SHEET INDEX:

PROJECT:

HARNETT REGIONAL AIRPORT HANGAR

615 AIRPORT ROAD
ERWIN, NORTH CAROLINA 28339

PROJECT TEAM:

BUILDING DEPARTMENT:

HARNETT COUNTY
INSPECTION DEPARTMENT
420 MCKINNEY PARKWAY
LILLINGTON, NC 27546
910-893-2793

PROJECT DESIGNER:

JENKINS CONSULTING ENGINEERS, P.A.
OFFICE in EUREKA SPRINGS, NC
KELLY J. DODSON, PE
1606 MCARTHUR ROAD
FAYETTEVILLE, NC 28311-1002
910-822-1724

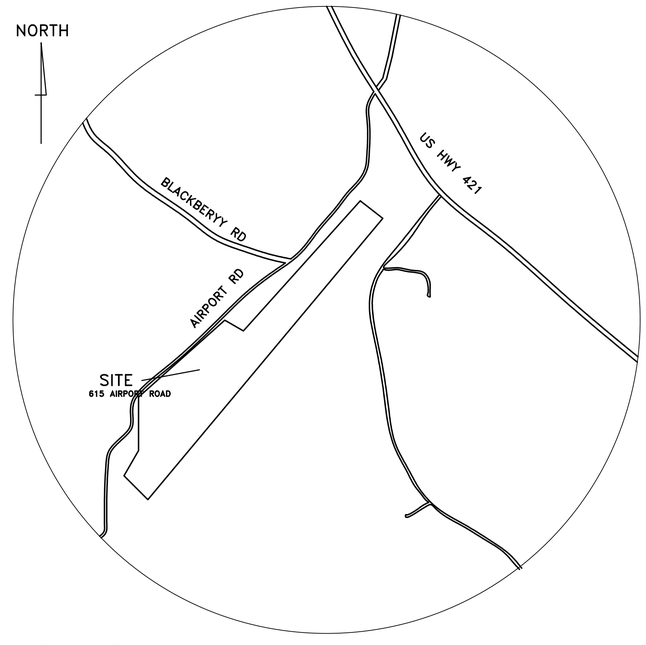
CODE REVIEW:

APPLICABLE CODES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

BUILDING	2018 NC EXISTING BUILDING CODE 2018 NC BUILDING CODE
FIRE PREVENTION	2018 NC FIRE CODE
ENERGY	2018 NC ENERGY CONSERVATION CODE

VICINITY PLAN

NOT TO SCALE



BUILDING DATA:

THE PROJECT SCOPE IS TO CONSTRUCT A NEW BUILDING FOR USE AS AN AIRCRAFT HANGAR

1 REV1: 5 FEB 2024 – 2 HR RATED WALL

JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, ARKANSAS
CORPORATION NUMBER C-3070 kelly@jenkinsce.pro
1606 McARTHUR RD. FAYETTEVILLE, NC 28311-1002
910.822.1724

NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY J. DODSON

05 FEBRUARY 2024

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2023-06-09
DATE: 05 FEBRUARY 2024

FINAL DRAWING [ ] FOR REVIEW PURPOSES ONLY
PRELIMINARY [ ] FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING [✓] FOR CONSTRUCTION

OWNER/TENANT: - -

CONTRACTOR/BUILDER: - -

PROJECT: HARNETT COUNTY AIRPORT HANGAR
615 AIRPORT RD. ERWIN, NC 28339

SHEET: COVER & INDEX TO DRAWINGS

CSr1

SCALE: 1-1/2" = 1'-0"
SCALE: 1" = 1'-0"
SCALE: 3/4" = 1'-0"
SCALE: 1/2" = 1'-0"
SCALE: 1/4" = 1'-0"
SCALE: 3/16" = 1'-0"
SCALE: 1/8" = 1'-0"

Drawing File: H:\2023\Calendar Hangar 2023-06-09\DWG\Harnett-Airport-Foundation-18 Dec 2023 NR.dwg
Plotted By: kjd
Plotted Date: Feb 05, 2024 - 4:43pm

2018 NORTH CAROLINA BUILDING CODE SUMMARY: APPENDIX B

Name of Project: HARNETT REGIONAL AIRPORT HANGAR — ParID / PIN: / 0417004916000
Address: 615 AIRPORT ROAD — Zip Code: 28339
Proposed Use: AIRCRAFT HANGAR (U)
Owner or Authorized Agent: BRIAN RAYNOR — Phone 910-824-1238 — E-Mail braynor@highlandpaving.com
Owned By: - ☐ City/County ☑ Private ☐ State
Code Enforcement Jurisdiction: ☑ City ERWIN ☐ County ☐ State NORTH CAROLINA

CONTACT: KELLY J. DODSON

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	N/A	N/A	N/A	N/A	N/A
Civil	4D	SCOTT BROWN	NC PE 27452	(910) 426-6777	sbrown@4dsitesolutions.com
Electrical	JCE	DOUGLAS L. JENKINS	NC PE 28803	(910) 822-1724	buddyj@jenkinsce.pro
Fire Alarm	N/A	N/A	N/A	N/A	N/A
Plumbing	JCE	DOUGLAS L. JENKINS	NC PE 28803	(910) 822-1724	buddyj@jenkinsce.pro
Mechanical	JCE	DOUGLAS L. JENKINS	NC PE 28803	(910) 822-1724	buddyj@jenkinsce.pro
Sprinkler-Standpipe	N/A	N/A	N/A	N/A	N/A
Structural :	JCE	KELLY J. DODSON	NC PE 42009	(910) 822-1724	kellyd@jenkinsce.pro
INTERIOR WALLS	N/A	N/A	N/A	N/A	N/A
Retaining Walls >5' High	N/A	N/A	N/A	N/A	N/A
Building	JCE	KELLY J. DODSON	NC PE 42009	(910) 822-1724	kellyd@jenkinsce.pro

2018 NORTH CAROLINA BUILDING CODE: ☑ New Building ☐ Addition ☐ Shell / Core ☐ Phased Construction - Shell Core ☐ First Time Interior Completions

2018 NORTH CAROLINA EXISTING BUILDING CODE: (check all that apply) ☐ Prescriptive ☐ Repair ☐ Chapter 14 ☐ Alteration Level I ☐ Alteration Level II ☐ Alteration Level III ☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) N/A — **CURRENT USE (S)** (Ch. 3): N/A
RENOVATED: (date) N/A — **PROPOSED USE (S)** (Ch. 3): AIRCRAFT HANGAR (GROUP III - NFPA 409)
OCCUPANCY RISK CATEGORY (Table 1604.5): Current: N/A Proposed: II

BASIC BUILDING DATA
Construction Type: (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☑ II-B ☐ III-A ☐ III-B ☐ IV ☐ ☐ V-A ☐ V-B
Sprinklers: ☑ No ☐ Partial ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☑ No Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Primary Fire District: ☑ No ☐ Yes (APPENDIX D) — Flood Hazard Area: ☑ No ☐ Yes
Special Inspections Required: ☑ No ☐ Yes

GROSS BUILDING AREA TABLE

FLOOR	EXISTING (sq ft)	NEW (sq ft)	SUBTOTAL
GROUND LEVEL	N/A	9,000	9,000
TOTAL SPACE AREA	N/A	9,000	9,000

ALLOWABLE AREA

Primary Occupancy Classification(s):
- Assembly ☐ A-1 ☐ A-2 ☐ A-3 ☐ A-4 ☐ A-5
- Business ☐
- Educational ☐
- Factory ☐ F-1 Moderate ☐ F-2 Low
- Hazardous ☐ H-1 Detonate ☐ H-2 Deflagrate ☐ H-3 Combust ☐ H-4 Health ☐ H-5 HPM
- Institutional ☐ I-1 ☐ I-2 ☐ I-3 ☐ I-4
  - I-1 Condition ☐ 1 ☐ 2
  - I-2 Condition ☐ 1 ☐ 2
  - I-3 Condition ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
- Mercantile ☐
- Residential ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4
- Storage ☐ S-1 Moderate ☐ S-2 Low ☐ High-piled ☐ Parking Garage ☐ Open ☐ Enclosed ☐ Repair Garage
- Utility and Miscellaneous ☑

Accessory Occupancy Classification(s): NONE
Incidental Uses (Table 509): NONE
This separation is not exempt as a Non-separated Use (see exceptions).
Special Uses (Chapter 4): ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☑ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427 ☐ 428 ☐ 429 ☐ 430
Special Provisions (Chapter 5): ☐ 510.2 ☐ 510.3 ☐ 510.4 ☐ 510.5 ☐ 510.6 ☐ 510.7 ☐ 510.8 ☐ 510.9
Mixed Occupancy: ☐ No ☐ Yes Separation: 0 Hr. Exception:
☐ Non-separated Use (508.3) (508.3.1)
☐ Separated Use (508.4) --See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area of each use shall not exceed 1.

Separated Use Formula 508.4.2:

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$\frac{N/A}{N/A} + \frac{N/A}{N/A} = - \leq 1.00$$

STORY NUMBER	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 [4] AREA	(C) AREA FOR FRONTAGE INCREASE [1, 5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED [2, 3]
1	AIRCRAFT HANGAR	9,000	8500	6113	14613

1 Frontage area increases from Section 506.3 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = 120 (F)
b. Total Building Perimeter = 390 (P)
c. Ratio (F/P) = .31 (F/P)
d. W = Minimum width (weighted average) of public way = 150 (W) where $W=(L_1 \times w_1 + L_2 \times w_2)/F$ (Equation 5-4)
e. Percent of frontage increase = $I_f = 100\,[F/P - 0.25] \times W/30 = 71$ (%) (Equation 5-5)

FRONTAGE INCREASE WORKSHEET for CALCULATIONS:

EXTERIOR WALL	(F) OPEN LENGTH (feet)	(P) TOTAL LENGTH (feet)	(W) (weighted average) WIDTH OF PUBLIC WAY OR OPEN SPACE (feet)	(%) FROM CALC. ABOVE	(B) FROM TABLE ABOVE	AREA INCREASE FOR COLUMN (C) ABOVE (% * TABLE AREA)
North	75	390	30			
South	75	390	30			
East	120	390	30			
West	120	390	26			
TOTAL	75	390	240	71	8500	(71*8500 =6113)
EXAMPLE	75	100	25	42	23,500	(.42*23,500 = 9,870)

2 Unlimited area applicable under conditions of Sections 507
3 Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (Section 506.2).
4 The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1
5 Frontage increase is based on the unsprinklered area value in Table 506.2.

BUILDING CODE SUMMARY (continued)

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	65	31' - 0"	N/A
Building Height in Stories (Table 504.4)	3	1	N/A

1. Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (feet)	RATING ** (TABLE 601) REQ'D III-B	RATING ** (TABLE 601) PROVIDED (w/____ * REDUCTION	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses	N/A	0	0	N/A	N/A	N/A	N/A
Bearing Walls Exterior	N/A	2	2	N/A	N/A	N/A	N/A
North	N/A	2	2	G1	UL V421	G2	G2
East	N/A	0	0	N/A	N/A	N/A	N/A
West	N/A	0	0	N/A	N/A	N/A	N/A
South	N/A	0	0	N/A	N/A	N/A	N/A
Interior	N/A	0	0	N/A	N/A	N/A	N/A
Nonbearing walls and partitions Exterior walls	N/A	0	0	N/A	N/A	N/A	N/A
North	N/A	0	0	N/A	N/A	N/A	N/A
East	N/A	0	0	N/A	N/A	N/A	N/A
West	N/A	0	0	N/A	N/A	N/A	N/A
South	N/A	0	0	N/A	N/A	N/A	N/A
Interior Non-Bearing Walls	N/A	0	0	N/A	N/A	N/A	N/A
Floor construction including supporting beams and joists		0	0	N/A	N/A	N/A	N/A
Floor Ceiling Assembly		0	0	N/A	N/A	N/A	N/A
Columns Supporting Floors		0	0	N/A	N/A	N/A	N/A
Roof construction including supporting beams and joists		0	0	N/A	N/A	N/A	N/A
Roof Ceiling Assembly		0	0	N/A	N/A	N/A	N/A
Columns Supporting Roof		0	0	N/A	N/A	N/A	N/A
Shaft Enclosures - Exit		0	0	N/A	N/A	N/A	N/A
Shaft Enclosures - Other		0	0	N/A	N/A	N/A	N/A
Corridor Separation		0	0	N/A	N/A	N/A	N/A
Occupancy / Fire Barrier Separation		0	0	N/A	N/A	P1	N/A
Party/Fire Wall Separation		0	0	N/A	N/A	N/A	N/A
Smoke Barrier Separation		0	0				
Smoke Partition		0	0	N/A	N/A	N/A	N/A
OWNER/Dwelling Unit/ Sleeping Unit Separation		0	0	N/A	N/A	N/A	N/A
Incidental Use Separation		0	0	N/A	N/A	N/A	N/A

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

EXTERIOR WALL	FIRE SEPARATION DISTANCE (feet) FROM PROPERTY LINE	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
North	N/A	N/A	N/A	N/A
South	N/A	N/A	N/A	N/A
East	N/A	N/A	N/A	N/A
West	N/A	N/A	N/A	N/A

LIFE SAFETY SYSTEM REQUIREMENTS

- Emergency Lighting: ☑ Yes ☐ No
- Exit Signs: ☑ Yes ☐ No
- Fire Alarm: ☐ Yes ☑ No
- Smoke Detection Systems: ☐ Yes ☑ No — Partial ☐ Duct Detectors
- Carbon Monoxide Detection: ☐ Yes ☑ No
- Life Safety Systems Generator: ☐ Yes ☑ No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: LS
- ☑ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☑ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☑ Occupant loads for each area
- ☑ Exit access travel distances (1017)
- ☐ Common path of travel distances [1006.2.1 & 1006.3.2(1)]
- ☐ Dead end lengths (1020.4)
- ☑ Clear exit widths for each exit door
- ☑ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☑ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (903)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-II (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
NONE REQUIRED							

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES: REQUIRED	TOTAL # OF PARKING SPACES: PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 96" ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
SEE CIVIL DRAWING						
TOTAL						

BUILDING CODE SUMMARY (continued)

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATER CLOSETS MALE	WATER CLOSETS FEMALE	WATER CLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE	SERVICE SINK
UTILITY (U)	0	0			0	0					0
PROVIDED (TOTAL)	0	0			0	0					0

***NOTE: THIS BUSINESS HAS OCCUPANT LOADS LESS THAN 25. NO HI-LOW DRINKING FOUNTAIN IS REQUIRED.

SPECIAL APPROVALS:

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)
N/A

ENERGY SUMMARY

ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: ☐ (If checked, the remainder of this section is not applicable.)
Exempt Building: ☐ Provide code or statutory reference:

Climate Zone: ☑ 3A ☐ 4A ☐ 5A HARNETT COUNTY

Method of Compliance:
Energy Code: ☐ Performance ☑ Prescriptive
ASHRAE 90.1: ☐ Performance ☐ Prescriptive
Other: ☐ Performance (specify source)
Value of total assembly: -

THERMAL ENVELOPE: (Prescriptive method only)
Roof/ceiling Assembly (each assembly)
Description of assembly: METAL BUILDING ROOF PANEL
U-Value of total assembly:
R-Value of insulation: R-10 + R-19 FC
Skylights in each assembly: NONE
U-Value of skylight:
Total square footage of skylights in each assembly:

Exterior Walls (each assembly)
Description of assembly: METAL BUILDING WALL PANEL WITH R-19 INSULATION
U-Value of total assembly:
R-Value of insulation: R-19
Openings (windows or doors with glazing)
U-Value of assembly: 0.31 (0.32 MAX)
Solar heat gain coefficient: 0.23 (0.25 MAX)
Projection factor:
Door R-Values: 2.7

Walls below grade (each assembly)
Description of assembly: N/A
U-Value of total assembly:
R-Value of insulation:

Floors over unconditioned space (each assembly)
Description of assembly: N/A
U-Value of total assembly:
R-Value of insulation:

Floors slab on grade
Description of assembly: 6" CONCRETE SLAB
U-Value of total assembly:
R-Value of insulation:
Horizontal/vertical requirement:
slab heated:

MECHANICAL SUMMARY (SEE DRAWING SHEET M1)
ELECTRICAL SUMMARY (SEE DRAWING SHEET E1)

CUMBERLAND COUNTY
BUILDING CODE SUMMARY
for:

HARNETT REGIONAL AIRPORT HANGAR

AIRPORT RD
ERWIN, NORTH CAROLINA, 28339

1 REV1: 5 FEB 2024 - 2 HR RATED WALL

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NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY J. DODSON
05 FEBRUARY 2024

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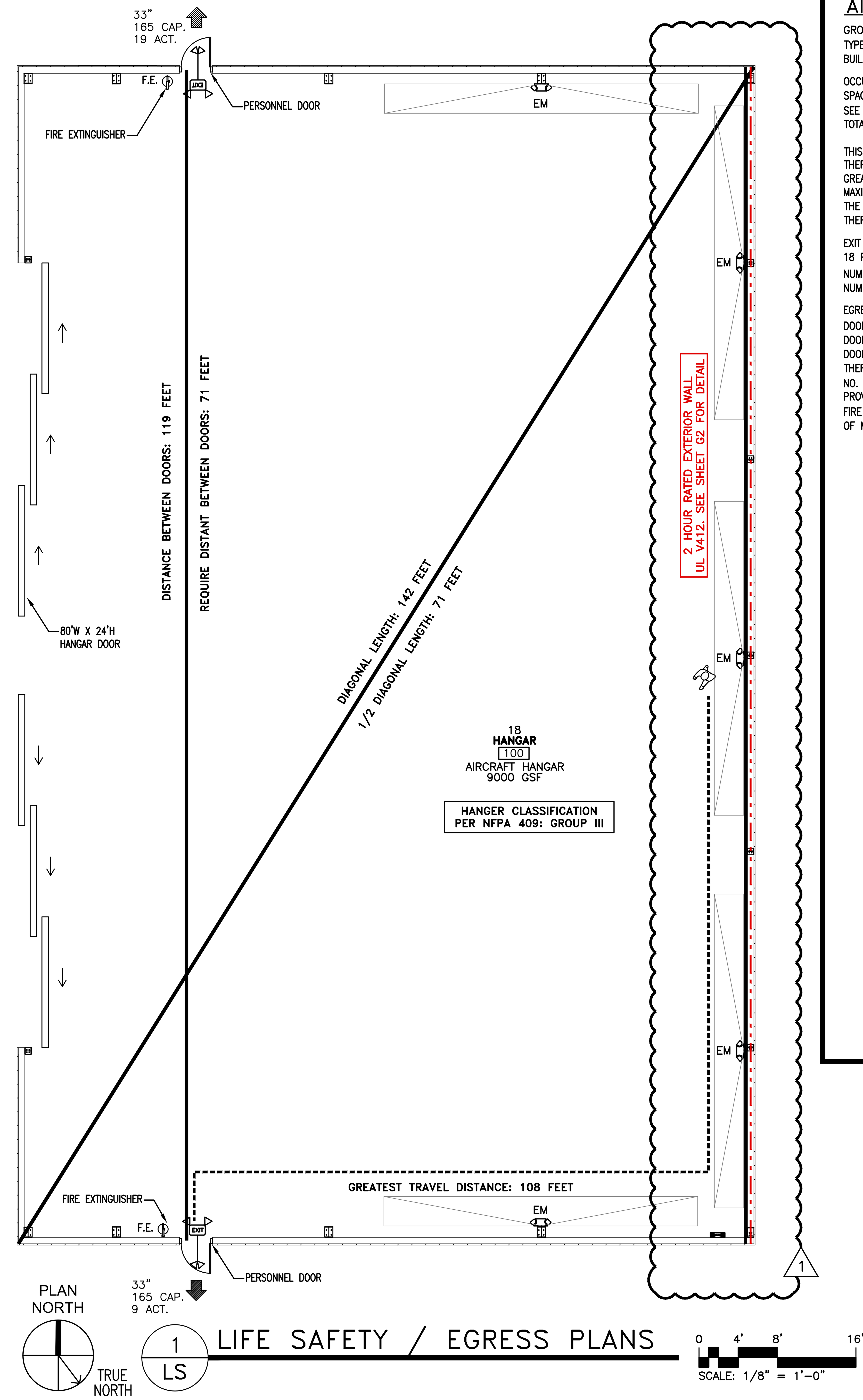
PROJECT: *HARNETT COUNTY AIRPORT HANGAR*
615 AIRPORT RD. ERWIN, NC 28339

SHEET: BUILDING CODE SUMMARY

BCSr1



1 LS LIFE SAFETY / EGRESS PLANS

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

AIRCRAFT HANGAR

GROSS SQUARE FOOTAGE OF BUILDING 9000 SQ. FT.
TYPE OF CONSTRUCTION: II-B
BUILDING IS TO BE USED AS AN AIRCRAFT HANGAR (U)

OCCUPANT LOAD FOR CALCULATING EGRESS CAPACITY:
SPACE OCCUPANCY BY FUNCTION OF SPACE
SEE TABLE ON THIS SHEET FOR INDIVIDUAL SPACE TOTALS
TOTAL OCCUPANT LOAD BY AREAS = 18 PERSONS

THIS BUILDING IS NOT PROTECTED BY FIRE SPRINKLERS
THERE IS NO FIRE ALARM SYSTEM.
GREATEST TRAVEL DISTANCE SHOWN: 108 FEET. (PER 1017)
MAXIMUM ALLOWABLE TRAVEL DISTANCE: 300 FEET (PER TABLE 1017.2)
THE COMMON PATH OF TRAVEL IS LESS THAN 100 FEET. (PER 1006.2.1)
THERE ARE NO DEAD END CORRIDORS OVER 50 FEET. (PER 1020.4)

EXIT WIDTH CALCULATIONS:
18 PERSONS * 0.2"/OCCUPANT = 3.6" REQUIRED, 66" TOTAL PROVIDED. (PER 1005.1)
NUMBER OF EXITS REQUIRED: TWO (2) ACCESSIBLE
NUMBER OF EXITS PROVIDED: TWO (2) ACCESSIBLE

EGRESS DOORS DO NOT REQUIRE PANIC HARDWARE. (PER 1010.1.10)
DOORS DO NOT HAVE DELAYED EGRESS LOCKS (PER 1010.1.9.7)
DOORS DO NOT HAVE ELECTROMAGNETIC EGRESS LOCKS (PER 1010.1.9.9)
DOORS DO NOT HAVE HOLD OPEN DEVICES.
THERE ARE NO EMERGENCY ESCAPE WINDOWS (PER 1030)
NO. OF FIRE EXTINGUISHERS PROVIDED:
PROVIDE TWO (2) NEW FIRE EXTINGUISHER AT THIS BUILDING
FIRE EXTINGUISHER FOR CLASS A FIRE HAZARDS REQUIRE NO GREATER THAN 75 FT OF MAXIMUM TRAVEL DISTANCE IN LOW, ORDINARY AND EXTRA HAZARD OCCUPANCY.

LEGEND

SYMBOL	DESCRIPTION
F.E.	ABC FIRE EXTINGUISHER SUGGESTED LOCATION
	GREATEST TRAVEL DISTANCE
33" 165 CAP. 22 ACT.	EXIT WIDTH, 36" – 3 = 33" CLEAR WIDTH. EXIT CAPACITY (NUMBER OF PERSONS) ACTUAL OCCUPANT LOAD FOR EXIT DOOR
EXIT	EXIT SIGN
EM	EMERGENCY LIGHT
36"	AISLE WIDTH WHERE SHOWN
EXIT	EXIT SIGN WITH EMERGENCY LIGHTING
ROOM LABEL	**DESCRIPTION**
2	OCCUPANT TOTAL
HANGAR	ROOM NAME
100	ROOM NUMBER
AIRCRAFT HANGAR	FUNCTION TYPE
100 SF	SPACE AREA

OCCUPANCY CLASSIFICATION per TABLE 1004.5

SPACE NUMBER	CURRENT SPACE USE	FUNCTION OF SPACE	OCCUPANT LOAD FACTOR	ROOM AREA (GROSS SF)	CALCULATED EGRESS OCCUPANCY TOTAL	ACTUAL BUILDING OCCUPANT TOTAL
100	HANGAR	AIRCRAFT HANGARS	500 GROSS	9000	18	18
TOTAL OCCUPANT COUNT FOR BUILDING & EGRESS CAPACITY					18	

THE EGRESS CAPACITY SHALL BE BASED UPON OCCUPANT LOAD OF 18 PERSONS
(*) DENOTES OCCUPANT NUMBER ACCOUNTED FOR IN OCCUPANT TOTAL

1 REV1: 5 FEB 2024 – 2 HR RATED WALL

JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070
FAYETTEVILLE, NC

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 42009
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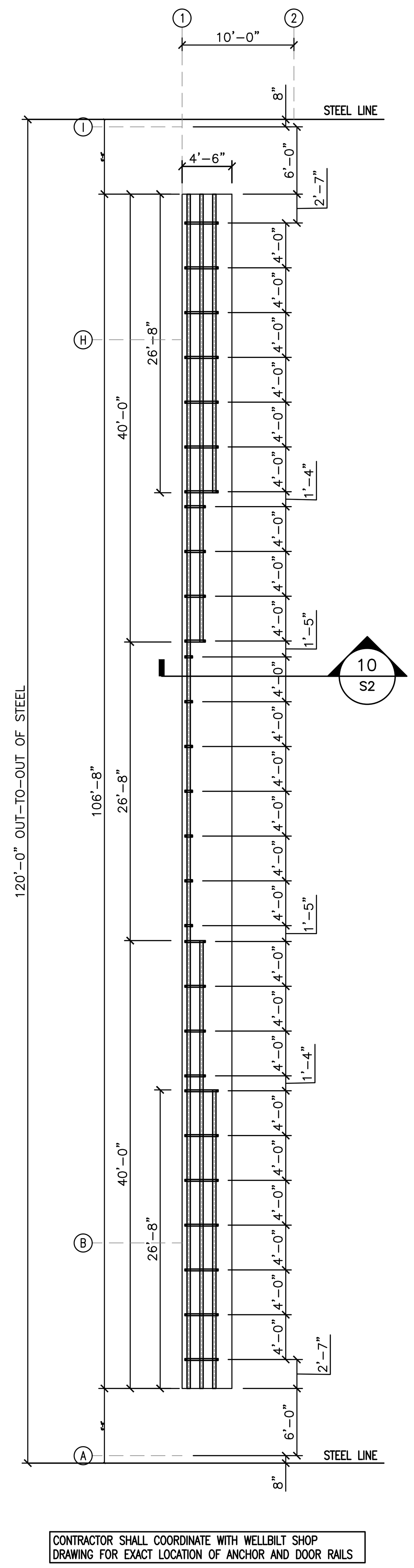
PROJECT: HARNETT COUNTY AIRPORT HANGAR
615 AIRPORT RD. ERWIN, NC 28339

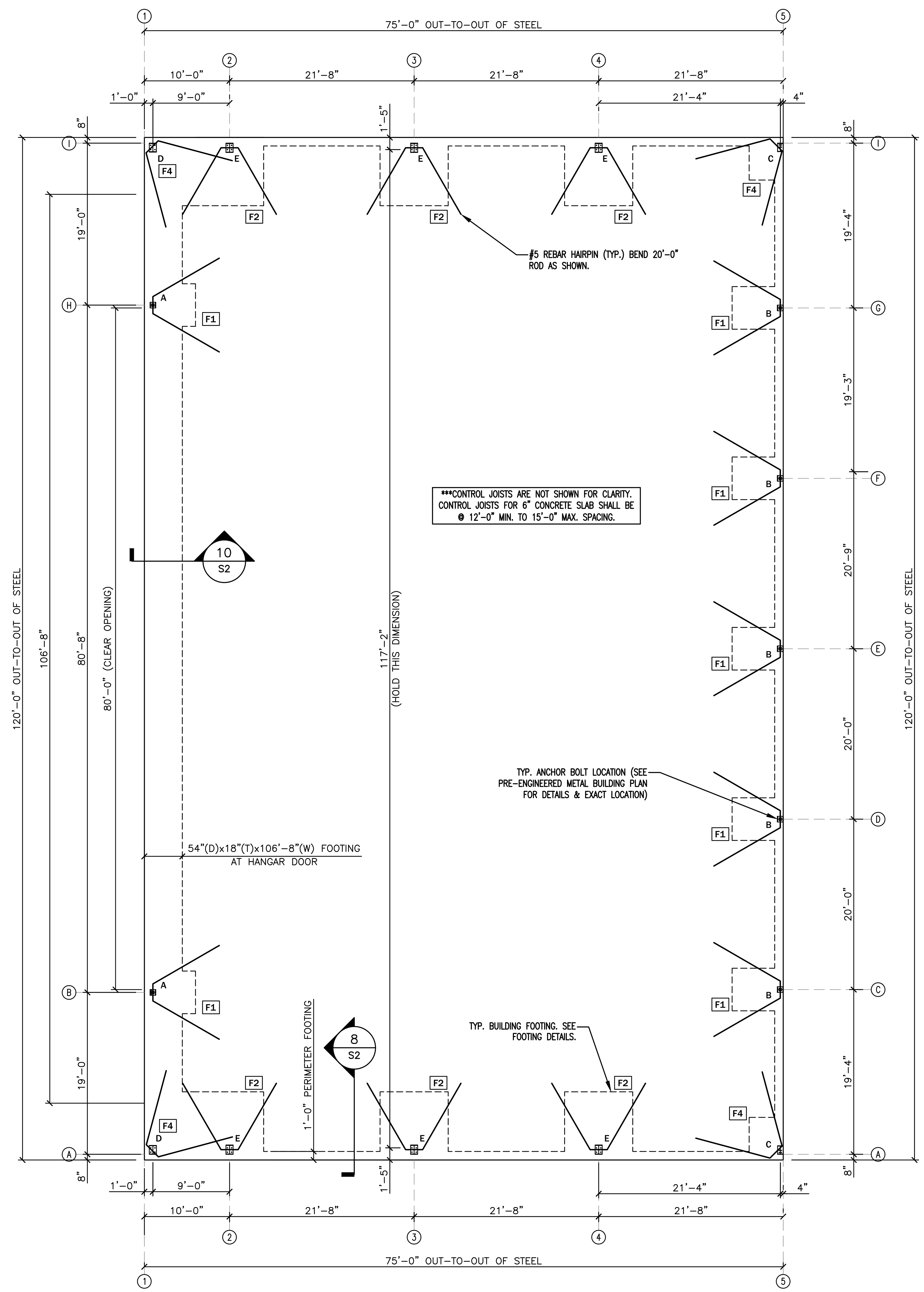
SHEET: BUILDING LIFE SAFETY – EGRESS PLAN

LSr1



2 / S1 HANGAR DOOR ANCHOR PLAN

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



1 / S1 PIER & ANCHOR BOLT PLAN

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

LEGEND

- F3 — FOOTING DETAIL NUMBER, SEE DETAIL ON SHEET S2
- B — ANCHOR PLATE, SEE PRE-ENGINEERED METAL BUILDING PLAN FOR DETAIL

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PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT: -
CONTRACTOR/BUILDER: -

PROJECT: HARNETT COUNTY AIRPORT HANGAR
615 AIRPORT RD. ERWIN, NC 28339

SHEET: FOUNDATION PLAN & ANCHOR BOLT PLAN

S1

Drawing File: H:\2023\Ostendorf Hangar 2023-06-09\DWG\Harnett-Airport-Foundation-18 Dec 2023 NB.dwg
Plotted Date: Jan 29, 2024 - 2:06pm

SCALE: 1-1/2" = 1'-0"
SCALE: 1" = 1'-0"
SCALE: 3/4" = 1'-0"
SCALE: 1/2" = 1'-0"
SCALE: 1/4" = 1'-0"
SCALE: 3/16" = 1'-0"
SCALE: 1/8" = 1'-0"

REINFORCING STEEL
ALL REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO A.S.T.M. A615, GRADE 60.
ALL REINFORCING STEEL SHALL BE MANUFACTURED, DETAILED, FABRICATED AND PLACED IN ACCORDANCE
WITH A.C.I. 315R, 318R AND A.C.I. SP 66.
WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A185, IN AS LONG A LENGTH AS IS PRACTICAL. WELDED
WIRE FABRIC SHALL BE LAPPED AT LEAST ONE GRID WIDTH PLUS 2".
REINFORCEMENT SHALL BE BENT COLD AND SHALL NOT BE WELDED.

SPLICES:
REINFORCEMENT IN CONCRETE AND MASONRY SHALL HAVE LAP LENGTHS AS FOLLOWS, UNLESS OTHERWISE
SPECIFIED ON DRAWINGS:

BAR SIZE:	IN CONCRETE:	IN MASONRY:
#3	1'-6"	2'-0"
#4	2'-0"	2'-6"
#5	2'-6"	3'-0"

PLACEMENT:
REINFORCEMENT SHALL BE ACCURATELY PLACED AND SUPPORTED BY CONCRETE, METAL, OR OTHER APPROVED
CHAIRS, SPACERS OR TIES, AND SECURED AGAINST DISPLACEMENT DURING CONCRETE OR GROUT PLACEMENT.

EXCEPT WHERE OTHERWISE NOTED, REINFORCEMENT SHALL HAVE CONCRETE COVER AS FOLLOWS:

CONCRETE DEPOSITED AGAINST EARTH	3"
FORMED CONCRETE AGAINST EARTH	2"
EXTERIOR FACES OF WALLS	1"
TO TOP OF SLABS-ON-GRADE	3/4"

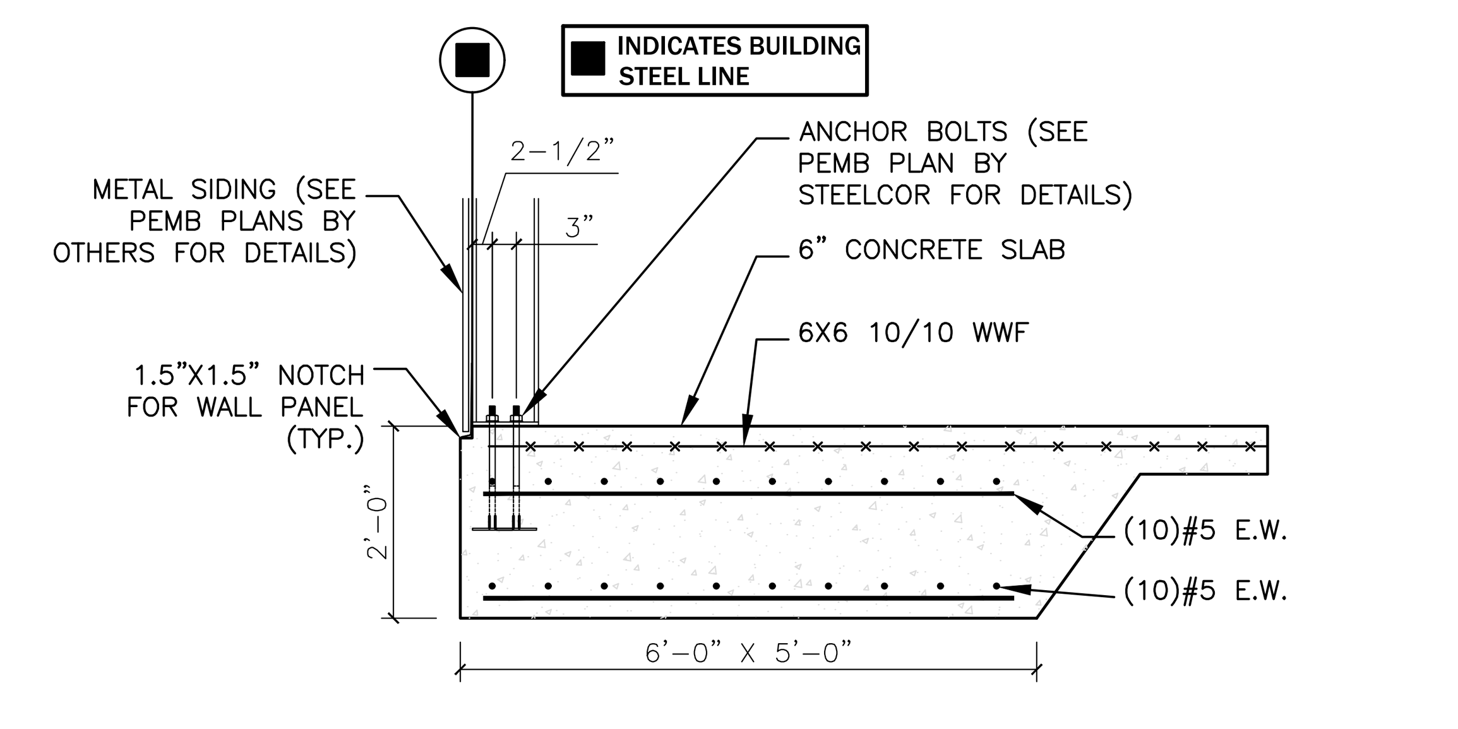
ALL SCALES, LOOSE RUST, GREASE OR DIRT SHALL BE REMOVED FROM THE REINFORCING BEFORE IT IS PLACED.
PROVIDE #5 "HAIRPIN" X 20' LONG AT EXTERIOR COLUMN LINES.
ANCHOR BOLTS SHALL BE (A-3077) HIGH STRENGTH.

SOIL TREATMENT:
ADMINISTRATION AS ACCEPTABLE

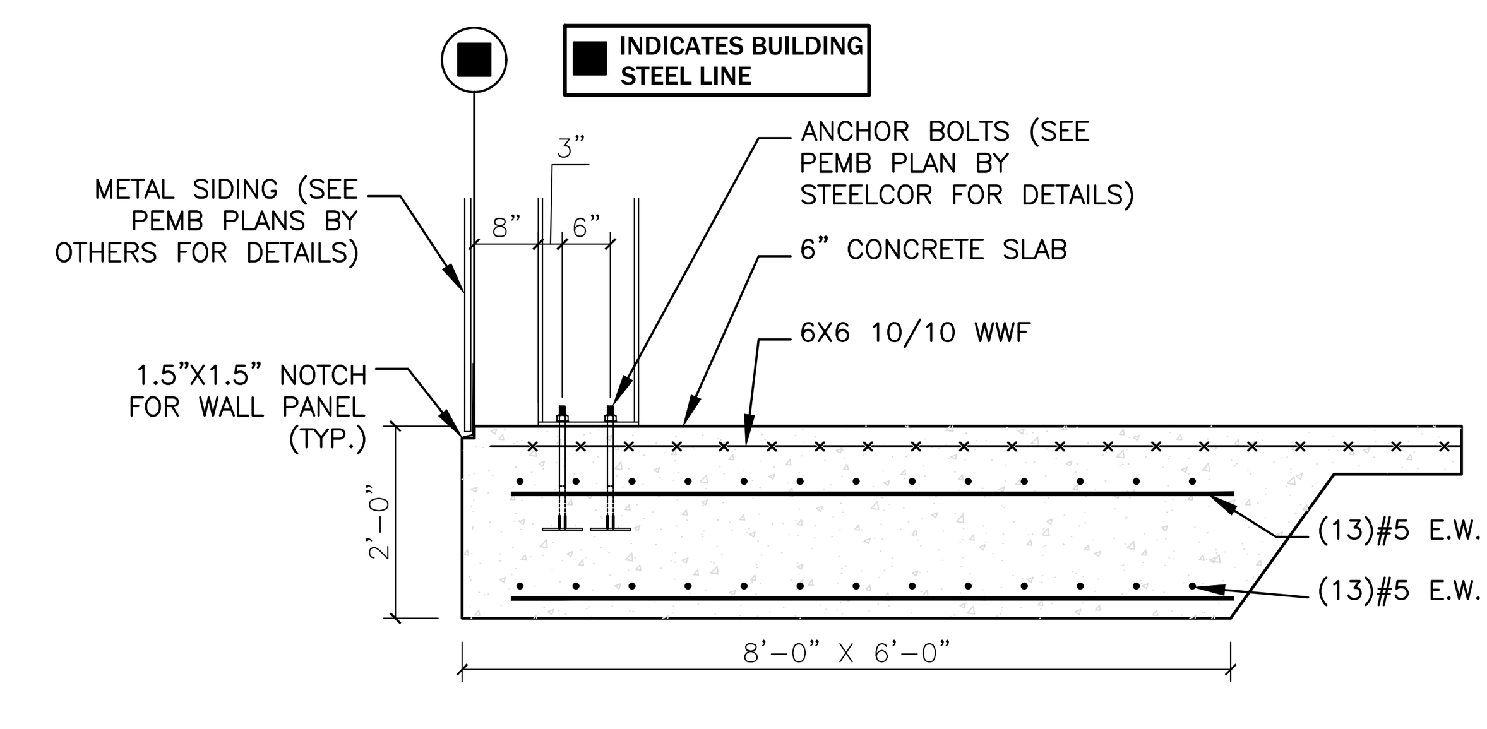
GENERAL CONDITIONS
THE GENERAL CONTRACTOR SHALL MAKE ADEQUATE SANITARY PROVISIONS.
THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SAFETY AND COMPLIANCE WITH THE REQUIREMENTS
OF THE OCCUPATIONAL SAFETY AND HEALTH ACT AS IT MAY REGARD ANY PHASE OF THE WORK ON THIS PROJECT.

SOIL COMPACTION AND TESTING
THE GENERAL CONTRACTOR SHALL OBTAIN THE SERVICES OF A TESTING LABORATORY, SUCH AS S&ME OR LAW
ENGINEERING FOR THE PURPOSE OF DETERMINING THE SUITABILITY OF THE SUBSURFACE CONDITIONS AND THE
BEARING CAPACITIES OF ALL AREAS BELOW CONCRETE (2000psf ASSUMED)..
THE SOIL AND BEARING REPORT SHALL BE SUBMITTED PRIOR TO EXCAVATING, WHERE POSSIBLE, BUT PRIOR TO
PLACEMENT OF ANY REINFORCING AND CONCRETE.

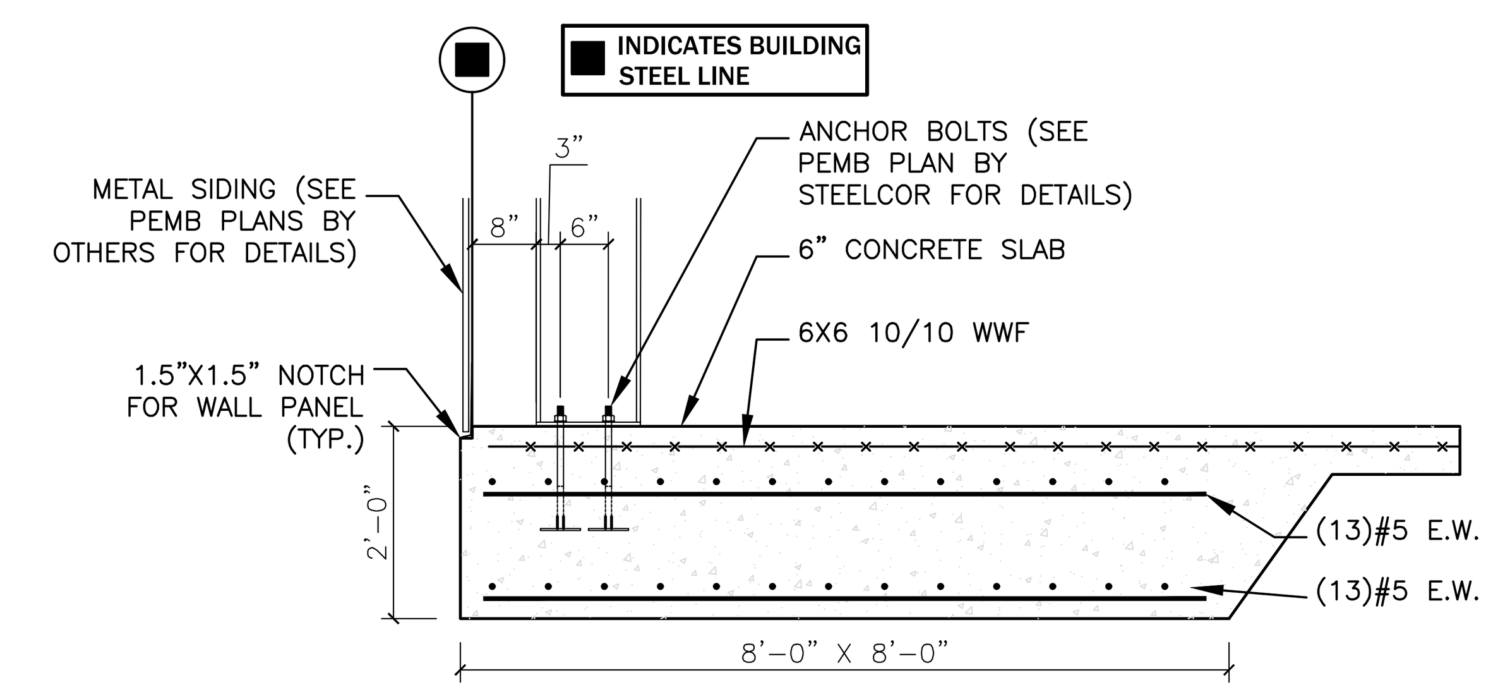
CONCRETE WORK
1. ALL CONCRETE FOR THE PROJECT SHALL BE "READY MIX" AND SHALL COMPLY WITH ASTM C-94. ALL SECTIONS OF THE CONCRETE WORK SHALL COMPLY WITH ALL A.S.T.M. AND A.C.I. REQUIREMENTS.
2. FORM WORK – ALL FORMS TO BE CAREFULLY BUILT AND SECURED IN PLACE IN SUCH A MANNER AS TO HAVE SUFFICIENT STRENGTH TO CARRY THE DEAD WEIGHT OF THE CONSTRUCTION AS A LIQUID, WITHOUT DEFLECTION OR VIBRATION. FORMS TO BE BUILT TIGHT, TRUE TO POSITION AND DIRECTION, THOROUGHLY BRACED, WIRED AND SPIKED OR OTHERWISE FASTENED TOGETHER.
3. CONCRETE – MINIMUM OF 3,500 PSI COMPRESSIVE STRENGTH AT 28 DAYS, MINIMUM OF FIVE SACKS OF CEMENT PER CUBIC YARD OF CONCRETE, MAXIMUM OF 4" SLUMP.
4. FINISHING – IN ACCORDANCE WITH THE LATEST A.C.I. CODE, PLUMB, LEVEL, TRUE IN LINE, FREE OF HONEYCOMB. BUILDING SLAB SHALL HAVE A HARD STEEL TROWEL FINISH. WALKS SHALL HAVE BROOMED FINISH AND EXPANSION JOINTS AT APPROXIMATELY 50'-0" O.C. AND DUMMY JOINTS AS SHOWN ON THE SITE PLAN.
5. REMOVAL OF FORMS – FORMS SHALL BE CAREFULLY REMOVED SO AS NOT TO IMPAIR THE FACE OF THE CONCRETE. IMMEDIATELY AFTER THE FORMS ARE REMOVED ALL DAMAGE OF IMPERFECT WORK SHALL BE PATCHED IN A NEAT AND WORKMANLIKE MANNER OR IF BADLY DAMAGED, IN THE OPINION OF THE OWNER, THE WORK SHALL BE REBUILT. THE MINIMUM TIME BEFORE ANY FORMS CAN BE REMOVED IS SEVEN (7) DAYS FOR SUCH MEMBERS AS ARE SUBJECT TO BENDING STRESSES, SUCH AS SLABS.
6. CURING – USE MEMBRANE CURING METHOD. USE MFG. RATE, SPRAY IMMEDIATELY FOLLOWING FINISHING. PROTECT FROM FREEZING WEATHER, CURE A TOTAL OF 28 DAYS USING A.C.I. METHODS.



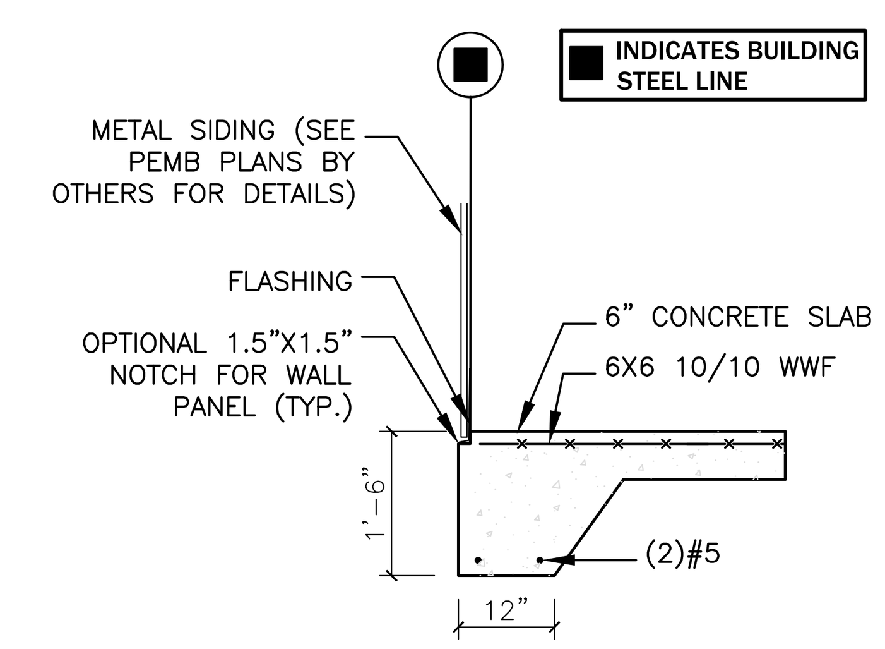
3 / S2 FOOTING DETAIL F1 (B)
1/2" = 1'-0"



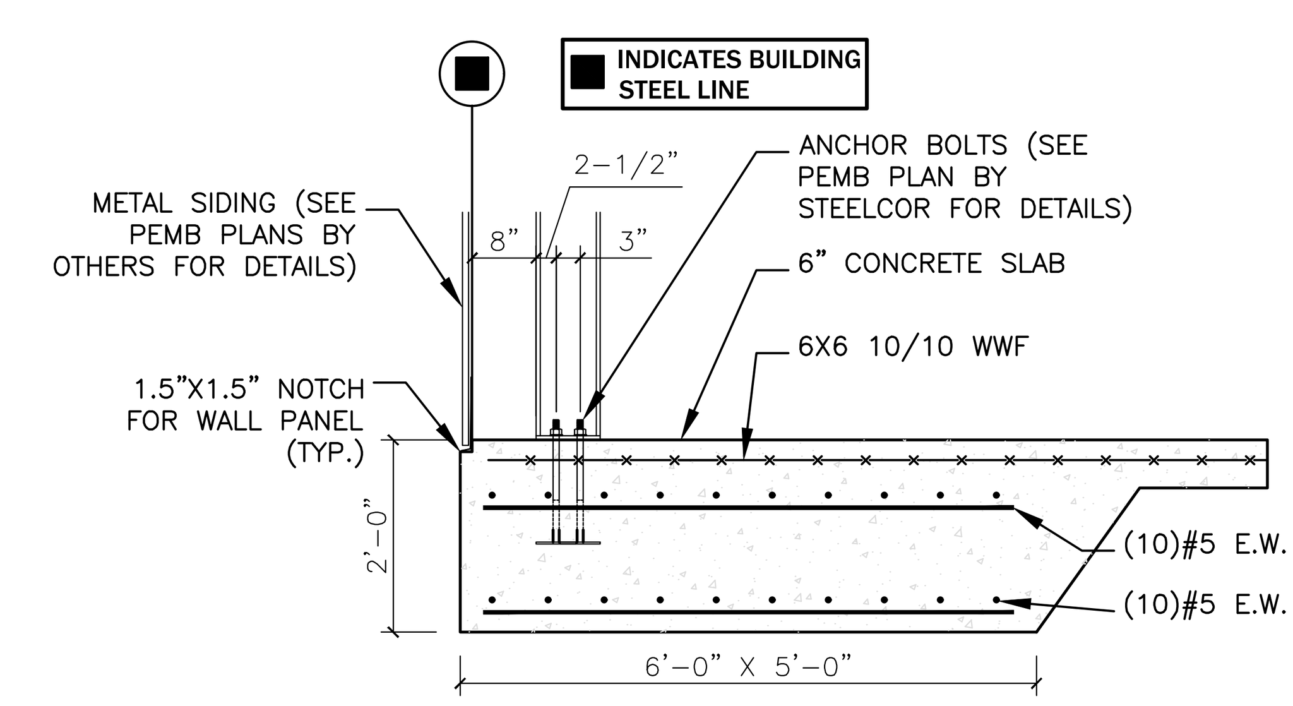
7 / S2 FOOTING DETAIL F4 (D)
1/2" = 1'-0"



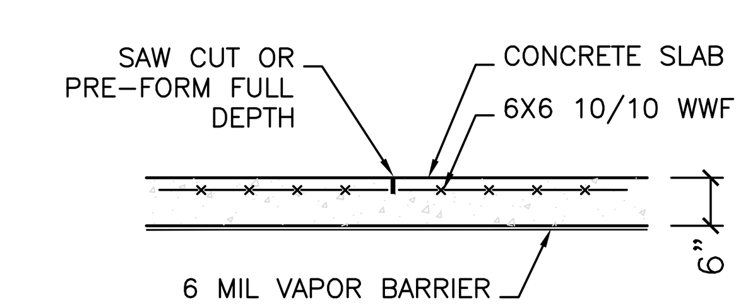
4 / S2 FOOTING DETAIL F2 (E)
1/2" = 1'-0"



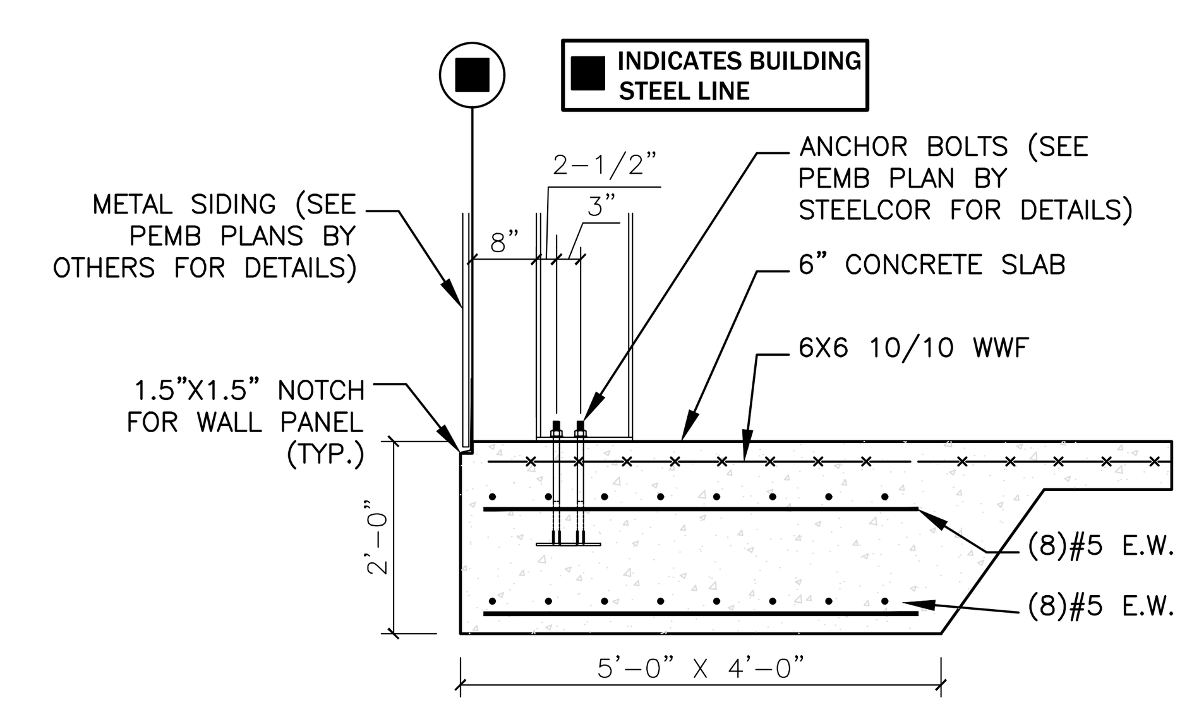
8 / S2 PERIMETER FOOTING DETAIL
1/2" = 1'-0"



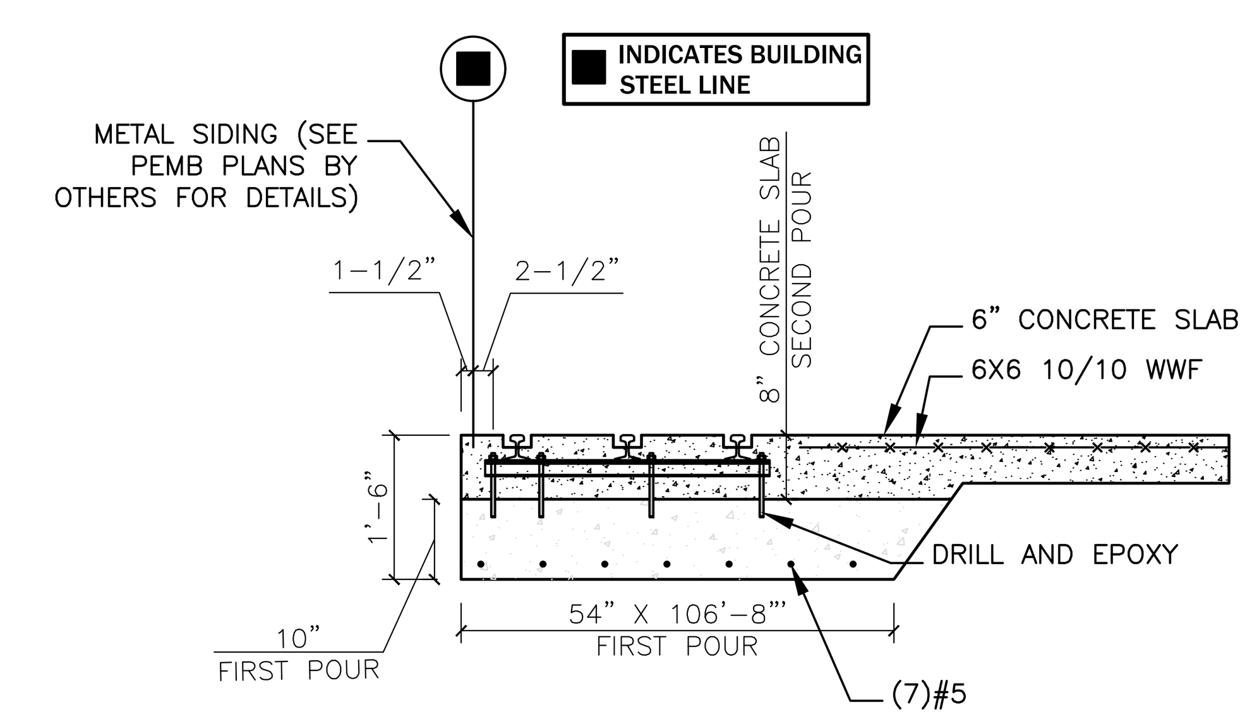
5 / S2 FOOTING DETAIL F3 (A)
1/2" = 1'-0"



9 / S2 CONTROL JOINT DETAIL
1/2" = 1'-0"



6 / S2 FOOTING DETAIL F4 (C)
1/2" = 1'-0"



10 / S2 HANGAR DOOR ANCHOR BOLT
PERIMETER

JENKINS CONSULTING ENGINEERS, PA
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 42009
29 JANUARY 2024

DESIGNED / CHECKED BY:	KJD
DRAWN BY:	BT
PROJECT #:	2023-06-09
DATE:	29 JANUARY 2024

FINAL DRAWING ☐ FOR REVIEW PURPOSES ONLY
PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT:
CONTRACTOR/BUILDER:

PROJECT:
HARNETT COUNTY AIRPORT HANGAR
615 AIRPORT RD. ERWIN, NC 28339

SHEET:
FOUNDATION & FOOTING DETAILS

S2

DOOR SCHEDULE

DOOR NO	DOOR SIZE			DOOR			FRAME				HARDWARE												REMARKS
	WIDTH	HEIGHT	THICKNESS	STYLE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	FIRE RATING	ENTRANCE LOCK	STOREROOM LOCK	PASSAGE SET	PRIVACY SET	PUSH/PULL	PANIC SET	CLOSER	STOP	THRESHOLD	KICK PLATES	WEATHERSTRIPPING	AIR CURTAIN	NOTE: G.C. TO REVIEW ALL HARDWARE SETS, MATERIAL AND FINISHES WITH OWNER BEFORE ORDER & INSTALLATION
D01	80'-0" X 24'-0"			SEE WELLBILT- HANGAR DOOR DRAWING FOR DETAILS																			6 PANEL BIPARTING ROLLING HANGAR DOOR
D02	3'-0" X 7'-0"			A	M	P	1	M	P		X						X	X	X				EXTERIOR HINGED SINGLE DOOR – HANGAR
D03	3'-0" X 7'-0"			A	M	P	1	M	P		X						X	X	X				EXTERIOR HINGED SINGLE DOOR – HANGAR

****NOTE: ALL NEW HARDWARE TO BE LEVER ADA ACCEPTABLE
ALL THRESHOLDS TO MEET ADA SPECIFICATIONS

NOTES:

1. APPLY 2 COATS OF SEMI-GLOSS TO ALL WOOD DOORS.
2. ALL EXIT DOORS TO BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OF EFFORT. ALL HARDWARE MUST BE DIRECT ACTING REQUIRING NOT MORE THAN ONE OPERATION.
3. DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR PER ICC/ANSI A117.1-2009 SECTIONS 404.2.6& 404.2.7
4. G.C. TO REVIEW ALL HARDWARE SETS WITH OWNER BEFORE INSTALLATION
5. PROVIDE TRANSITION STRIPS AT ALL FLOORING MATERIAL CHANGES

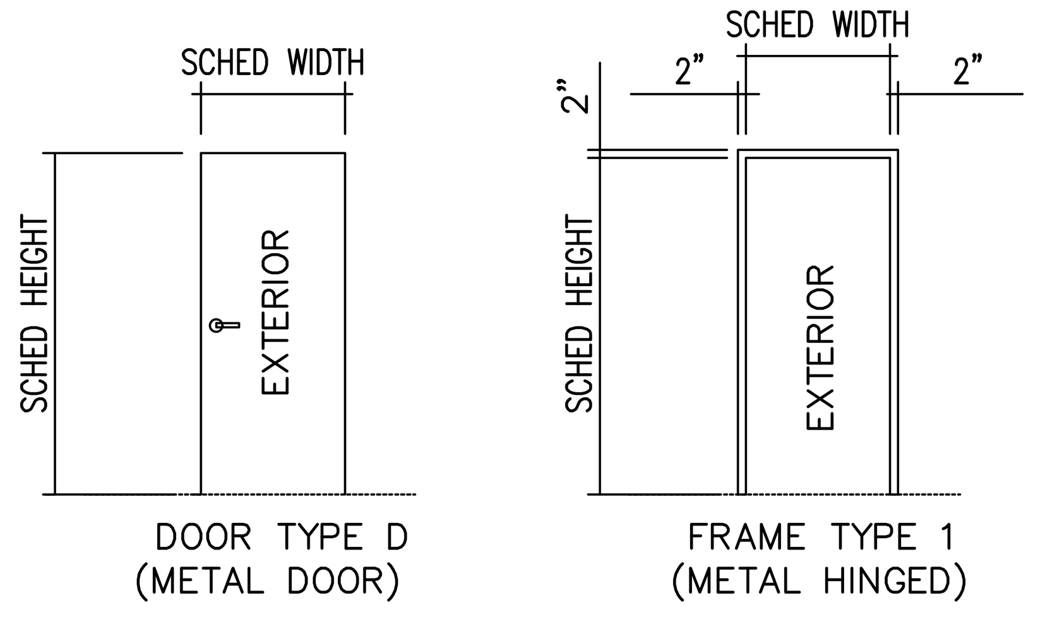
PASSAGE SET: (CLOSET & HALL) PASSAGE LOCKSETS KEEP DOORS FIRMLY CLOSED, BUT DO NOT ACTUALLY LOCK. BOTH LEVERS ALWAYS TURN FREE WITH NO LOCK CYLINDER OR PROVISION FOR A KEY.

PRIVACY SET: (RESTROOM) PRIVACY LOCKSETS ARE LOCKED WITH AN INSIDE PUSH-BUTTON. TURNING THE INSIDE KNOB OR LEVER RELEASES THE LOCK. A SMALL SCREWDRIVER CAN BE USED AS AN EMERGENCY KEY, FROM THE OUTSIDE, IF NECESSARY.

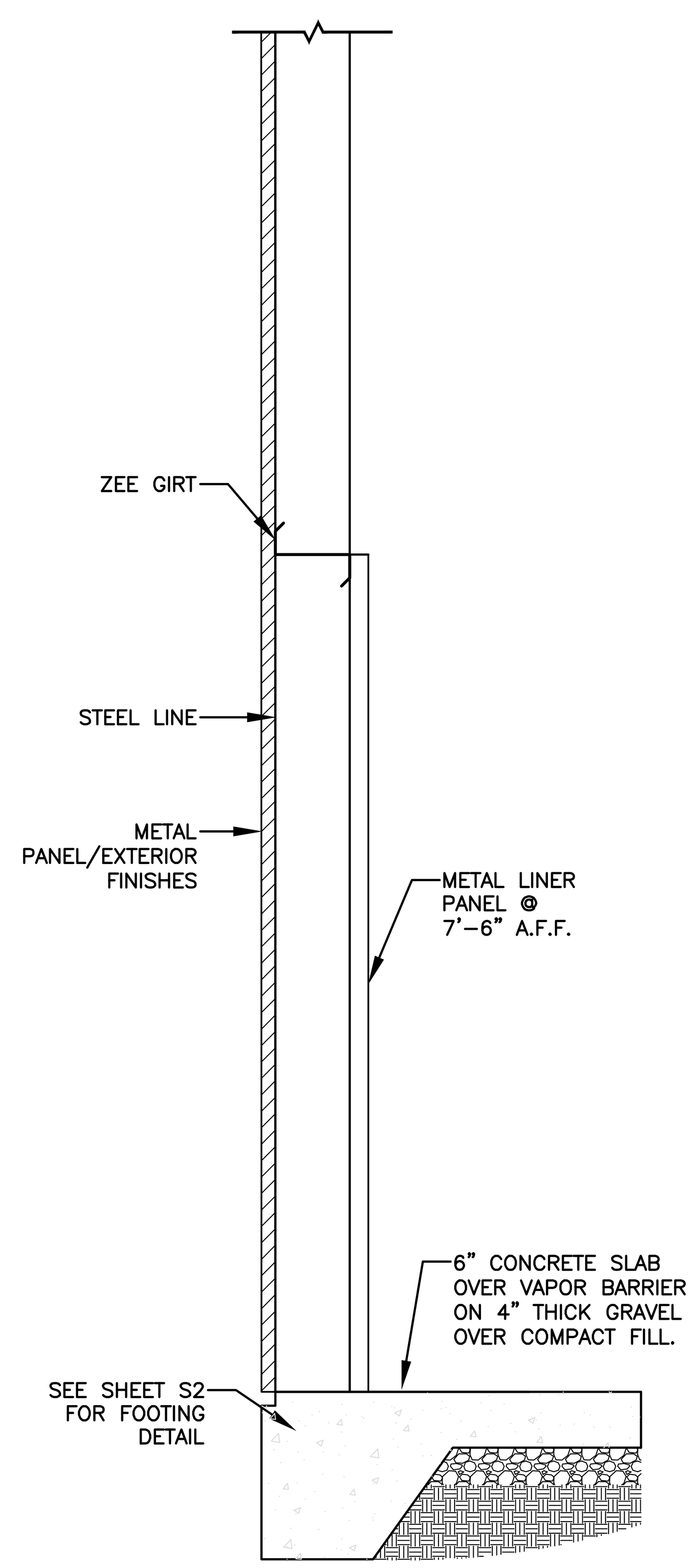
ENTRANCE LOCK: (ENTRY) ENTRANCE LOCKED BY PUSHING AND TURNING A BUTTON AND UNLOCKED BY THE KEY UNTIL THE INSIDE BUTTON IS MANUALLY UNLOCKED. THEY ARE ALSO AVAILABLE WITH PUSHBUTTON LOCKING, IN WHICH PUSHING THE BUTTON LOCKS THE OUTSIDE KNOB OR LEVER UNTIL IT IS UNLOCKED BY KEY OR BY TURNING THE INSIDE KNOB OR LEVER. THE INSIDE KNOB OR LEVER IS ALWAYS FREE FOR IMMEDIATE EXIT.

DOOR SCHEDULE LEGEND

H	HEIGHT	HM	HOLLOW METAL
W	WIDE	P	PAINT
ALUM	ALUMINUM	S	STAIN
WD	WOOD-SOLID CORE	M	METAL
T	THICKNESS	WI	WROUGHT IRON
		VA/B	VERIFY ANODIZED OR BRONZE

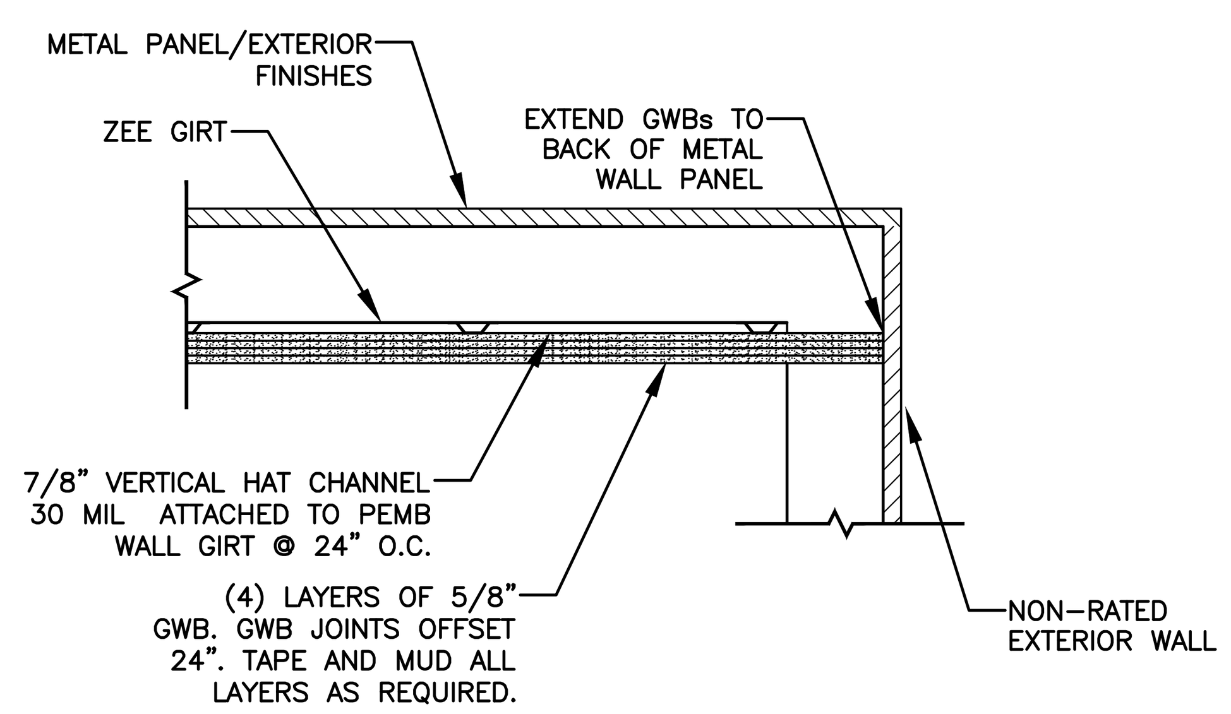


DOOR & FRAME STYLES



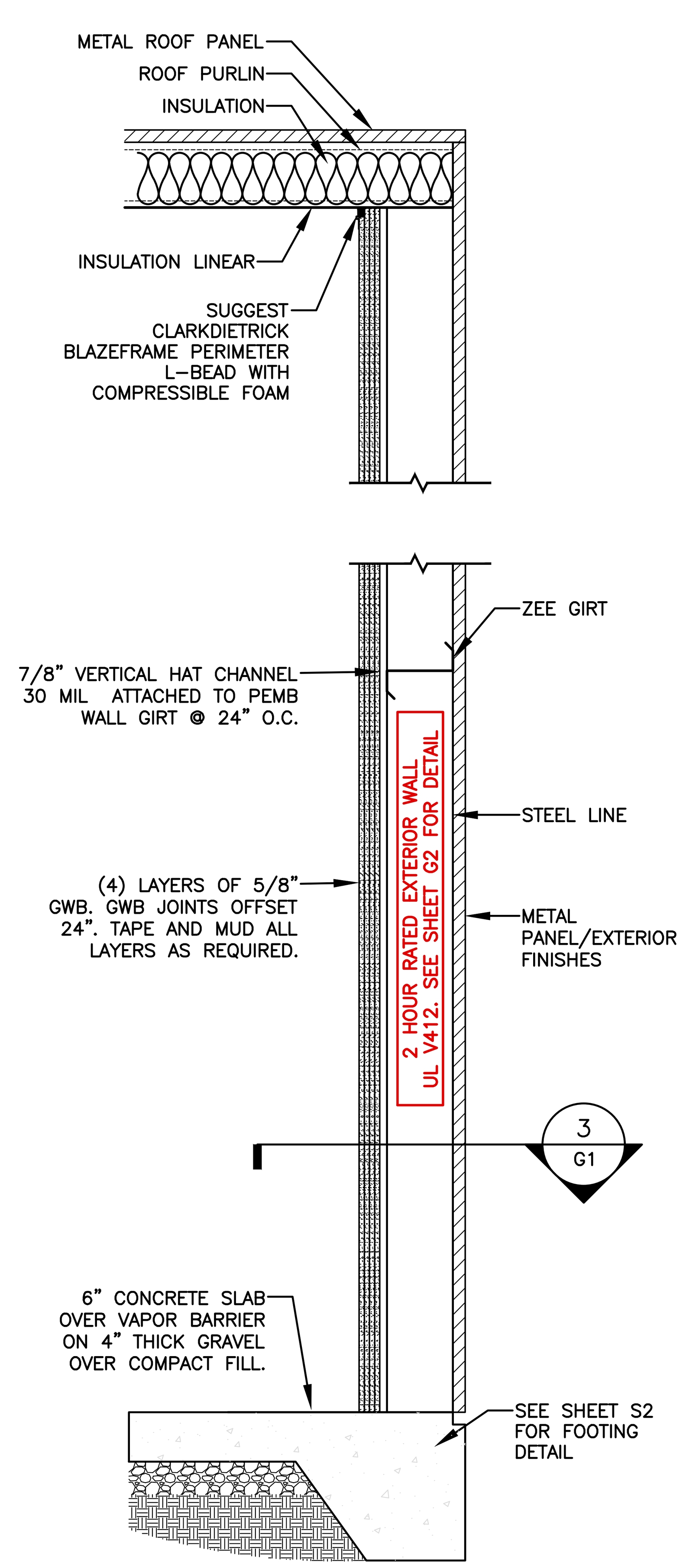
2 G1 WALL SECTION

SCALE: 3/4" = 1'-0"



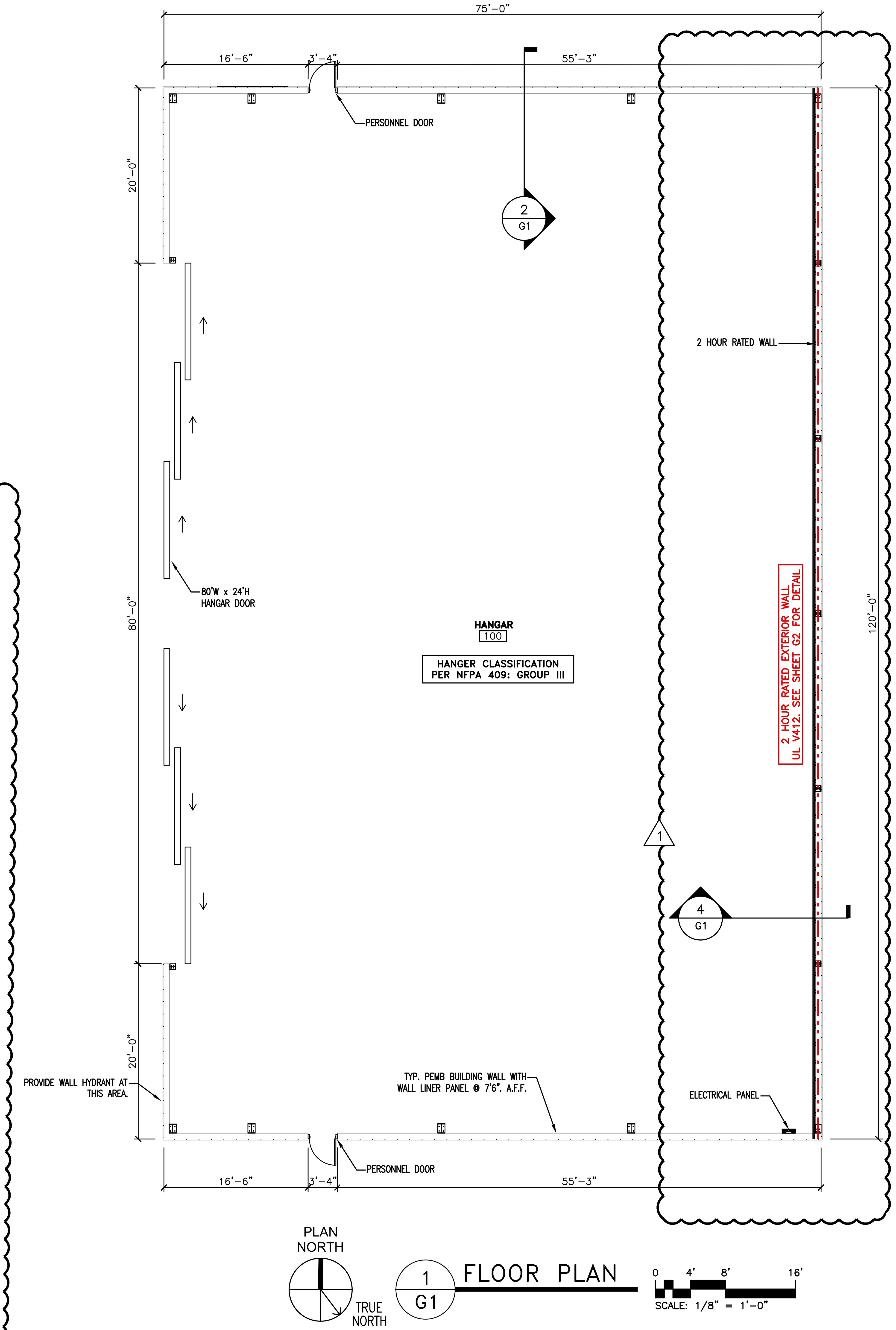
3 G1 PLAN SECTION
2 HOUR RATED WALL

SCALE: 3/4" = 1'-0"



4 G1 WALL SECTION (2 HOUR RATED WALL)

SCALE: 3/4" = 1'-0"



1 G1 FLOOR PLAN

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

JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070 kelly@jenkinsce.pro
1608 MACARTHUR RD. FAYETTEVILLE, NC 28311-1002
910.822.1724

NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER
05 FEBRUARY 2024

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2023-06-09
DATE: 05 FEBRUARY 2024

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OWNER/TENANT:
CONTRACTOR/BUILDER:

REV1: 5 FEB 2024 – 2 HR RATED WALL

PROJECT: HARNETT COUNTY AIRPORT HANGAR
615 AIRPORT RD. ERWIN, NC 28339

SHEET: BUILDING FLOOR PLAN

G1r1

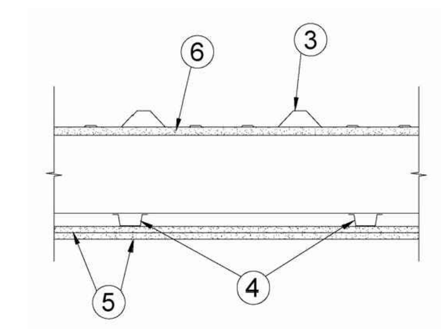
SCALE: 1-1/2" = 1'-0"
SCALE: 1" = 1'-0"
SCALE: 3/4" = 1'-0"
SCALE: 1/2" = 1'-0"
SCALE: 1/4" = 1'-0"
SCALE: 3/16" = 1'-0"
SCALE: 1/8" = 1'-0"

DESIGN NO. V421

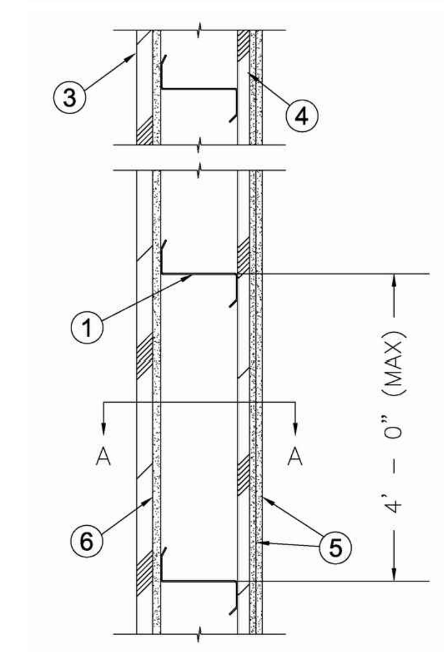
AUGUST 4, 2023

NONBEARING WALL RATINGS —1 & 2 HR

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.



SECTION A-A



VERTICAL SECTION

1. GIRTS —"Z" OR "C" SHAPED GIRTS, 0.056 TO 0.120 IN. THICK STEEL, 6 TO 12 IN. DEEP, WITH 2 TO 4 IN. WIDE FLANGES. GIRTS PLACED HORIZONTALLY (WITH FLANGES UP OR DOWN) AND SPACED MAX 48 IN. OC. GIRTS ARE SECURED TO COLUMNS WITH GIRT CLIPS, ITEM 2, OR BOLTED TO THE COLUMN THROUGH THE GIRT FLANGE.

2. GIRT CLIPS —(NOT SHOWN) —STEEL SECURED TO COLUMN BY WELDS OR BOLTS.

3. STEEL WALL PANELS —MIN NO. 26 MSG, MIN 16 IN. WIDE COATED STEEL PANELS. PANEL JOINTS OFFSET 6 IN. FROM GYPSUM SHEATHING JOINTS. IF ONE LAYER OF EXTERIOR WALLBOARD IS USED, PANELS ARE FASTENED TO THE HORIZONTAL GIRTS WITH 1-1/2 IN. (MIN) LONG NO. 12-14 SELF-DRILLING SCREWS 12 IN. OC. IF TWO LAYERS OF EXTERIOR WALLBOARD ARE USED, PANELS ARE FASTENED TO THE HORIZONTAL GIRTS WITH 2 IN. (MIN) LONG NO. 12-14 SELF-DRILLING SCREWS 12 IN. OC. VERTICAL RAISED RIB PROFILES OF ADJACENT PANELS ARE OVERLAPPED APPROXIMATELY 3 IN. AND ATTACHED TO EACH OTHER WITH 7/8 IN. LONG 1/4-14 (MIN) SELF-DRILLING SCREWS (STITCH SCREWS) 24 IN. OC (MAX) ALONG THE LAP.

3A. STEEL SIDING OR BRICK —(OPTIONAL, NOT SHOWN) FOR FIRE RESISTANCE RATINGS FROM INSIDE OF WALL ONLY, STEEL SIDING OR BRICK VENEER MEETING THE REQUIREMENTS OF LOCAL CODE AGENCIES, MAY BE INSTALLED OVER ADDITIONAL FURRING CHANNELS (NOT SHOWN), ITEM 4, ON EXTERIOR OF WALL IN PLACE OF STEEL WALL PANELS. BRICK VENEER ATTACHED TO FURRING CHANNELS WITH CORRUGATED METAL WALL TIES ATTACHED TO EACH FURRING CHANNEL WITH STEEL SCREWS, NOT MORE THAN EACH SIXTH COURSE OF BRICK. WHEN A MINIMUM 3-3/4 IN. THICK BRICK VENEER FACING IS USED, THE FIRE RESISTANCE RATING APPLIES FROM EITHER SIDE OF THE WALL.

4. FURRING CHANNELS —HAT SHAPED, MINIMUM 25 MSG GALV STEEL, APPROXIMATELY 2-5/8 IN WIDE, 7/8 IN. DEEP, SPACED 24 IN. OC PERPENDICULAR TO GIRTS. CHANNELS ARE SECURED TO EACH GIRT WITH 3/8 IN. (MIN) LONG SELF-DRILLING PAN HEAD SHEET STEEL TYPE SCREWS. TWO SCREWS ARE USED AT EACH FASTENING LOCATION, ONE THROUGH EACH LEG OF THE FURRING CHANNEL.

5. GYPSUM BOARD* —ANY 1/2 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NO. X515. ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U305. SEE TABLE UNDER ITEM 6 FOR NUMBER OF LAYERS AND THICKNESS ON INTERIOR FACE OF WALL. ANY 5/8 IN. OR 1/2 IN. THICK GYPSUM BOARD APPLIED HORIZONTALLY OR VERTICALLY. FIRST LAYER ATTACHED TO FURRING CHANNELS, ITEM 4, USING 1 IN. LONG TYPE S BUGLE HEAD GYPSUM BOARD SCREWS SPACED 24 IN. OC. VERTICALLY AND HORIZONTALLY. SECOND LAYER ATTACHED TO FURRING CHANNELS USING 1-5/8 IN. LONG TYPE S BUGLE HEAD GYPSUM BOARD SCREWS SPACED 12 IN. OC. VERTICALLY AND 24 IN. OC. HORIZONTALLY. THIRD LAYER, WHEN USED, ATTACHED TO FURRING CHANNELS USING TYPE S BUGLE HEAD GYPSUM BOARD SCREWS SPACED 12 IN. OC. VERTICALLY AND 24 IN. OC. HORIZONTALLY, 1-7/8 IN. LONG FOR 1/2 IN. GYPSUM BOARD AND 2-1/4 IN. LONG FOR 5/8 IN. GYPSUM BOARD. FOURTH LAYER, WHEN USED, ATTACHED TO STEEL STRAPPING USING 1 IN. LONG (MIN) BUGLE HEAD DRYWALL SCREWS SPACED 8 IN. OC. STEEL STRAPPING FROM FLAT STOCK, 1-1/2 IN. WIDE, FABRICATED FROM 0.020 IN. THICK (25 GAUGE) GALV STEEL. STEEL STRAPPING LOCATED VERTICALLY AND ATTACHED TO THIRD LAYER OF GYPSUM BOARD AT EACH VERTICAL JOINT AND INTERMEDIATE STUD USING 2-5/8 IN. TYPE S BUGLE HEAD DRYWALL SCREWS 12 IN. OC. THE HORIZONTAL OR VERTICAL JOINTS OF THE WALLBOARD ARE OFFSET 24 IN. WHEN 2 SUCCESSIVE LAYERS ARE APPLIED IN THE SAME ORIENTATION.

AMERICAN GYPSUM CO (VIEW CLASSIFICATION) —CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (VIEW CLASSIFICATION) —CKNX.R19374

CABOT MANUFACTURING ULC (VIEW CLASSIFICATION) —CKNX.R25370

CERTAINTEED GYPSUM INC (VIEW CLASSIFICATION) —CKNX.R3660

CGC INC (VIEW CLASSIFICATION) —CKNX.R19751

CERTAINTEED GYPSUM INC (VIEW CLASSIFICATION) —CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (VIEW CLASSIFICATION) —CKNX.R2717

NATIONAL GYPSUM CO (VIEW CLASSIFICATION) —CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (VIEW CLASSIFICATION) —CKNX.R7094

PANEL REY S A (VIEW CLASSIFICATION) —CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (VIEW CLASSIFICATION) —CKNX.R19262

THAI GYPSUM PRODUCTS PCL (VIEW CLASSIFICATION) —CKNX.R27517

UNITED STATES GYPSUM CO (VIEW CLASSIFICATION) —CKNX.R1319

USG BORAL DRYWALL SFZ LLC (VIEW CLASSIFICATION) —CKNX.R38438

USG MEXICO S A DE C V (VIEW CLASSIFICATION) —CKNX.R16089

5A. GYPSUM BOARD* —(AS AN ALTERNATE TO ITEM 5) – FASTENED AS DESCRIBED IN ITEM 5. 5/8 IN. THICK, 4 FT. WIDE, PAPER SURFACED, APPLIED VERTICALLY ONLY.

NATIONAL GYPSUM CO —TYPE SBWB

5B. GYPSUM BOARD* —(AS AN ALTERNATE TO ITEMS 5 AND 5A) —NOMINAL 5/8 IN. THICK, 4 FT WIDE PANELS, APPLIED VERTICALLY ONLY AND SECURED AS DESCRIBED IN ITEM 5.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM —TYPE QUIETROCK ES

5C. WALL AND PARTITION FACINGS AND ACCESSORIES* —(AS AN ALTERNATE TO ITEMS 5 THROUGH 5C) — NOMINAL 5/8 IN. THICK, 4 FT WIDE PANELS, APPLIED VERTICALLY ONLY AND SECURED AS DESCRIBED IN ITEM 5.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM —TYPE QUIETROCK 527

5D. GYPSUM BOARD* —(AS AN ALTERNATE TO 5/8 IN. TYPE FSW IN ITEM 5) – NOM. 5/16 IN. THICK GYPSUM PANELS APPLIED VERTICALLY OR HORIZONTALLY. TWO LAYERS OF 5/16 IN. FOR EVERY SINGLE LAYER OF 5/8 IN. GYPSUM BOARD DESCRIBED IN ITEM 5. HORIZONTAL JOINTS ON THE SAME SIDE NEED NOT BE STAGGERED. INNER LAYER OF EACH DOUBLE 5/16 IN. LAYER ATTACHED WITH FASTENERS, AS DESCRIBED IN ITEM 5, SPACED 24 IN. OC. OUTER LAYER OF EACH DOUBLE 5/16 IN. LAYER ATTACHED PER ITEM 5.

NATIONAL GYPSUM CO —TYPE FSW

6. GYPSUM BOARD* —SEE FOLLOWING TABLE FOR NUMBER OF LAYERS ON EXTERIOR FACE OF WALL. ANY EXTERIOR GRADE 5/8 IN THICK GYPSUM WALLBOARD OR GYPSUM SHEATHING APPLIED HORIZONTALLY OR VERTICALLY. FIRST LAYER ATTACHED TO GIRTS, ITEM 1, USING 1-1/4 IN. LONG (MIN) SELF-DRILLING BUGLE-HEAD SHEET STEEL TYPE GYPSUM BOARD SCREWS SPACED 8 IN. OC. HORIZONTALLY. SECOND LAYER, WHEN USED, ATTACHED TO GIRTS USING 1-5/8 IN. LONG (MIN) SELF-DRILLING BUGLE-HEAD SHEET STEEL TYPE GYPSUM BOARD SCREWS SPACED 8 IN. OC HORIZONTALLY. THE HORIZONTAL OR VERTICAL JOINTS OF THE GYPSUM BOARD ARE OFFSET 24 IN. IF 2 SUCCESSIVE LAYERS ARE APPLIED IN THE SAME ORIENTATION.

FIRE RESISTANCE FROM BOTH SIDES OF WALL		
RATING	LAYERS 5/8 IN. GYPSUM BOARD (ITEM 5) ON INTERIOR FACE	LAYERS 5/8 IN. GYPSUM BOARD (ITEM 6) ON EXTERIOR FACE
1	1	1
2	2	2
2	3	1
FIRE RESISTANCE FROM INSIDE OF WALL		
RATING	LAYERS 5/8 IN. GYPSUM BOARD (ITEM 5) ON INTERIOR FACE	LAYERS 5/8 IN. GYPSUM BOARD (ITEM 6) ON EXTERIOR FACE
1	3	0
2	4	0

ANY 1/2 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NO. X515. ANY 5/8 IN. THICK UL CLASSIFIED GYPSUM BOARD THAT IS ELIGIBLE FOR USE IN DESIGN NOS. L501, G512 OR U305. SEE GYPSUM BOARD (CKNX) CATEGORY FOR NAMES OF CLASSIFIED COMPANIES.

7. COLUMN PROTECTION —(NOT SHOWN) —HORIZONTAL WALL GIRTS, ITEM 1, ARE ATTACHED TO VERTICAL STRUCTURAL STEEL COLUMNS. SEE COLUMN DESIGN NOS. X524 AND X530 FOR PROTECTION OF COLUMNS.

8. BATTS AND BLANKETS* —(OPTIONAL, NOT SHOWN) —GLASS FIBER BATTS PLACED IN THE CAVITIES OF EXTERIOR WALLS.

SEE BATTS AND BLANKETS* (BZJZ) —CATEGORY FOR NAMES OF MANUFACTURERS.

8A. FIBER, SPRAYED* —AS AN ALTERNATE TO BATTS AND BLANKETS (ITEM 8) —(100% BORATE FORMULATION) —SPRAY APPLIED CELLULOSE MATERIAL. THE FIBER IS APPLIED WITH WATER TO COMPLETELY FILL THE ENCLOSED CAVITY IN ACCORDANCE WITH THE APPLICATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT WITH A NOMINAL DRY DENSITY OF 2.7 LB/FT3. ALTERNATE APPLICATION METHOD: THE FIBER IS APPLIED WITHOUT WATER OR ADHESIVE AT A NOMINAL DRY DENSITY OF 3.5 LB/FT3, IN ACCORDANCE WITH THE APPLICATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT.

APPLEGATE GREENFIBER ACQUISITION LLC — INSULMAX AND SANCTUARY FOR USE WITH WET OR DRY APPLICATION.

8B. FIBER, SPRAYED* —AS AN ALTERNATE TO BATTS AND BLANKETS (ITEM 8) AND ITEM 8A – SPRAY APPLIED CELLULOSE INSULATION MATERIAL. THE FIBER IS APPLIED WITH WATER TO INTERIOR SURFACES IN ACCORDANCE WITH THE APPLICATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. APPLIED TO COMPLETELY FILL THE ENCLOSED CAVITY. MINIMUM DRY DENSITY OF 4.3 POUNDS PER CUBIC FT.

NU-WOOL CO INC —CELLULOSE INSULATION

8C. FIBER, SPRAYED* —AS AN ALTERNATE TO BATTS AND BLANKETS (ITEM 8) – SPRAY APPLIED CELLULOSE FIBER. THE FIBER IS APPLIED WITH WATER TO COMPLETELY FILL THE ENCLOSED CAVITY IN ACCORDANCE WITH THE APPLICATION INSTRUCTIONS SUPPLIED WITH THE PRODUCT. THE MINIMUM DRY DENSITY SHALL BE 4.30 LBS/FT3.

INTERNATIONAL CELLULOSE CORP —CELBAR-RL

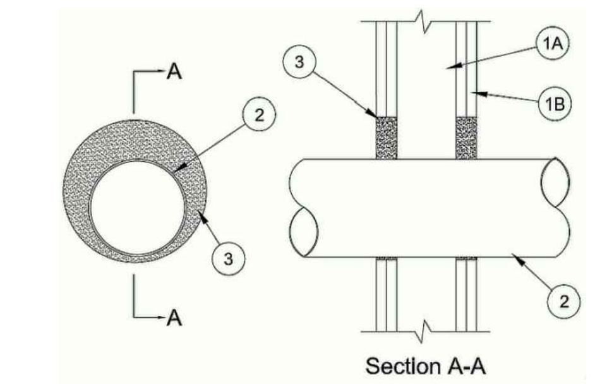
9. JOINT TAPE AND COMPOUND —(NOT SHOWN, OPTIONAL) —VINYL OR CASEIN, DRY OR PREMIXED JOINT COMPOUND APPLIED IN TWO COATS TO JOINTS AND SCREW HEADS OF FACE LAYER OF GYPSUM BOARD. PAPER OR GLASS FIBER TAPE EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

* INDICATES SUCH PRODUCTS SHALL BEAR THE UL OR CUL CERTIFICATION MARK FOR JURISDICTIONS EMPLOYING THE UL OR CUL CERTIFICATION (SUCH AS CANADA), RESPECTIVELY.

LAST UPDATED ON 2023-08-04

System No. W-L-1064

December 02, 2010
F Rating —2 Hr
T Rating —0 Hr



1. Wall Assembly —The 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* —Two layers of nom 1/2 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Max diam of opening is 6 in.
2. Pipe or Conduit —One nom 4 in. diam Schedule 10 (or heavier) steel pipe, steel conduit or electrical metallic tube (EMT) to be centered within opening. The annular space shall be min 1/4 in. to max 1-1/4 in. Pipe or conduit to be rigidly supported on both sides of wall assembly.
3. Forming Material* —Min 2-1/2 in. thickness of min 4.0 pcf mineral wool forming material firmly packed into annular space and stud cavity in area of wall opening as a permanent form. Forming material to be recessed min 1 in. from both surfaces of wall to accommodate the caulk fill material.
THERMAFIBER INC —Type SAF

4. Fill, Void or Cavity Material* —Caulk —Min 1 in. thickness of fill material applied within the annulus, flush with both surfaces of wall.
UNITED STATES GYPSUM CO —Type AS

*Bearing the UL Classification Marking

Last Updated on 2010-12-02

JENKINS CONSULTING ENGINEERS, PA
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NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY J. DODSON

05 FEBRUARY 2024

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2023-06-09
DATE: 05 FEBRUARY 2024

FINAL DRAWING [] FOR REVIEW PURPOSES ONLY
PRELIMINARY [] FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING [✓] FOR CONSTRUCTION

OWNER/TENANT: -
CONTRACTOR/BUILDER: -

1 REV1: 5 FEB 2024 - 2 HR RATED WALL

PROJECT: HARNETT COUNTY AIRPORT HANGAR
615 AIRPORT RD. ERWIN, NC 28339

SHEET: 2 HOUR RATED PARTITION WALL & RATED PENETRATION ASSEMBLY

G2r1

Drawing File: H:\2023\Ostendorf Hangar 2023-06-09\DWG\Harnett-Airport-Foundation-18 Dec 2023 NR.dwg
Plotted Date: Feb 05, 2024 - 4:33pm