIL
3"=1'-0"
AE602-A1-04



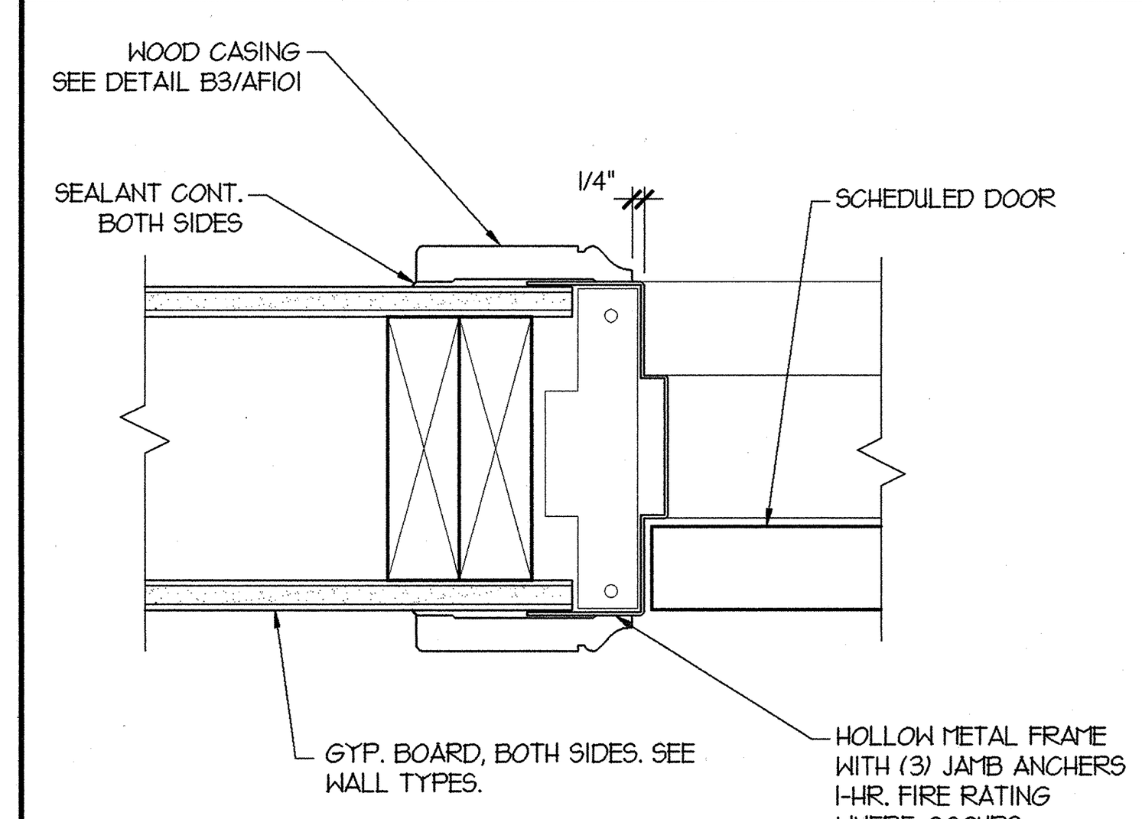
D5 HEAD DTL. - HOLLOW MTL.
3"=1'-0"
AE602-A1-04



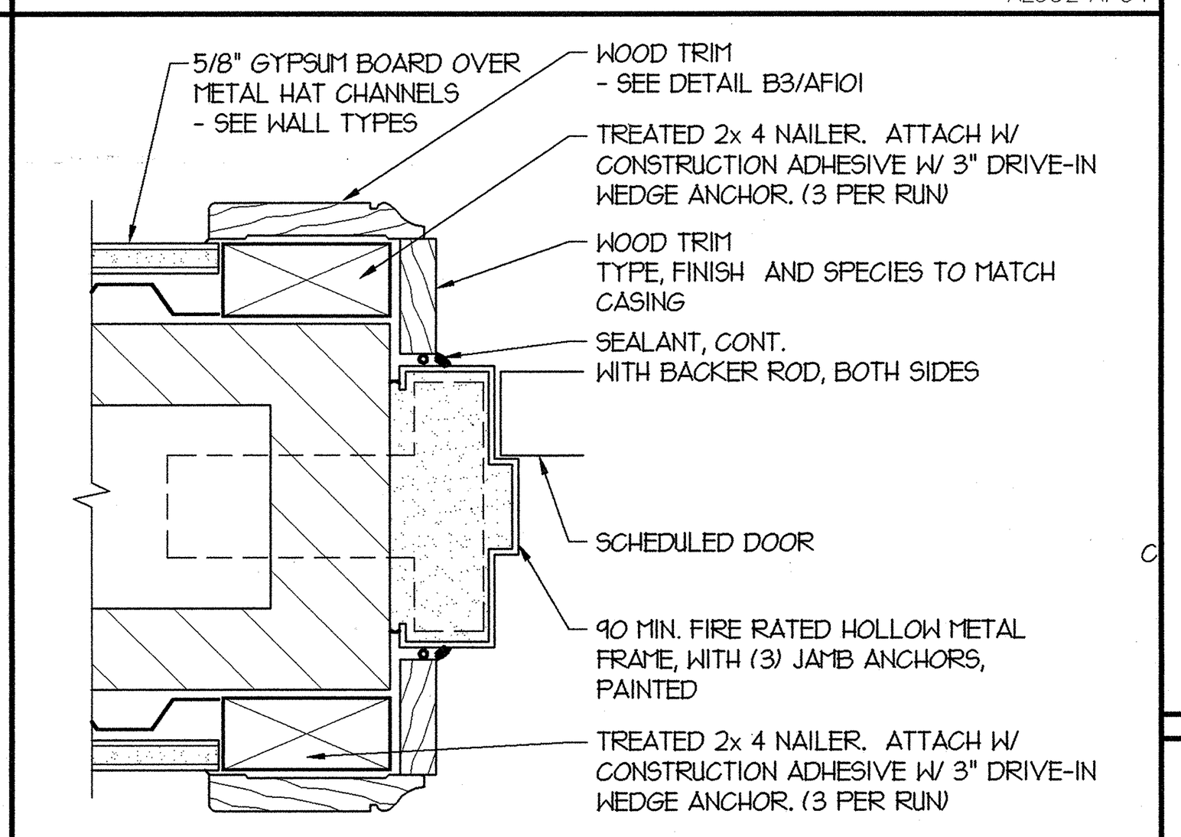
D6 ATTIC SILL
3"=1'-0"
AE602-A1-04



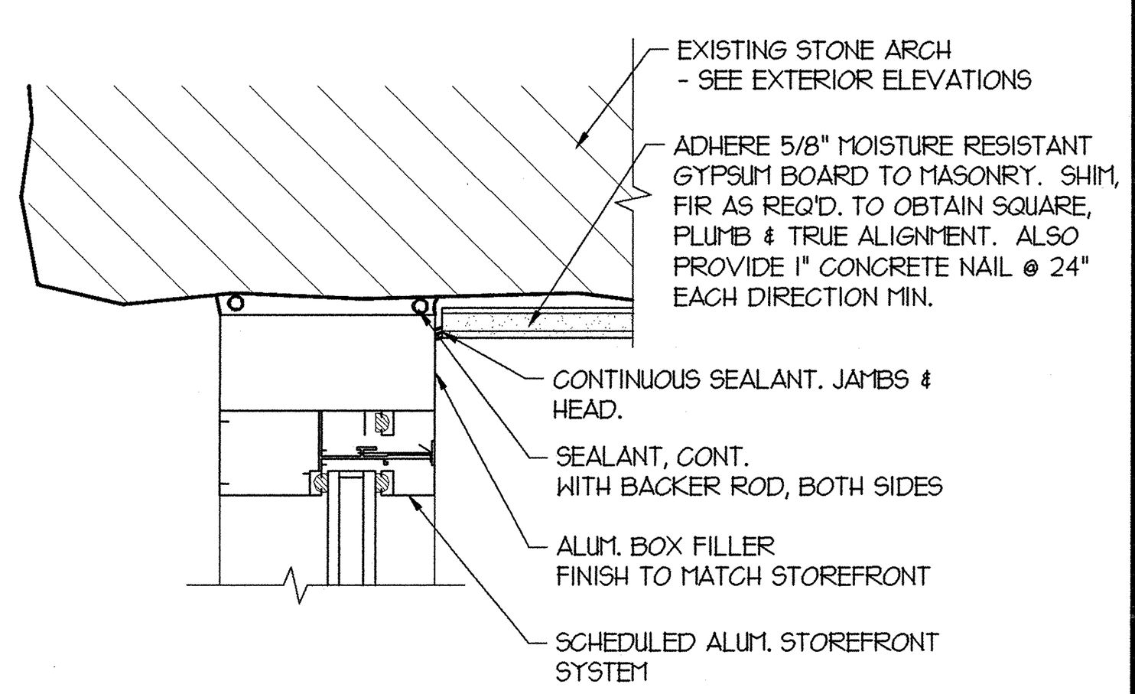
B3 JAMB DETAIL
3"=1'-0"
AE602-A1-04



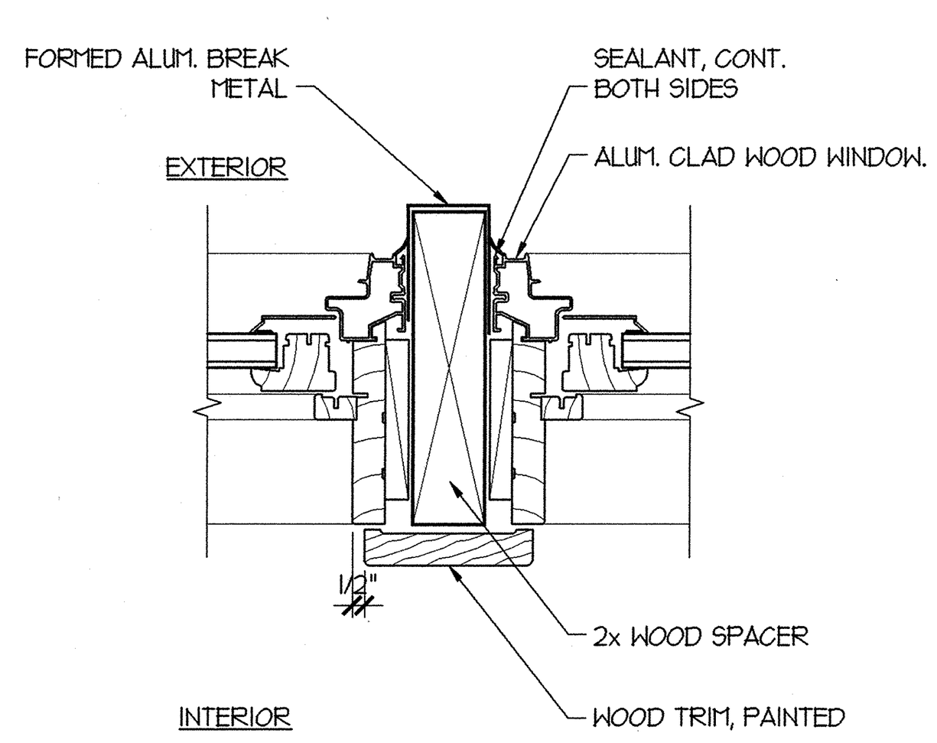
C5 JAMB DTL. - HOLLOW MTL.
3"=1'-0"
AE602-A1-04



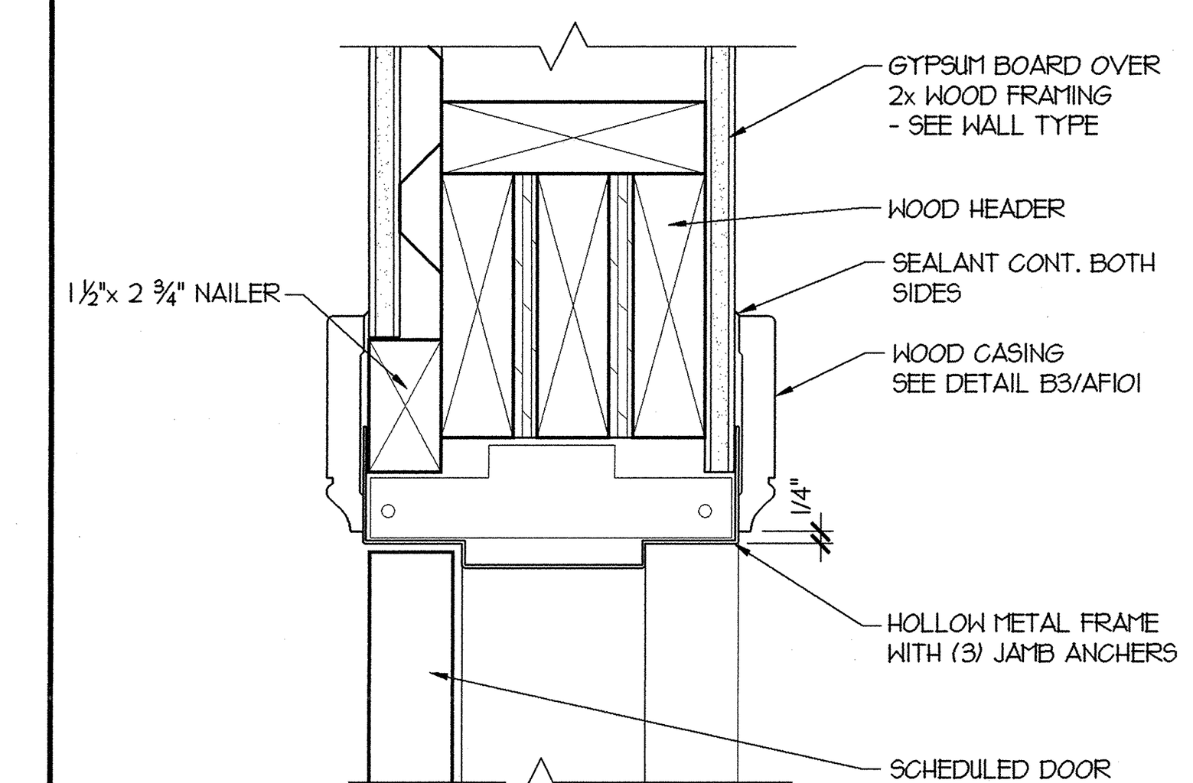
C6 HW MTL. HEAD (JAMB SIM.)
3"=1'-0"
AE602-A1-04



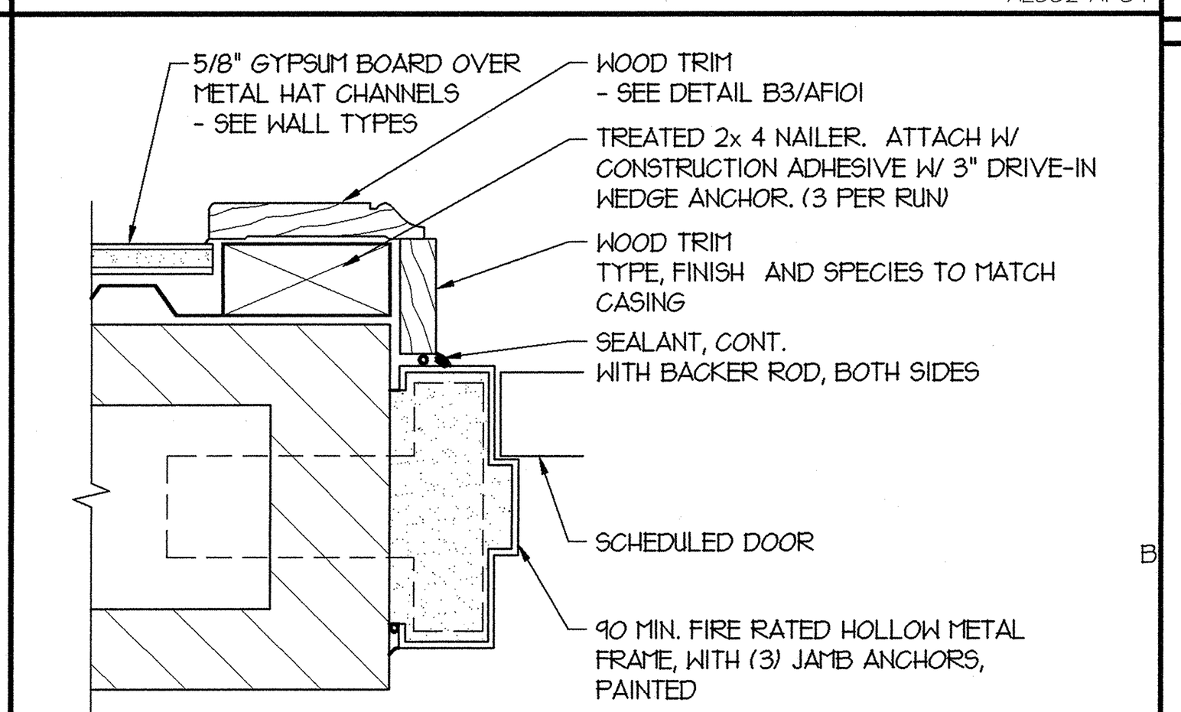
B2 HEAD DETAIL
3"=1'-0"
AE602-A1-04



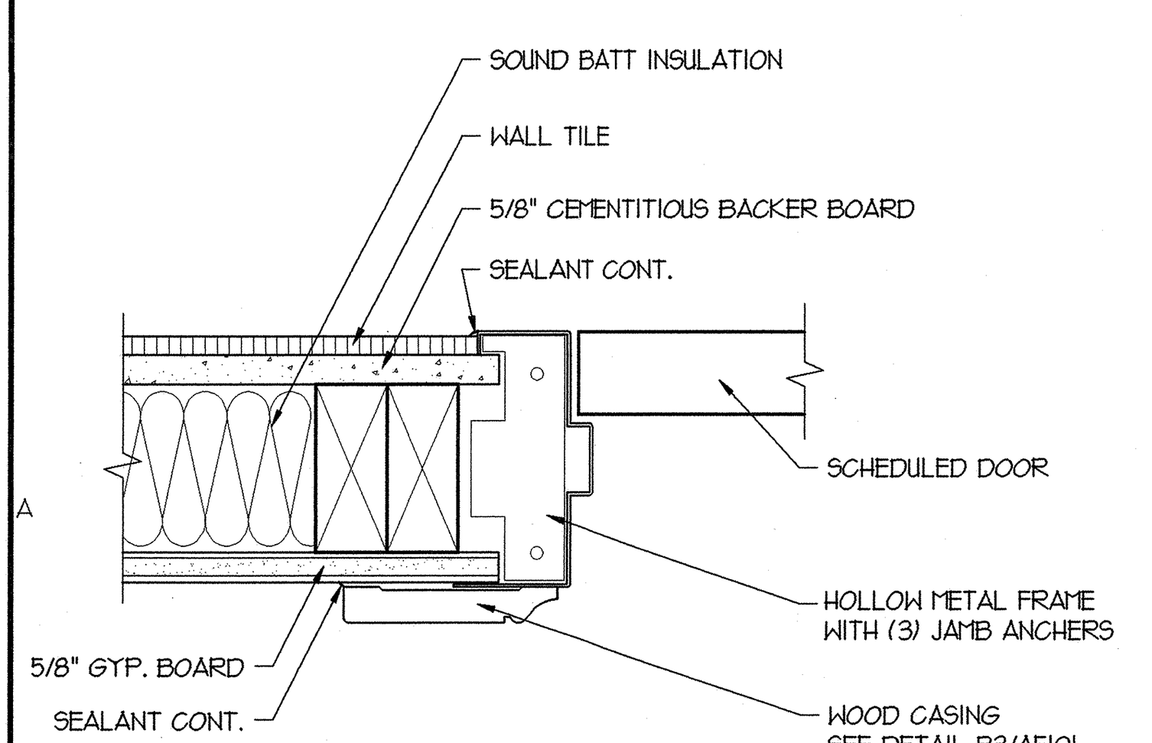
B3 SUPPORT MULLION DETAIL
3"=1'-0"
AE602-A1-04



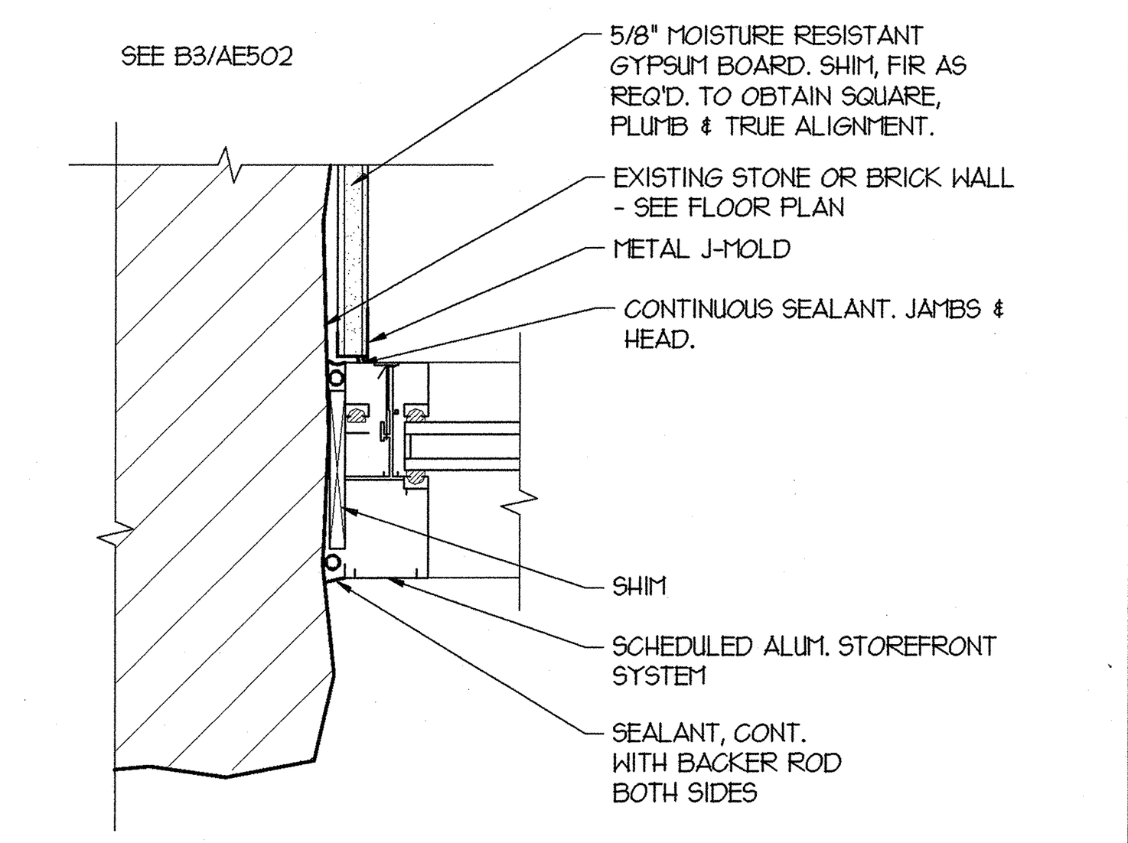
B5 HEAD DTL. - HOLLOW MTL.
3"=1'-0"
AE602-A1-04



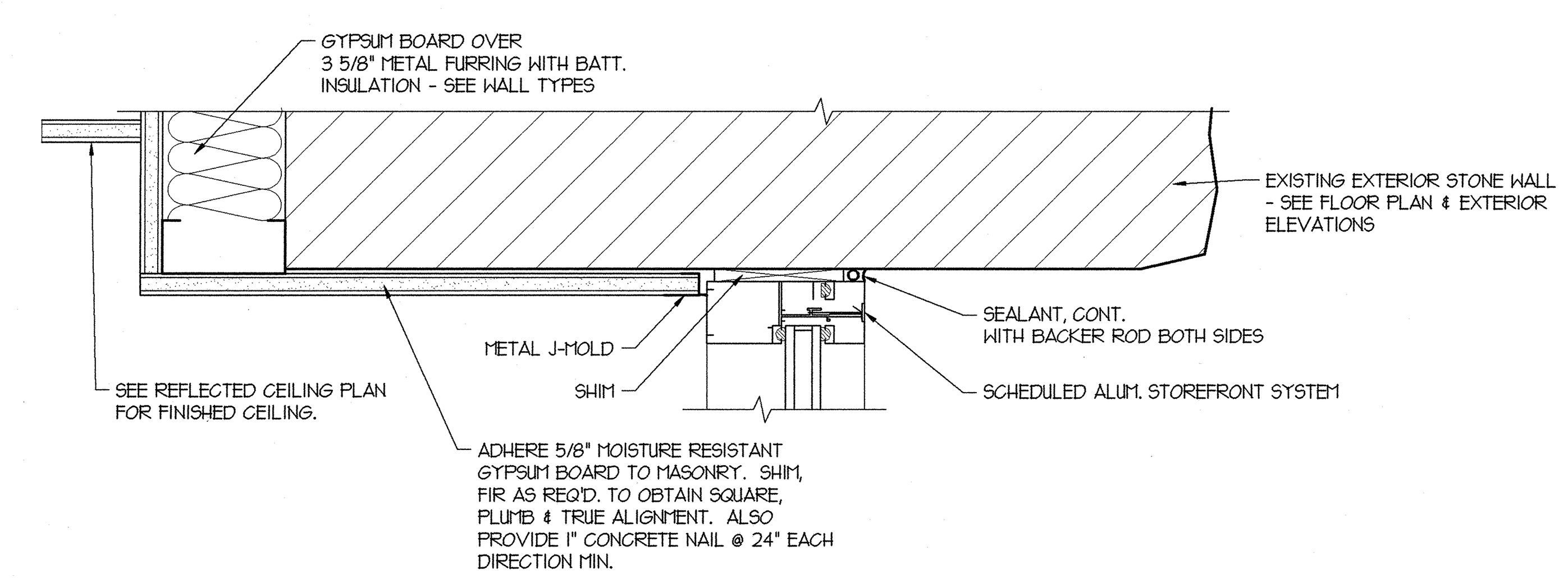
B6 HW MTL. HEAD (JAMB SIM.)
3"=1'-0"
AE602-A1-04



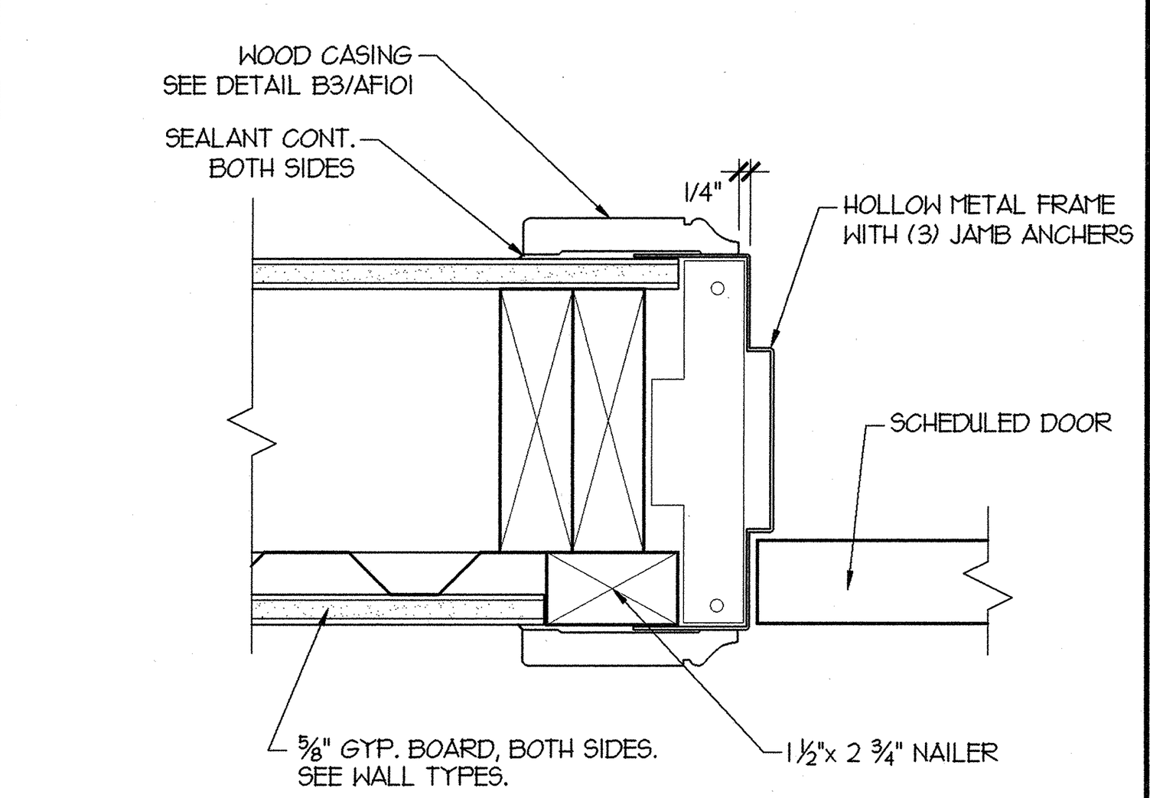
A1 TYPICAL JAMB DETAIL AT RESTROOMS
3"=1'-0"
AE602-A1-04



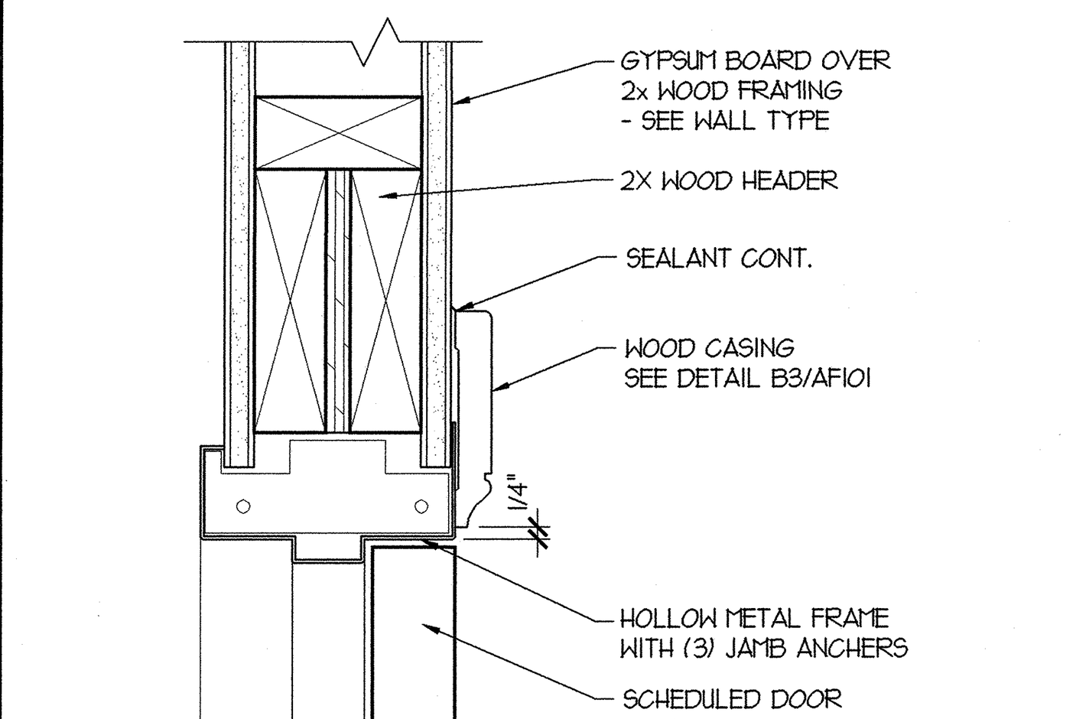
A2 JAMB DETAIL
3"=1'-0"
AE602-A1-04



A3 HEAD DETAIL
3"=1'-0"
AE602-A1-04



A5 JAMB DTL. - HOLLOW MTL.
3"=1'-0"
AE602-A1-04



A6 HW MTL. HEAD (JAMB SIM.)
3"=1'-0"
AE602-A1-04

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4110 STATE OFFICE BUILDING
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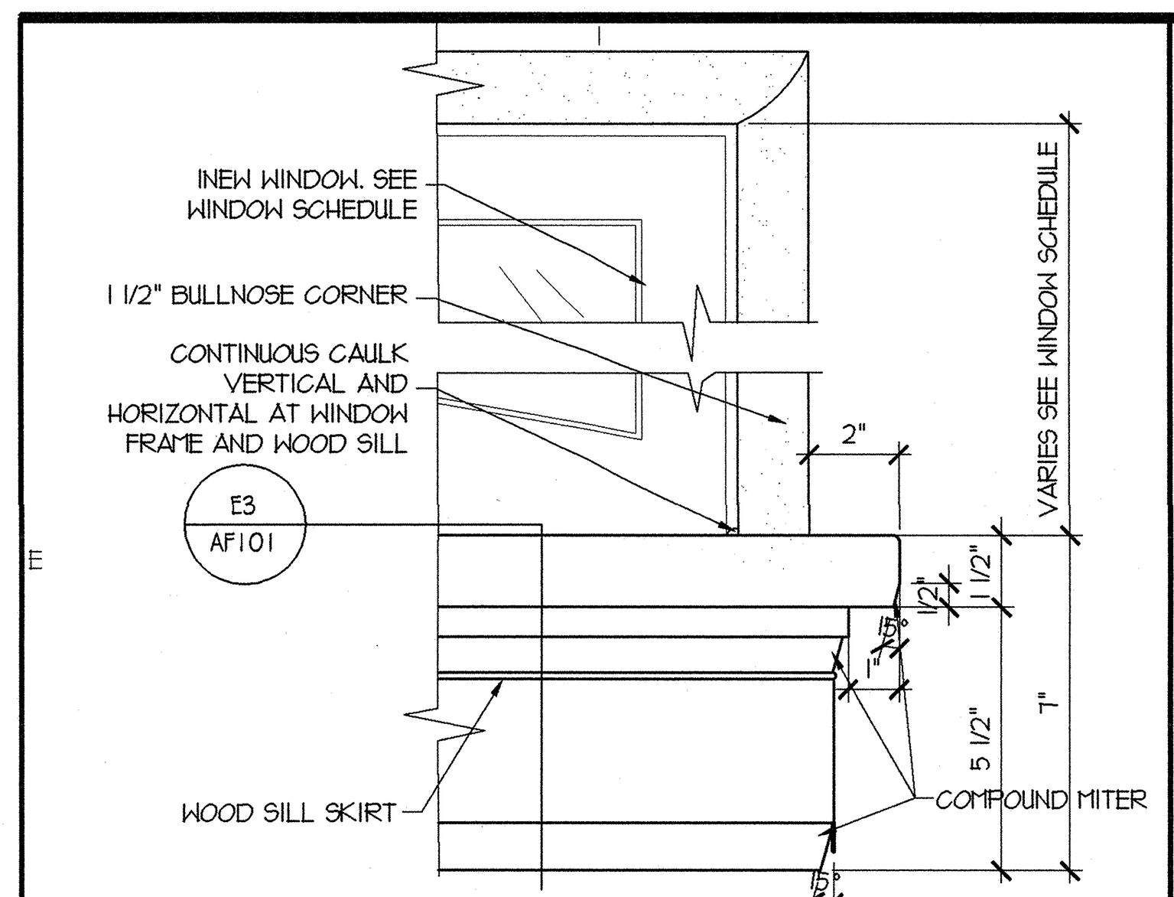
JAN 23 2006

BID DOCUMENT	1/16/06	
CD 100%	7/21/04	
DD Sumbittal	7/12/04	

ARCHITECT PROJECT NO.: B04-012
DFCM PROJECT NO.: 03234730
DTN

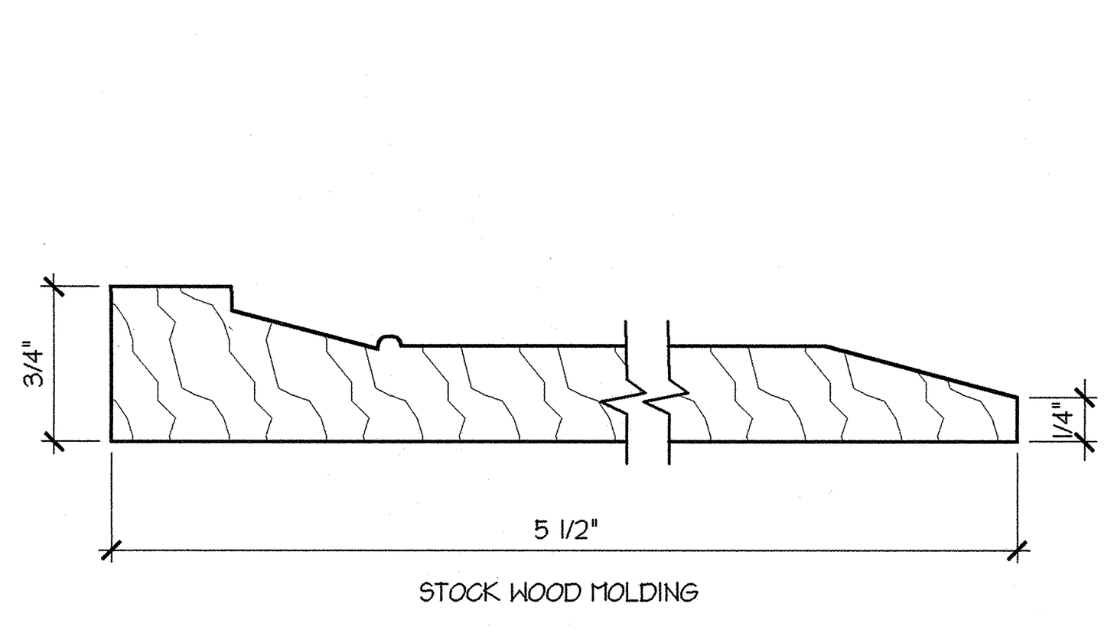
DOOR & WINDOW DETAILS

AE602



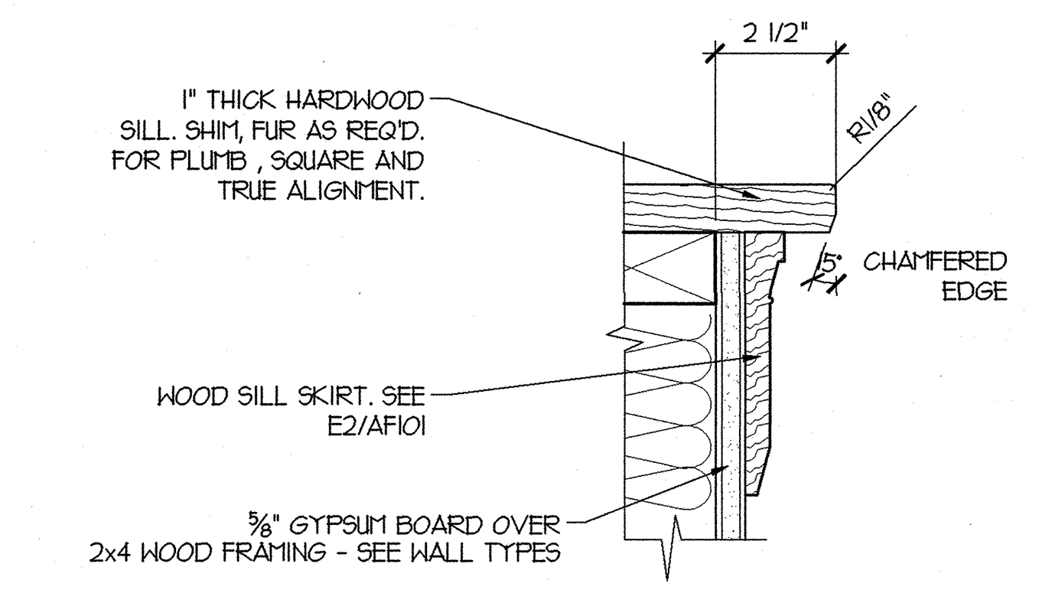
E1 SKIRT, SILL ELEVATION
3"=1'-0"

AF101-C2-04



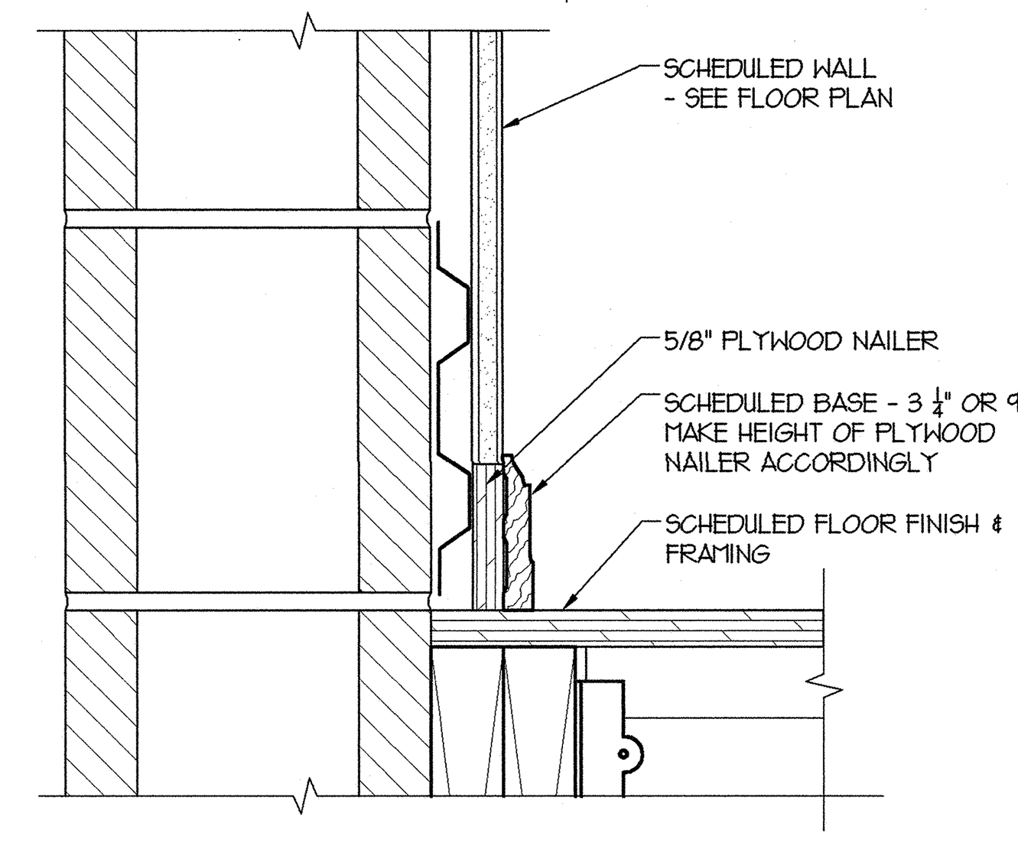
E2 WOOD SILL SKIRT
1"=1'-0"

AF101-E2-01



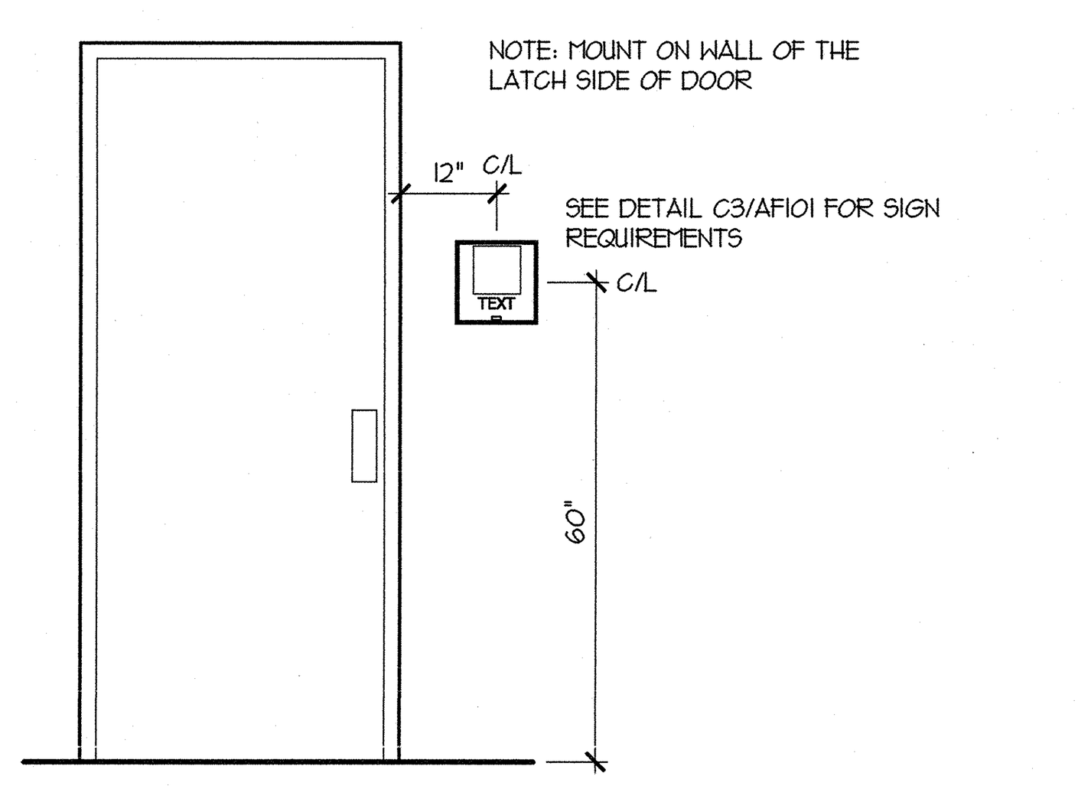
E3 SKIRT, SILL PROFILE
3"=1'-0"

AF101-E3-04



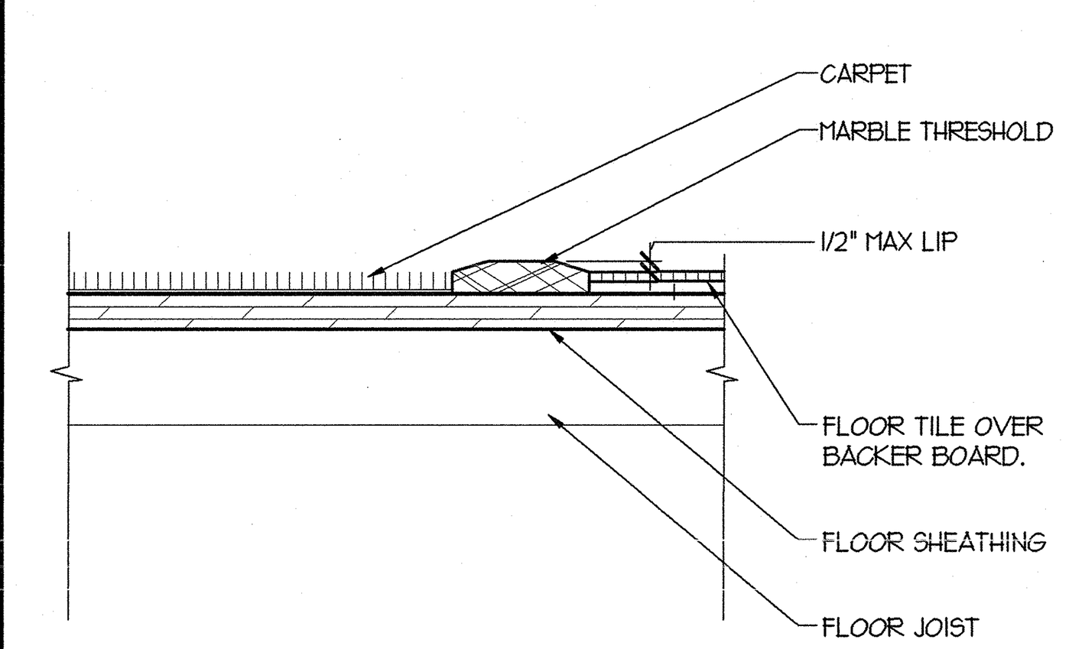
E4 BASE DETAIL @ MASONRY
3"=1'-0"

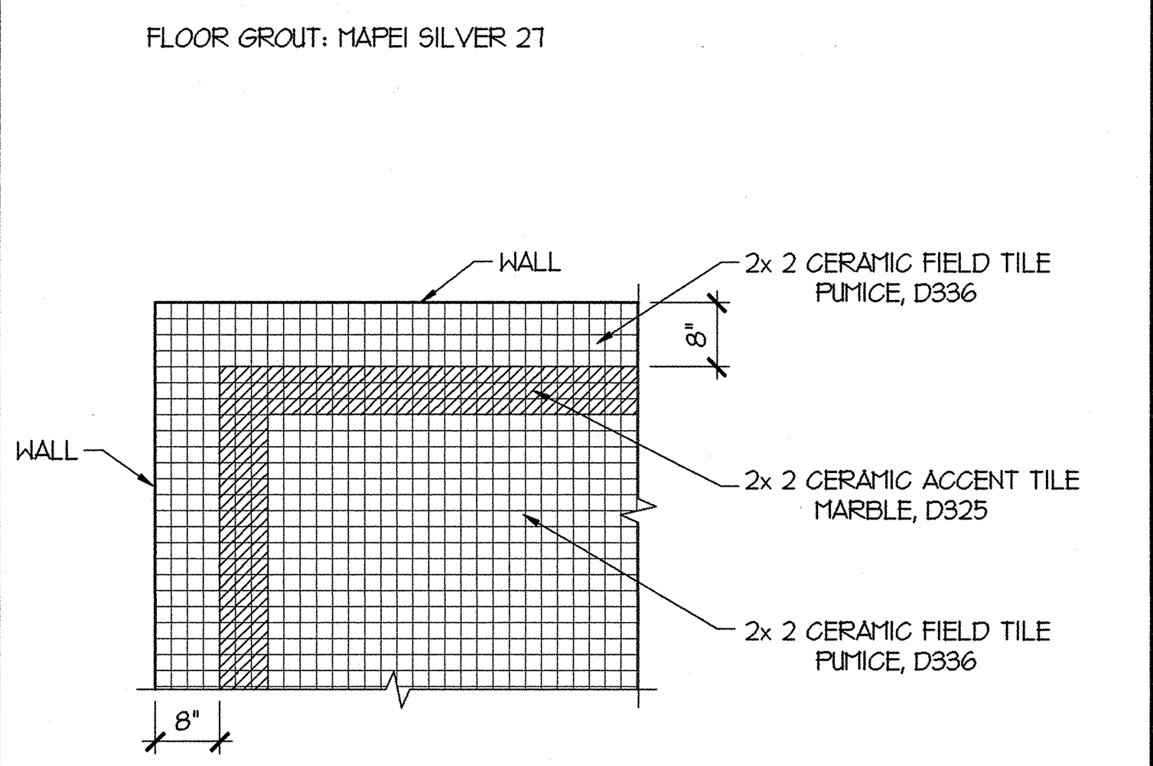
AF101-E4-04



D3 TYP. SIGNAGE LOCATION
1/2"=1'-0"

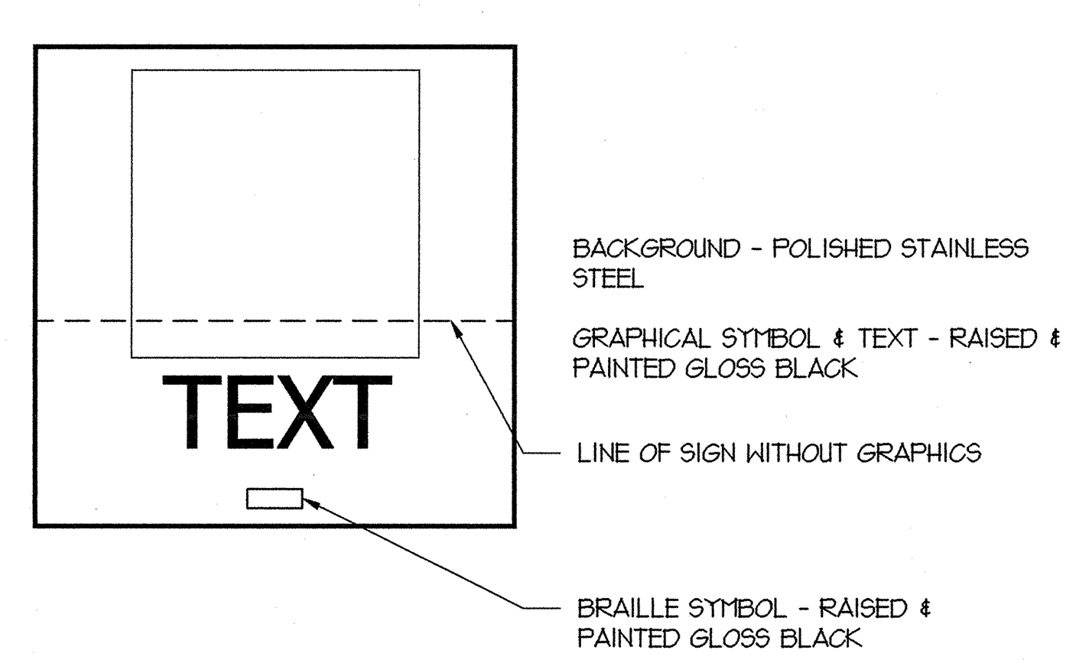
AF101-D3-24





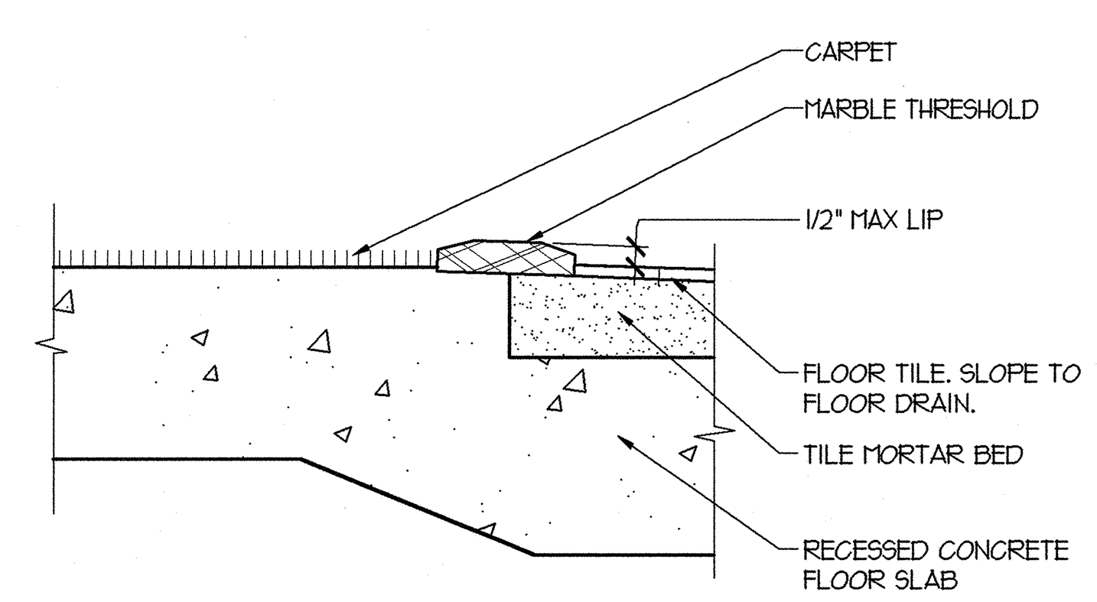
C2 TILE PATTERN DETAIL/FLOOR
1/2"=1'-0"

AF101-C2-24



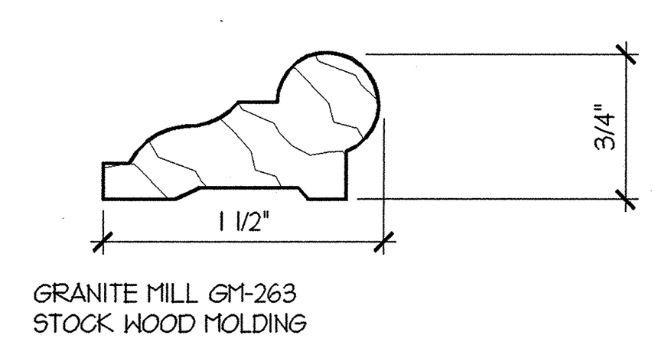
C3 SIGNAGE
NO SCALE

AF101-C3-04



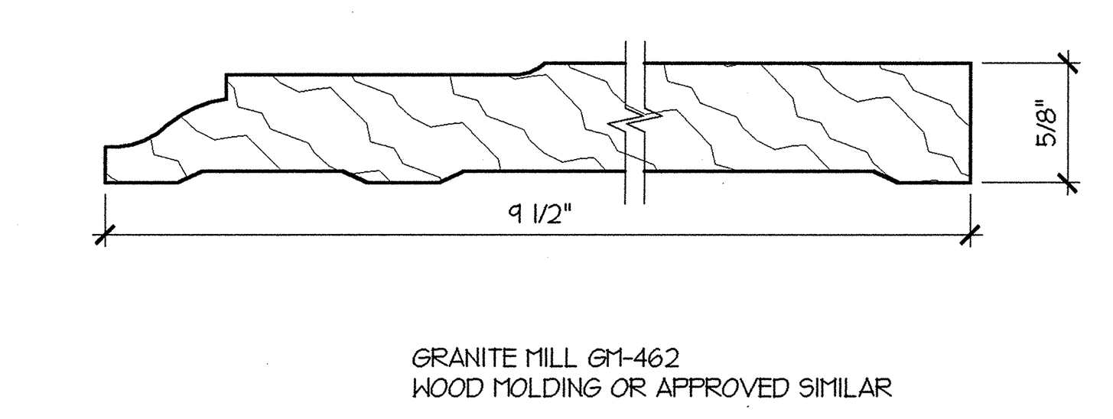
C4 MARBLE THREHOLD
3"=1'-0"
JOB #B04-012

AF101-C4-04



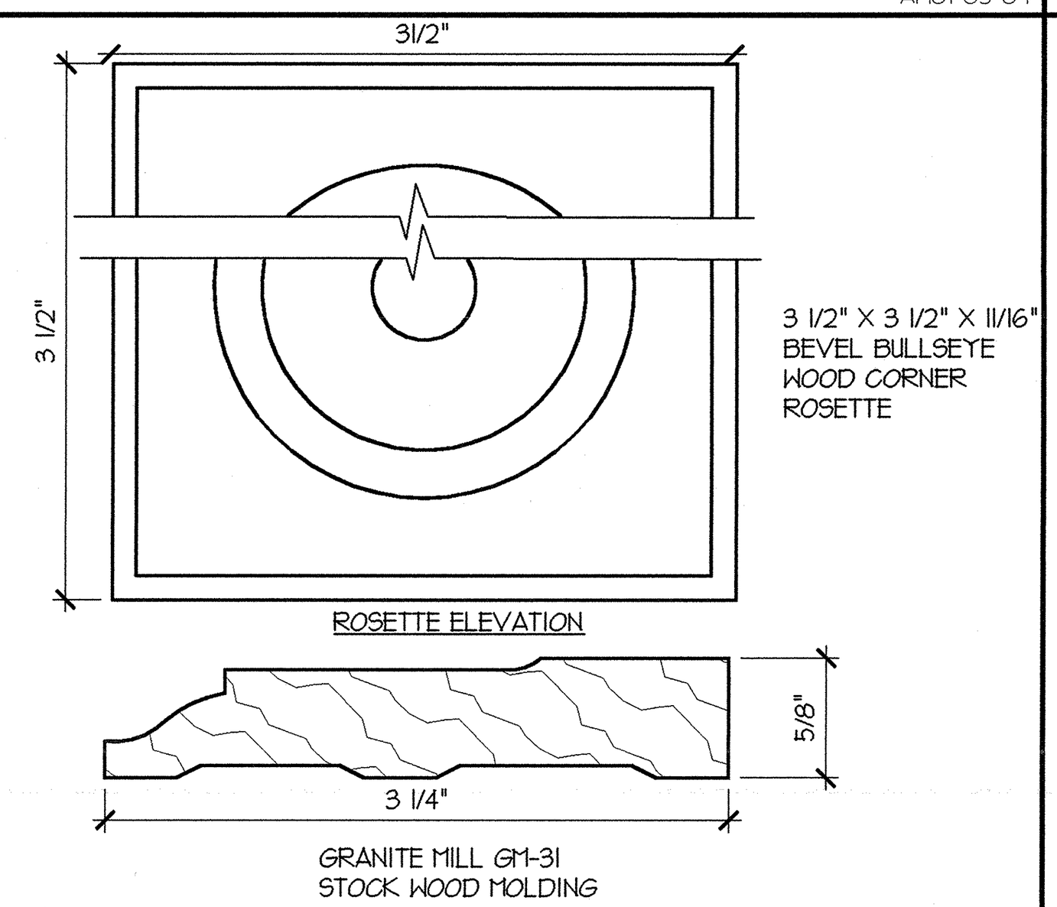
B1 WOOD PICTURE MOLDING
1"=1'-0"

AF101-A1-01



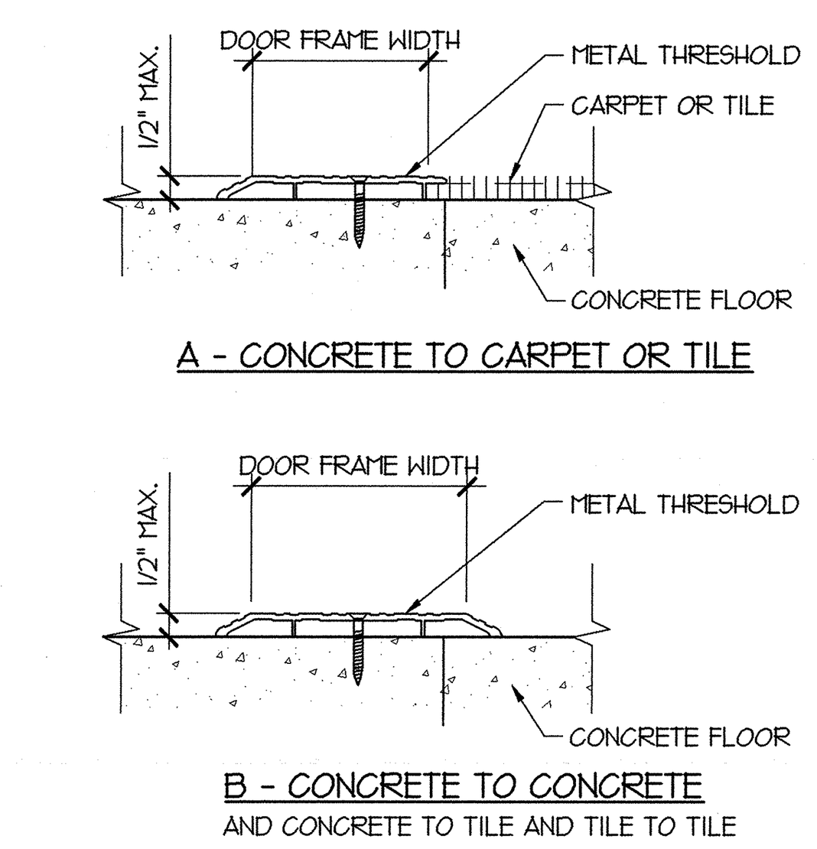
B2 WOOD BASE MOLDING
1"=1'-0"

AF101-A1-01



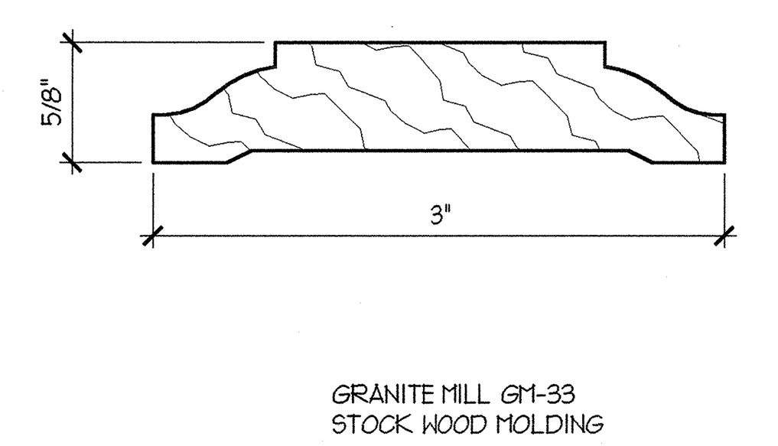
B3 TYP. WOOD DOOR CASING
1"=1'-0"

AF101-A1-01



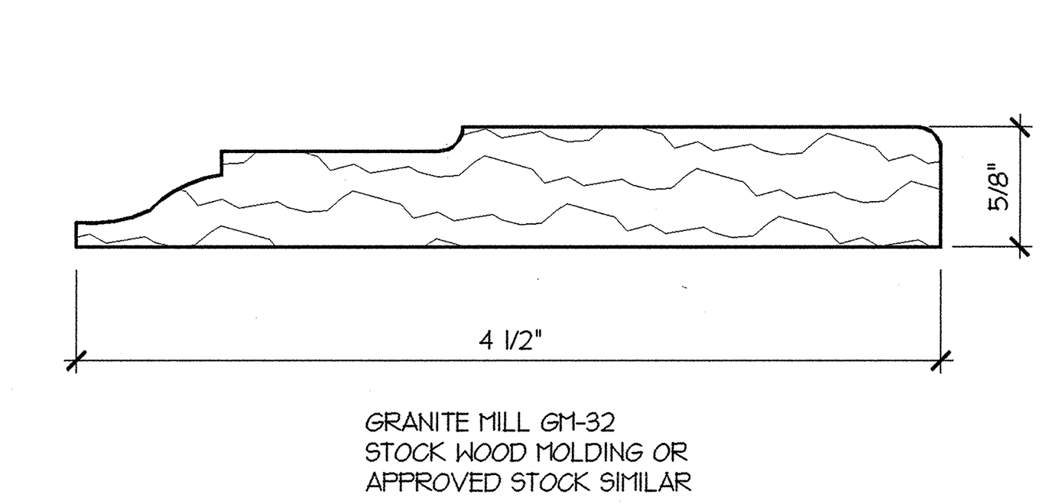
B4 ALUM. THRESHOLD DETAILS
3"=1'-0"

AF101-A5-04



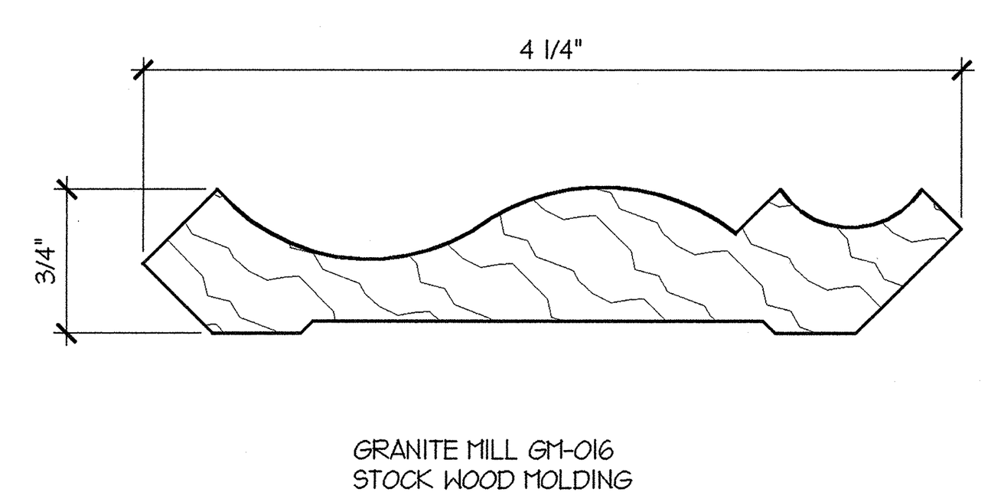
A1 TYP. CHAIR RAIL MOLDING
1"=1'-0"

AF101-A1-01



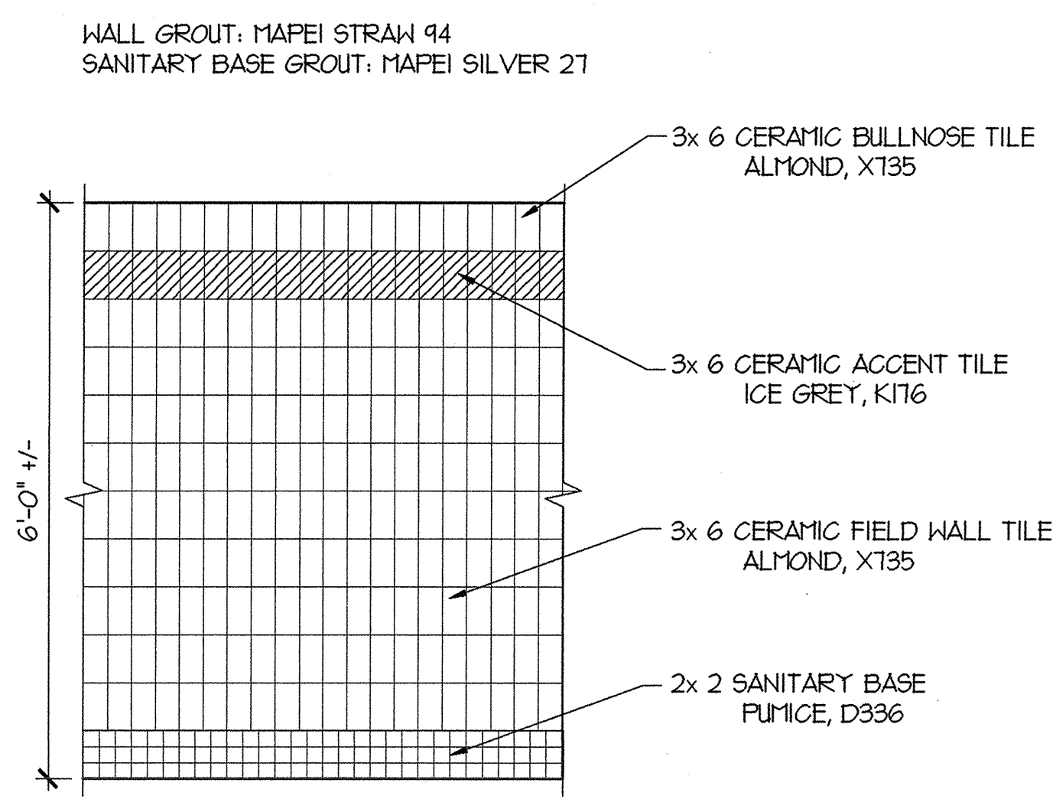
A2 WOOD BASE MOLDING
1"=1'-0"

AF101-A1-01



A3 WOOD CROWN MOLDING
1"=1'-0"

AF101-A1-01



A4 TILE PATTERN DETAIL/WALL
1/2"=1'-0"

AF101-A4-24

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE	WALL FINISH N	E	S	W	WOOD TRIM	CEILING FINISH	SPECIAL		KEY NOTES
BASEMENT LEVEL												
001	EXISTING VAULT	-	-	W3	W3	W3	W3	-	-			
002	ELEVATOR MECHANICAL ROOM	F4	-	-	-	-	-	-	C3			(2)
003	ELEVATOR PIT	F4	-	W3	W3	W3	W3	-	-	-		
MAIN LEVEL												
101	EAST STAIR "A"	F1	B2	W1	W1	W1	W1	T2	C1	E5		
102	ELECTRICAL/COMM. ROOM	F4	B1	W1	W1	W1	W1	-	C1			
103	CLASSROOM A	F1	B1	W1	W1	W1	W1	T1	C1/C4	E3, E6, E9, E12, E18, E20		(3)
104	CLASSROOM B	F1	B1	W1	W1	W1	W1	T1	C1/C4	E3, E6, E9, E12, E18, E20		(3)
105	STUDENT LOUNGE	F1	B2	W1	W1	W1	W1	T2	C1			(3)
105A	MECHANICAL ROOM	F1	B1	W1	W1	W1	W1	-	C1			(3)
106	WEST STAIR "C"	F1	B2	W1	W1	W1	W1	T2	C1	E5, E10		
107	MEN RESTROOM	F3	B3	W2	W2	W2	W2	-	C1	SEE DETAIL C1/AE403		SEE SPEC. SECTION 10801 (3) (6)
108	WOMEN RESTROOM	F3	B3	W2	W2	W2	W2	-	C1	SEE DETAIL C1/AE403		SEE SPEC. SECTION 10801 (3) (6)
109	NOT USED											
110	ELECTRICAL ROOM	F4	B1	W1	W1	W1	W1	-	C1			(2)
111	STUDENT INSTRUCTIONAL MAT. PROD.	F1	B1	W1	W1	W1	W1	-	C1/C4	E11, E12, E13		(3)
112	NORTH STAIR "B"	F1	B2	W1	W1	W1	W1	-	C1	E5		SEE SPEC. SECTION 10801
112A	FIRE SERVICE	F4	B1	W1	W1	W1	W1	-	C1			
113	STORAGE	F1	B1	W1	W1	W1	W1	-	C1			
114	FIELD SERVICE SEC. AND RECEPTION	F1	B2	W1	W1	W1	W1	T2	C1			(4)
115	FIELD SERVICE DIRECTOR	F1	B1	W1	W1	W1	W1	-	C1/C4			(4)
116	COPY AND MAIL/WORK ROOM	F1	B1	W1	W1	W1	W1	-	C1	E11, E13		(3)
117	FIELD SERVICE ADVISOR	F1	B1	W1	W1	W1	W1	-	C1			(3)(4)
118	F.S. STUDENT WORKSTATIONS	F1	B2	W1	W1	W1	W1	T2	C1	E11, E13		(3)(4)
119	STUDENT LOUNGE	F1	B2	W1	W1	W1	W1	T2	C1			(1)
120	ELEVATOR CAR	-	-					-	-			SEE SPEC.
SECOND LEVEL												
201	EAST STAIR "A"	F1	B2	W1	W1	W1	W1	T2	C1			
202	ELECTRICAL ROOM	F5	B1	W1	W1	W1	W1	-	C1			(2)
203	ELEMENTARY EDUCATION CHAIR	F1	B4	W1	W1	W1	W1	T1	C1/C4			(4)
204	SECONDARY EDUCATION SECRETARY	F1	B4	W1	W1	W1	W1	-	C1			(4)
205	SECONDARY EDUCATION CHAIR	F1	B4	W1	W1	W1	W1	T1	C1/C4			(4)
206	SHARED REC. MATERIALS STORAGE	F1	B1	W1	W1	W1	W1	-	C1	E11, E13		(3)
207	SHARED OFFICE SUPPORT	F1	B1	W1	W1	W1	W1	-	C1	E11, E13		(3)(4)
208	CONFERENCE	F1	B1	W1	W1	W1	W1	T1/T2	C1	E3, E4		(3)
209	WOMENS RESTROOM	F3	B3	W2	W2	W2	W2	-	C1	SEE DETAIL C1/AE403, E10		SEE SPEC. SECTION 10801 (3)(6)
210	MEN RESTROOM	F3	B3	W2	W2	W2	W2	-	C1	SEE DETAIL C1/AE403, E10		SEE SPEC. SECTION 10801 (3)(6)
211	WEST STAIR "C"	F1	B2	W1	W1	W1	W1	T2	C1			
212	NOT USED											
213	STORAGE	F1	B1	W1	W1	W1	W1	-	C1	E15		(3)(4)
214	SECRETARY	F1	B1	W1	W1	W1	W1	-	C1			(4)
215	DEAN'S OFFICE	F1	B4	W1	W1	W1	W1	-	C1/C4			(4)
216	NOT USED											
217	NORTH STAIR "B"	F1	B1	W1	W1	W1	W1		C2			
218	SECRETARY	F1	B1	W1	W1	W1	W1	-	C1			(4)
219	ASSOC. DEAN OFFICE	F1	B4	W1	W1	W1	W1	-	C1/C4			(4)
220	WORK ROOM	F1	B1	W1	W1	W1	W1	-	C1	E11, E12, E13		(3) (4)
221	ADVISOR	F1	B4	W1	W1	W1	W1	-	C1			(4)
222	RECEPTION/WAITING AREA	F1	B2	W1	W1	W1	W1	T2	C1	SEE DETAIL A1/AE404		(3) (4)(1)
THIRD LEVEL												
301	EAST STAIR "A"	F1	B2	W1	W1	W1	W1	T2	C1/C2			
302	ELECTRICAL/COMMUNICATIONS	F5	B1	W1	W1	W1	W1	-	C1			(2)
303	DIST. LEARNING/GRAD. SEMINAR "A"	F1/F2	B1	W1	W1	W1	W1	T1	C1/C4	E4, E17, E18, E19, E20		(3)
304	DIST. LEARNING/GRAD. SEMINAR "B"	F1/F2	B1	W1	W1	W1	W1	T1	C1/C4	E4, E17, E18, E19, E20		(3)
305	DIST. LEARNING/GRAD. SEMINAR "C"	F1/F2	B1	W1	W1	W1	W1	T1	C1/C4	E4, E17, E18, E19, E20		(3)
306	DEAN'S CONFERENCE & NCATE DOC.	F1	B2	W1	W1	W1	W1	T1	C1/C4	SEE DETAIL C1/AE403 & E4, E19		(3) (4)
307	CATERING	F1	B1	W1	W1	W1	W1	-	C1	E1, E2, E12, E13		(3)
308	MEN RESTROOM	F3	B3	W2	W2	W2	W2	-	C1	SEE DETAIL C1/AE403		SEE SPEC. SECTION 10801 (3) (6)
309	CUSTODIAN	F5	B1	W1	W1	W1	W1	-	C1	E14, E15		(3) (5)
310	WOMEN RESTROOM	F3	B3	W2	W2	W2	W2	-	C1	SEE DETAIL C1/AE403		SEE SPEC. SECTION 10801 (3) (6)
311	FILES/STORAGE	F1	B1	W1	W1	W1	W1	-	C1	E11, E13		(3)
312	STUDENT WORKSTATIONS	F1	B2	W1	W1	W1	W1	-	C1	E11, E13		(3)
313	NORTH STAIR "B"	F1	B1	W1	W1	W1	W1	-	C1/C2			
314	SECRETARY	F1	B1	W1	W1	W1	W1	-	C1			(4)
315	GRADUATE EDUCATION CHAIR	F1	B4	W1	W1	W1	W1	-	C1/C4			(4)
316	GRADUATE ADVISOR	F1	B1	W1	W1	W1	W1	-	C1			(4)
317	SECRETARY	F1	B1	W1	W1	W1	W1	-	C1			(4)
318	ATTIC ACCESS	F1	B1	W1	W1	W1	W1	-	C1	E16		(2)(4)
319	RECEPTION/WAITING AREA	F1	B2	W1	W1	W1	W1	T2	C1			(1) (4)
320	FILES/STORAGE	F1	B1	W1	W1	W1	W1	-	C1	E11, E13		(3)

C CEILING

- C1 SEE REFLECTED CEILING PLAN AE103
- C2 PAINTED GYPSUM BOARD ATTACHED DIRECTLY TO STAIR STRUCTURE. 1-HR RATED. SEE D6/AE501.
- C3 PAINTED GYPSUM BOARD ATTACHED TO STRUCTURE ABOVE.
- C4 FLOOR/CEILING SOUND ASSEMBLY. SEE E6/AE501.

B BASE

- B1 4" RUBBER BASE 1/8" THICK MIN.
- B2 WOOD BASE - SEE DETAIL B2/AF101
- B3 CERAMIC TILE BASE - SEE DETAIL A4/AF101
- B4 WOOD BASE -SEE DETAIL A2/AF101

W WALLS

- W1 PAINTED GYPSUM BOARD -
- W2 6' CERAMIC TILE WAINSCOT WITH PAINTED GYPSUM BOARD ABOVE- SEE DETAIL A4/AF101, COORD. W/ INTERIOR ELEVATIONS.
- W3 EXPOSED CONCRETE

T WOOD TRIM

- T1 CHAIR RAIL- SEE DETAIL A1/AF101
- T2 PICTURE RAIL- SEE DETAIL B1/AF101

F FLOOR

- F1 CARPET -
- F2 PROVIDE FLOOR/CEILING SOUND ASSEMBLY AS SHOWN ON E6/AE501 FOR ALL CEILING AREAS UNDER THE ROOM
- F3 FLOOR TILE -
- F4 SEALED CONCRETE
- F5 LINOLEUM

GENERAL NOTES

1. ALL TILE IS TO BE INSTALLED OVER CEMENTITIOUS BACKER BOARD.
2. ALL GYPSUM BOARD IN ALL RESTROOMS IS TO BE WATER RESISTANT. (GREEN BOARD)
3. RESTROOMS ACCESSORIES - SEE SECTION 10801.
4. WALLS WITH METAL FRAMING SEE A4/AE502 FOR BLOCKING DETAIL.
5. SEE DOOR SCHEDULE FOR ROOM SIGNS.

WOOD TRIM NOTES

1. SEE DOOR & WINDOW SCHEDULE FOR DOOR & WINDOW TRIM.
2. COORD. W/ INTERIOR ELEVATIONS.

E SPECIAL AND EQUIPMENT

- E1 REFRIGERATOR
- E2 MICROWAVE
- E3 RETRACTABLE SCREEN, ELECTRIC. COORD. W/ ELECTRICAL.
- E4 VISUAL DISPLAY CONFERENCE UNIT.
- E5 RECESSED ENTRY MAT - MATS INC. -RUST
- E6 4x12 WHITE BOARD.
- E7 4x8 WHITE BOARD.
- E8 4x6 WHITE BOARD.
- E9 CEILING MOUNTED PROJECTOR. COORD. W/ ELECTRICAL.
- E10 AUTOMATIC DOOR OPERATORS.
- E11 WALL MOUNTED COUNTERTOP. COORD. W/ INTERIOR ELEVATIONS.
- E12 BASE CABINETS & COUNTERTOP. COORD. W/ INTERIOR ELEVATIONS.
- E13 WALL MOUNTED UPPER CABINETS. COORD. W/ INTERIOR ELEVATIONS.
- E14 MOP & BROOM RACK.
- E15 HEAVY DUTY ADJUSTABLE SHELVES. SEE INTERIOR ELEVATIONS FOR NUMBER. OF SHELVES. IF NOT SHOWN, PROVIDE 3 SHELVES.
- E16 ATTIC ACCESS LADDER.
- E17 LECTURN
- E18 ELMO
- E19 52" PLASMA TV
- E20 2 CAMERAS, COORD. W/ ELECTRICAL SPEAKERS, COORD. W/ ELECTRICAL EQUIPMENT CLOSET

(-) KEY NOTES

1. SEE INTERIOR ELEVATIONS FOR TILE FINISH (FLOOR & WALL) AROUND DRINKING FOUNTAIN.
2. PROVIDE 1/2" PLYWOOD (OVER GYP. BOARD) WHERE REQUIRED FOR MOUNTING ELECTRICAL & COMMUNICATION EQUIPMENT.
3. PROVIDE 2x6 BLOCKING BEHIND ALL AREAS TO RECEIVE WALL MOUNTED ACCESSORIES. (E4, E6, E7, E8, E11, E12, E13, E14, E15, E16, E19)
4. PROVIDE BLOCKING REQUIRED FOR SYSTEMS FURNITURE (BY OWNER), COORD. W/ OWNER FOR REQUIREMENTS.
5. COORD. W/ INTERIOR ELEVATIONS FOR TILE REQUIREMENT AROUND MOP SINK.
6. COORD. W/ INTERIOR ELEVATIONS & SPECIFICATIONS FOR TOILET ROOM ACCESSORIES.

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DTN

FINISH SCHEDULE & DETAILS

AF101

PLUMBING LEGEND

MEANING	SYMBOL OR ABBREVIATION	MEANING	SYMBOL OR ABBREVIATION
HOT WATER LINE		WALL CLEANOUT	WCO
COLD WATER LINE		CLEANOUT	CO
VENT LINE		CLEANOUT TO GRADE	COTG
WASTE LINE		FLOOR CLEANOUT	FCO
GAS LINE	G	BALL VALVE	
VENT THRU ROOF	VTR	UNION	
CONNECTION TO EXISTING PIPING			

GENERAL LEGEND

NOT ALL SYMBOLS LISTED BELOW ARE USED ON THIS SET OF PLUMBING DRAWINGS

SYMBOL	ABR.	DESCRIPTION
	AFF	ABOVE FINISHED FLOOR
	AP	ACCESS PANEL
	CI	CAST IRON
	℄ EL.	CENTER LINE ELEVATION
	CC	CONTROL CONTRACTOR
	EC	ELECTRICAL CONTRACTOR
	FPC	FIRE PROTECTION CONTRACTOR
	GC	GENERAL CONTRACTOR
INV. ELEV.		INVERT ELEVATION
	MC	MECHANICAL CONTRACTOR
	NIC	NOT IN CONTRACT
	NTS	NOT TO SCALE
WH-1		PLUMBING FIXTURE AND/OR EQUIPMENT DESIGNATION (TYPICAL)

PLUMBING CONSTRUCTION NOTES:

G-1 ALL PLUMBING SHALL BE INSTALLED AND CONFORM TO THE 2003 EDITION OF THE INTERNATIONAL PLUMBING CODE (IPC) WITH UTAH AMENDMENTS.

G-2 ALL PIPING MATERIALS SHALL MEET ALL REQUIREMENTS OF IPC AND LOCAL AUTHORITY.

G-3 ALL MATERIALS SHALL BE NEW AND SHALL BE DOMESTIC MADE UNLESS SPECIFICALLY APPROVED OTHERWISE IN WRITING BY ARCHITECT OR OWNER.

G-4 PROVIDE VACUUM BREAKERS AND BACK FLOW PREVENTERS WHERE REQUIRED BY CODE OR WHERE THERE MAY BE ANY POSSIBLE CHANCE FOR CROSS CONTAMINATION. PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH IPC WITH UTAH AMENDMENTS.

G-5 ALL PLUMBING INFORMATION IS NOT LIMITED TO THE PLUMBING DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING ARCHITECTURAL DRAWING, STRUCTURAL DRAWINGS, MECHANICAL DRAWINGS, AND ELECTRICAL DRAWINGS.

G-6 THE WORKING DRAWINGS ARE DIAGRAMMATIC. BECAUSE OF THE SMALL SCALE OF THE DRAWING, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL PIPING INSTALLATION SHALL BE COORDINATED WITH THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

G-7 COORDINATE THE INSTALLATION AND LOCATIONS OF ALL PIPING AND PLUMBING EQUIPMENT WITH ALL OTHER TRADES AND/OR CONTRACTORS PRIOR TO INSTALLATION.

G-8 ANY AND ALL ALTERATION TO THE SYSTEM SHOWN SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. ARCHITECT/ENGINEER SHALL BE NOTIFIED IN WRITING PRIOR TO CHANGES.

G-9 ALL WATER SYSTEMS SHALL MEET THE REQUIREMENTS OF ANSI/NSF STANDARD 61 LATEST EDITION, CONCERNING METAL CONTAMINANTS IN THE WATER SYSTEM.

G-10 WATER PIPING SHALL NOT BE INSTALLED OR ROUTED IN OUTSIDE WALLS OR ON EXTERIOR SIDE OF BUILDING INSULATION ENVELOPE.

G-11 WATER HAMMER ARRESTORS SHALL BE INSTALLED IN ALL WATER LINES WITH QUICK OPENING OR QUICK CLOSING VALVES.

G-12 WATER HAMMER ARRESTOR SCHEDULE:
TYPE A 1-11 FIXTURE UNITS
TYPE B 12-32 FIXTURE UNITS
TYPE C 33-60 FIXTURE UNITS
TYPE D 61-113 FIXTURE UNITS

G-13 SUPPORT ALL PIPING INDEPENDENTLY OF EQUIPMENT.

G-14 ALL EQUIPMENT CONNECTED TO GAS OR WATER SHALL HAVE AN ISOLATION VALVE.

G-15 COORDINATE PIPE PENETRATIONS OF FIRE-RATED WALLS WITH ARCHITECTURAL DETAILS AE506-AE508.

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PLUMBING GENERAL NOTES AND LEGENDS

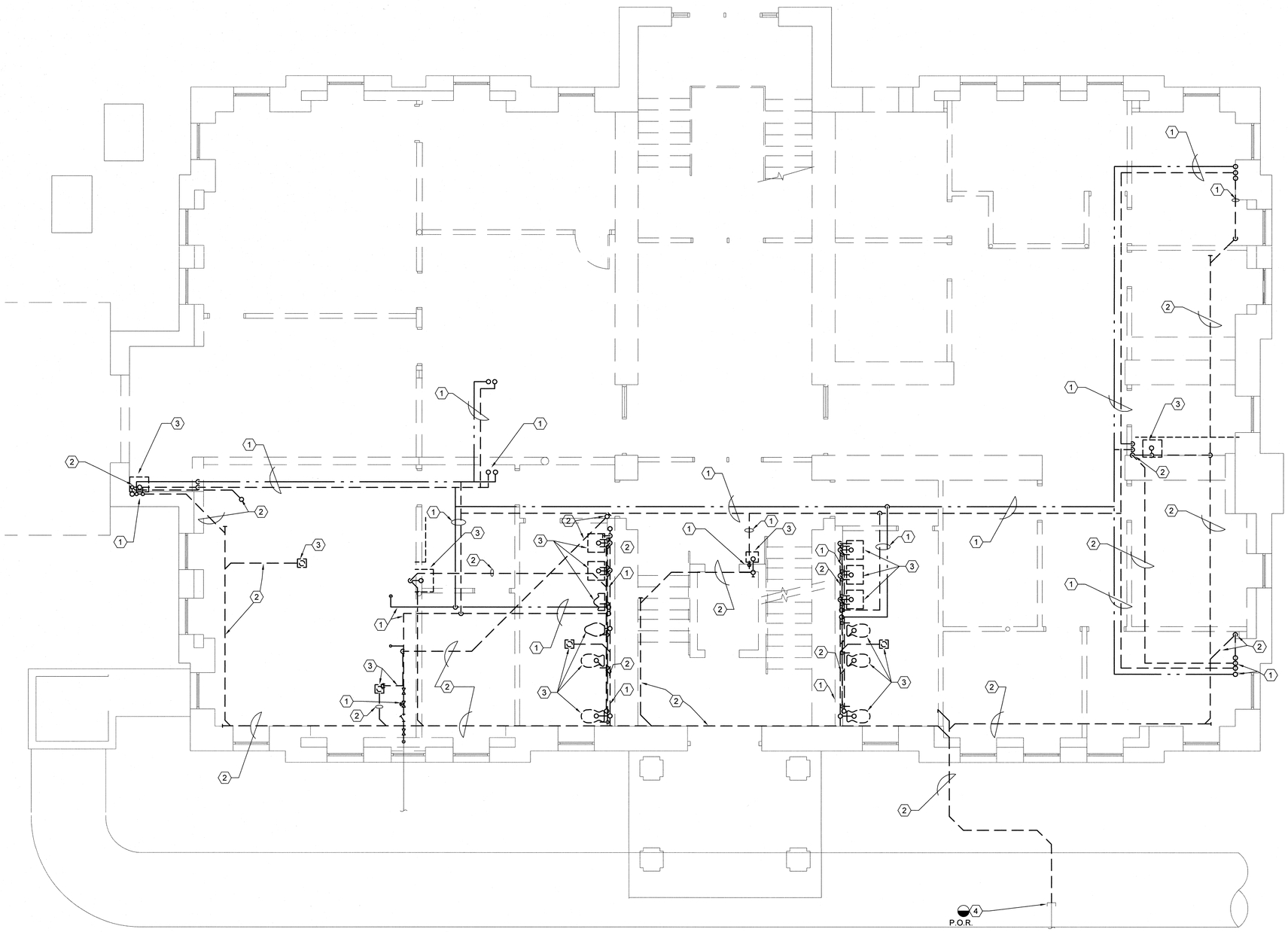
P001

GENERAL NOTE:

THE INTENT OF THESE DRAWINGS IS TO REMOVE ALL OF THE EXISITNG PLUMBING, IE. FIXTURES, PIPING, VALVES, VENTS, ETC.

SHEET NOTES:

1. EXISTING CULINARY HOT AND COLD WATER PIPING, VALVES, AND ALL ASSOCIATED ACCESSORIES THROUGH OUT THE BUILDING SHALL BE REMOVED. FIELD VERIFY LOCATIONS OF ALL CULINARY WATER PIPING.
2. EXISTING SEWER, WASTE AND VENT PIPING, CLEANOUTS, AND ALL ASSOCIATED ACCESSORIES SHALL BE REMOVED. FIELD VERIFY EXISTING LOCATIONS OF ALL PIPING.
3. EXISTING PLUMBING FIXTURES AND ALL ASSOCIATED PIPING, VALVES AND ACCESSORIES SHALL BE REMOVED. FIELD VERIFY NUMBER OF FIXTURES AND LOCATIONS.
4. CAP EXISTING BUILDING WASTE LINE AT THIS APPROXIMATE LOCATION IN EXISTING TUNNEL FOR RECONNECTION TO NEW WASTE LINE. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF EXISTING PIPING.
5. DRAWINGS SHOW APPROXIMATE LOCATIONS OF PIPING, FIXTURES, ETC. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF ALL EXISTING ITEMS NOTED.



FIRST FLOOR DEMO PLAN
SCALE: 1/4" = 1'-0"

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PLUMBING DEMO. 1ST FLOOR PLAN

PD101