

24' WIDE FRAME 'CARPORT STYLE' METAL BUILDING GENERICS

SCOPE OF PLANS:

1. TO PROVIDE STRUCTURAL DESIGN FOR A VARIETY OF PRE-FAB METAL BUILDINGS PER THE SPECIFIED DESIGN LOADS, AND APPLICABLE BUILDING CODES.
2. DOES NOT PROVIDE ANY ARCHITECTURAL, SITE, ZONING, HVAC, ELEC, MECH DESIGN OR REQUIREMENTS. THESE ITEMS MUST BE ADDRESSED BY THEIR RESPECTIVE PROFESSIONALS IN CHARGE.
3. DOES NOT PROVIDE ANY DOOR OR WINDOW DESIGN INFORMATION. THOSE SHALL BE ADDRESSED BY DOOR AND WINDOW MANUFACTURER.
4. THESE DOCUMENT SHALL NOT BE USED TO PERMIT OR JUSTIFY DESIGN OF AS-BUILT / EXISTING STRUCTURES OR BUILDINGS BUILT WITHOUT A PERMIT.

GENERAL DESIGN NOTES

1. THESE STRUCTURES ARE DESIGNED AS **RISK CATEGORY I (NON-HABITABLE)**, UTILITY / STORAGE / PRIVATE GARAGE / SHED TYPE BUILDINGS - THAT ONLY DESIGNED TO RESIST THE DEAD LOADS, LIVE LOADS, AND WIND LOADS LISTED UNDER 'STRUCTURAL DESIGN CRITERIA'. ANY ADDITIONAL LOADINGS WITHOUT RE-DESIGN OR ENGINEERING CONSULTATION SHALL NOT BE PERMITTED.
2. ALL MATERIALS IDENTIFIED BY A MANUFACTURER NAME MAY BE SUBSTITUTED WITH MATERIAL EQUAL OR EXCEEDING ORIGINAL.
3. ALL WELDED CONNECTIONS SHALL BE SHOP WELDED CONNECTIONS. **FIELD WELDING IS NOT PERMITTED NOR REQUIRED.**
4. ALL STRUCTURAL LIGHT GAUGE TUBING AND CHANNELS SHALL BE:
ASTM A500 GRADE C OR EQUAL:
Fy = 50 KSI Fu = 65 KSI
5. GYPSUM BOARD OR DRYWALL FINISH OR ANY BRITTLE BASE MATERIAL IS NOT CONSIDERED OR ACCOUNTED FOR ON THE DESIGN CRITERIA OF THIS STRUCTURE, U.N.O.

STRUCTURAL DESIGN CRITERIA

ALL CONSTRUCTION SHALL BE PROVIDED IN ACCORDANCE WITH THE PREVAILING CODES LISTED BELOW AND ALL APPLICABLE LOCAL REQUIREMENTS.

PREVAILING CODE: **2015 IBC CODE**
MINIMUM DESIGN STANDARD: **ASCE 7-10**

OCCUPANCY GROUP: U (CARPORT / UTILITY / GARAGE / SHED)
CONSTRUCTION TYPE: V - B

RISK CATEGORY: **I (NON-HABITABLE)**

1. ROOF DEAD LOAD (D) **2.0 PSF (COLLATERAL)**

2. ROOF LIVE LOAD (Lr) **Lr = 20 TO 61 PSF (VARIES BASED ON FRAME SPACING AND DESIGN OPTIONS)**

3. SNOW LOAD (S) **Pg = 20 TO 90 PSF (VARIES BASED ON FRAME SPACING AND DESIGN OPTIONS)**
GROUND SNOW LOAD

IMPORTANCE FACTOR **Is = 0.80**
THERMAL FACTOR **Ct = 1.2**
EXPOSURE FACTOR **Ce = 1.0**
ROOF SLOPE FACTOR **Cs = 1.0**
FLAT ROOF SNOW LOAD **Pf = 20 TO 61 PSF**
SLOPED ROOF SNOW LOAD **Ps = 20 TO 61 PSF**
MINIMUM SNOW LOAD **Pm = 20**

4. WIND LOAD (W) **C**
EXPOSURE **Vult = 105 TO 180 MPH (VARIES BASED ON FRAME SPACING AND DESIGN OPTIONS)**
DESIGN WIND SPEED

5. SEISMIC LOAD (E) **C**
DESIGN CATEGORY **le = 1.00**
IMPORTANCE FACTOR

ASD LOAD COMBINATIONS:

1. D + (Lr OR S)
2. D + (0.6W OR $\pm 0.7E$)
3. D + 0.75 (0.6W OR $\pm 0.7E$) + 0.75 (Lr OR S)
4. 0.6D + (0.6W OR $\pm 0.7E$)



MANUFACTURED BY:



CONTACT INFORMATION

FOR QUESTIONS OR INFORMATION NEEDED PLEASE, CONTACT THE **METAL BUILDINGS MANUFACTURER LISTED ON PLANS**. ENGINEER OF RECORD REQUIRES AUTHORIZATION FROM THE METAL BUILDINGS MANUFACTURER TO ADDRESS ANY QUERIES

THE INFORMATION CONTAINED IN THESE DRAWINGS IS THE SOLE PROPERTY OF METAL BUILDING MANUFACTURER LISTED ON THIS PAGE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF METAL BUILDING MANUFACTURER LISTED BELOW IS PROHIBITED. LEGAL ACTION WILL BE TAKEN AS NECESSARY AS A RESULT.

ANY REQUESTS, CHANGES, MODIFICATIONS REVISIONS TO INFORMATION PROVIDED IN THIS DOCUMENT WILL REQUIRE A COMPLETELY SEPARATE SITE-SPECIFIC SET OF PLANS; INQUIRE WITH THE LISTED METAL BUILDING MANUFACTURER.

STRUCTURAL SHEET INDEX

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ENGINEERED BY:



DRAWING INFORMATION

PROJECT: **24' WIDE**

LOCATION: **STATE OF NORTH CAROLINA**

PROJECT NO.: **325-25-0321**

SHEET TITLE:

COVER SHEET

SHEET NO.: **1 / 11**

CHECKED BY: **OAA** DATE: **1/25/24**

LEGAL INFORMATION

- ANY DUPLICATION OF THIS DRAWING IN WHOLE OR PART IS STRICTLY FORBIDDEN. ANYONE DOING SO WILL BE PROSECUTED UNDER THE FULL EXTENT OF THE LAW.
- DRAWINGS VALID UP TO 1 YEAR FROM DATE OF ISSUE.

SEAL:



Digitally signed by Omar Abu-Yasein

Date: 2025.02.12 14:01:50 -05'00'

Omar Abu-Yasein

CERTIFICATION VALIDITY NOTICE

DATE OF PLANS: **02-10-2026**

EXPIRATION: **02-10-2026**

CERTIFICATION ON THESE DRAWINGS IS VALID FOR ONE YEAR FROM DATE OF ISSUE

STAMP EXPIRY: **12-31-2025**

DATE SIGNED: **02-10-2025**

CUSTOMER INFORMATION	
OWNER: David Kohrman	
ADDRESS: 9445 Purfoy Rd, Fuquay Varina, NC 27526	

DESIGN LOADS

GROUND SNOW: **20 psf**

ROOF LIVE LOAD: **30 psf**

BASIC WIND SPEED: **115 mph**

BUILDING INFORMATION

WIDTH: **24**

LENGTH: **35**

HEIGHT: **10**

FRAME TYPE:

A-FRAME

REGULAR

FULL

PARTIAL

OPEN

ENCLOSURE TYPE:

1/2 WALL

3/4 WALL

FULL WALL

TABLE 2.1: MEMBER PROPERTIES

NO.	LABEL	PROPERTY	DETAIL NO.
1	COLUMN POST	2.5" X 2.5" X 14GA TUBE	1
2	ROOF BEAM	2.5" X 2.5" X 14GA TUBE	1
3	BASE RAIL	2.5" X 2.5" X 14GA TUBE	1
4	PEAK BRACE	2.5" X 2.5" 14GA CHANNEL	4
5	KNEE BRACES	2.5" X 1.5" 14GA CHANNEL	4
6	CONNECTOR SLEEVE	2.25" X 2.25" X 12GA TUBE	2
7	BASE ANGLE	2" X 2" X 3" LG. 3/16" ANGLE	10
8	PURLIN	4" X 1" X 14GA / 18GA HAT CHANNEL	5
9	GRT	4" X 1" X 14GA / 18GA HAT CHANNEL	5
9A	OPT. END WALL GRT	2.5" X 1.5" 14GA CHANNEL	1
10	SHEATHING	29 GA CORRUGATED SHEET	8
11	END WALL POST	2.5" X 2.5" X 14GA TUBE	1
12	DOOR POST	2.5" X 2.5" X 14GA TUBE	1
13	SINGLE HEADER	2.5" X 2.5" X 14GA TUBE	1
14	DOUBLE HEADER	DBL. 2.5" X 2.5" X 14GA TUBE	1
15	SERVICE DOOR / WINDOW FRAMING	2.5" X 2.5" X 14GA TUBE	1
16	ANGLE BRACKET	2" X 2" X 2" LG. 14GA ANGLE	7
17	STRAIGHT BRACKET	2" X 2" X 4" LG. 14GA PLATE	6
18	PB SUPPORT	2.5" X 2.5" X 14GA TUBE	1
19	DIAGONAL BRACE	2" X 2" X 14 GA TUBE	3
20	GABLE BRACE	2" X 2" X 14 GA TUBE	3
21	DB BRACKET	2.25" X 2.25" X 6" LG. 14GA ANGLE	9
22	TRUSS SPACER	2.5" X 2.5" X 14GA TUBE	1
23	ALL FASTENERS	#12 X 1" SELF-DRILL SCREWS (ESR-2196 OR EQ) W/ NEOPRENE/STEEL WASHER	

TABLE 2.2: SHEATHING FASTENER SCHEDULE

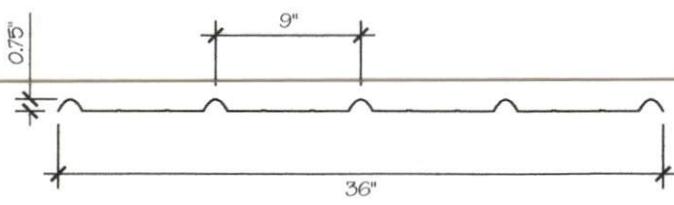
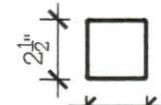
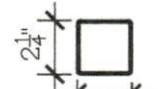
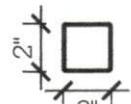
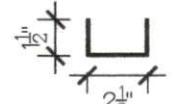
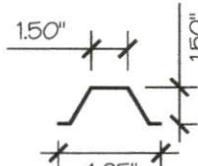
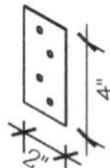
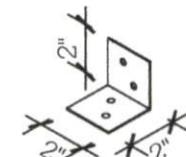
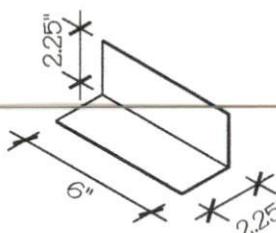
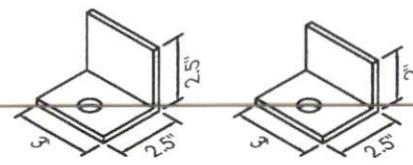
LOCATION	CORNER PANELS	SIDE LAPS	EDGE LAPS	ELSEWHERE
SPACING	9" C/C	MIN. 1	4 $\frac{1}{2}$ " C/C	9" C/C

FASTENER TYPE: #12X1" SELF-DRILL SCREWS (ESR-2196 OR EQ) W/ NEOPRENE/STEEL WASHER

*SEE TYP. SHEATHING FASTENER SCHEDULE DIAGRAM ON PAGE 6.

TABLE 2.3: GAUGE THICKNESS

GAUGE	29	18	14	12
THICKNESS (IN)	0.0135	0.049	0.083	0.109

29 GA CORRUGATED SHEATHING
SCALE: NTS2.5" X 2.5" 14GA TUBE
SCALE: NTS2.25" X 2.25" 12GA TUBE
SCALE: NTS2" X 2" 14GA TUBE
SCALE: NTS2.5" X 1.5" 14GA CHANNEL
SCALE: NTS4.25" X 1.5" X 14GA / 18GA
HAT CHANNEL
SCALE: NTSSTRAIGHT BRACKET
SCALE: NTSANGLE BRACKET
SCALE: NTSDB BRACKET
SCALE: NTSBASE ANGLE
SCALE: NTS

MANUFACTURED BY:



ENGINEERED BY:



DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

SCHEDULES &
MEMBER SECTIONS

SHEET NO.: 2 / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

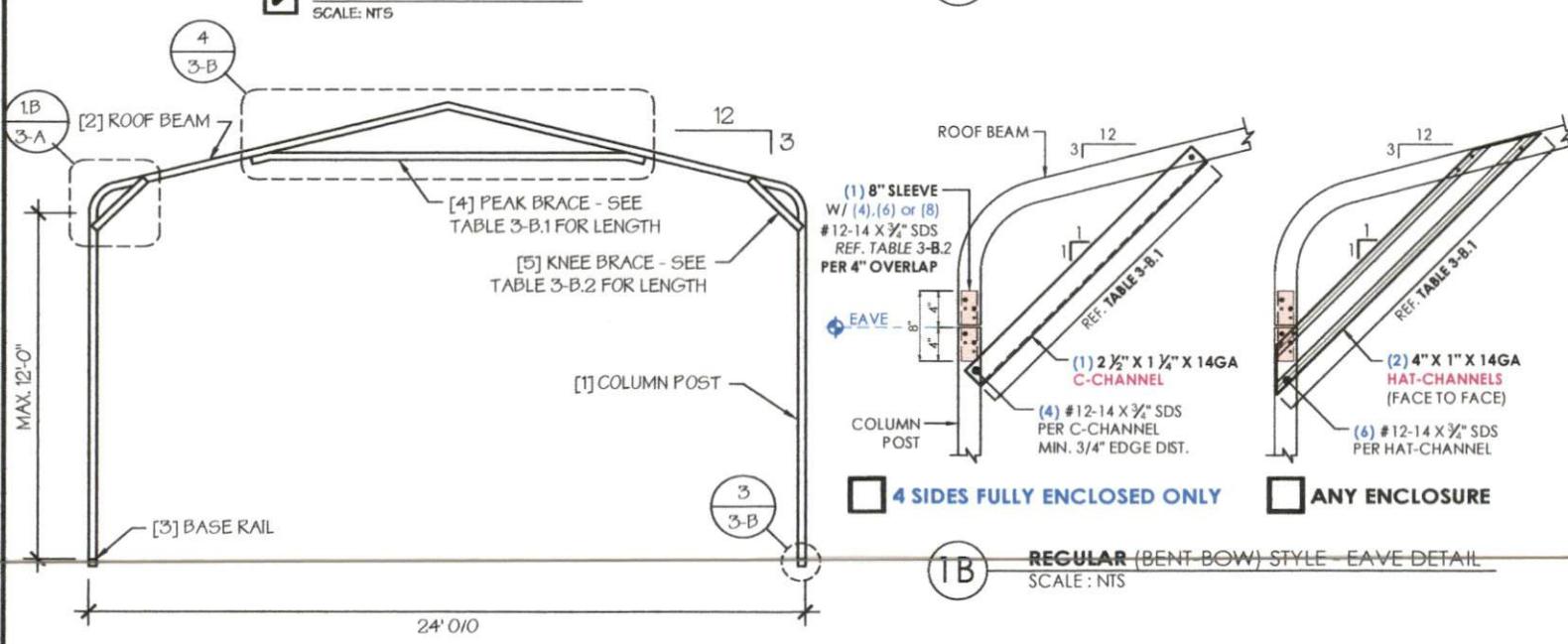
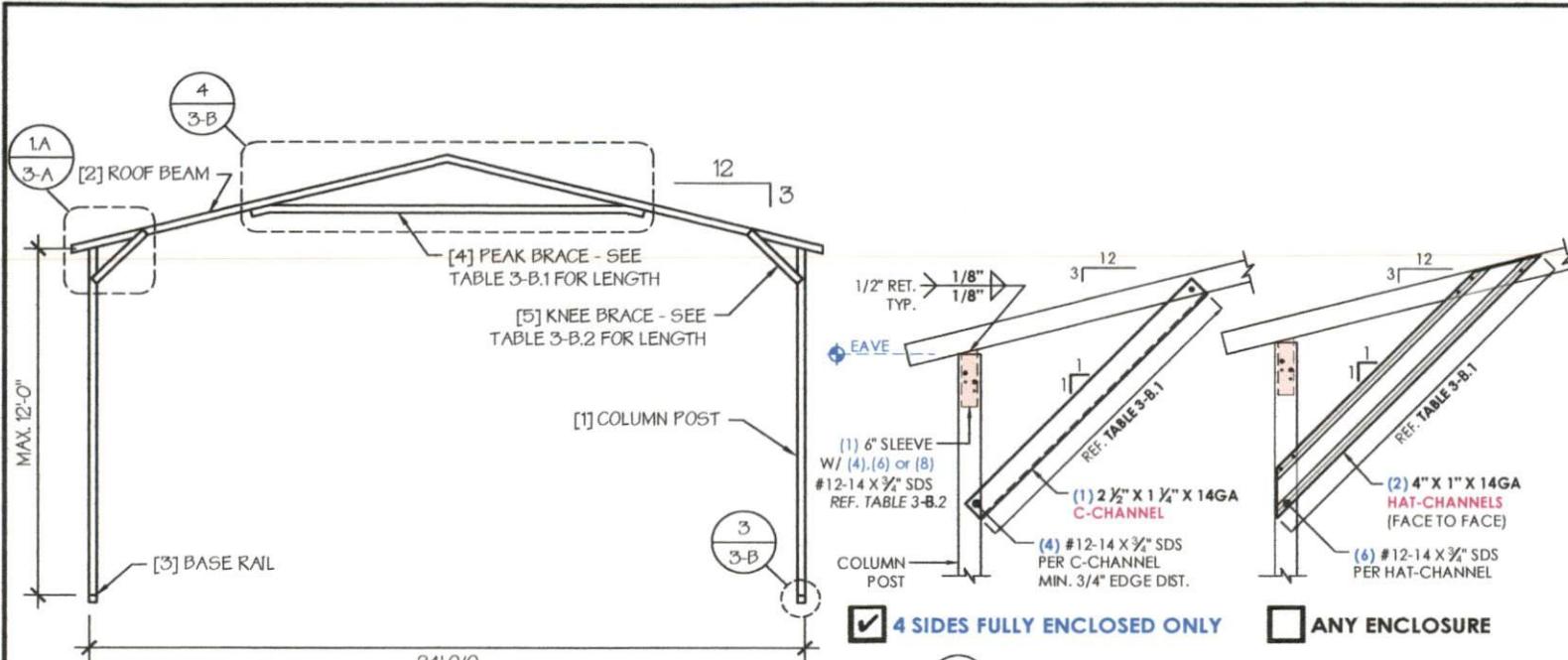
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STAMP EXPIRY: 12-31-2025

DATE SIGNED: 02-10-2025



MANUFACTURED BY:


HERITAGE STEEL

ENGINEERED BY:


A&A ENGINEERING
CIVIL • STRUCTURAL

DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE: FRAME SECTIONS & DETAILS

SHEET NO.: 3-A / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

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SEAL:



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DATE SIGNED: 02-10-2025

MANUFACTURED BY:



ENGINEERED BY:

A&A ENGINEERING
CIVIL • STRUCTURAL

DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

FRAME DETAILS

SHEET NO.: 3-B / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

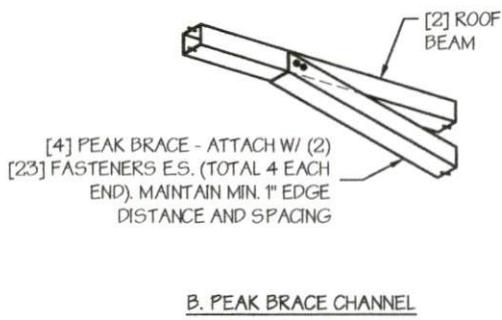
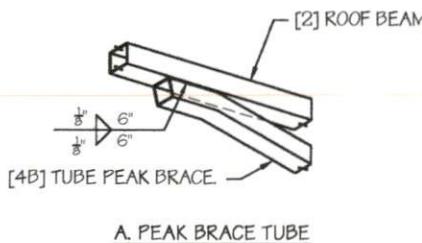
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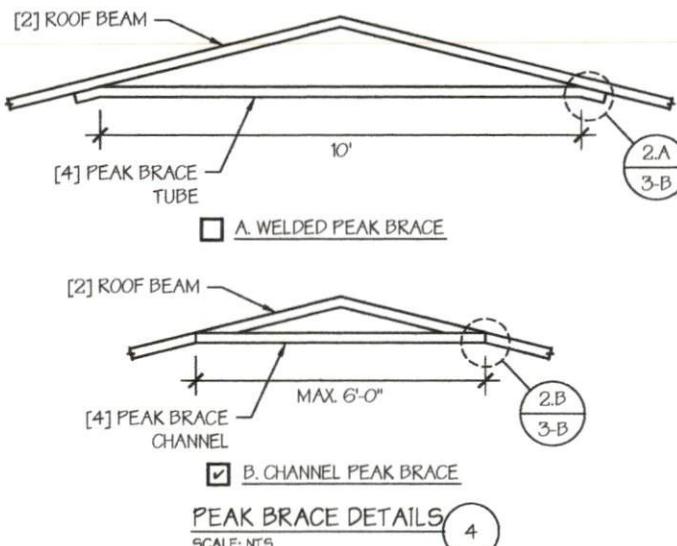
DATE SIGNED: 02-10-2025



PEAK BRACE CONNECTION DETAILS

SCALE: NTS

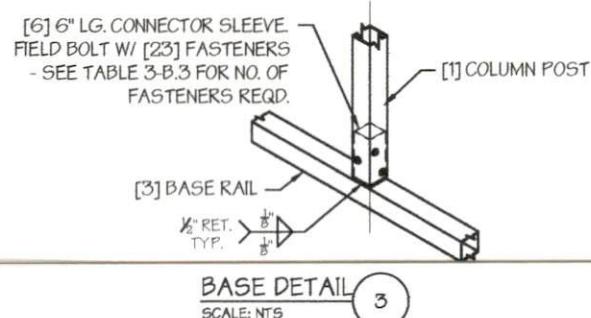
2



PEAK BRACE DETAILS

SCALE: NTS

4



BASE DETAIL

SCALE: NTS

3

TABLE 3-B.1: PEAK BRACE SCHEDULE

GROUND SNOW / ROOF LIVE LOAD (PSF)	WIND SPEED	
	<input checked="" type="checkbox"/> 105 TO 130	<input type="checkbox"/> 140 TO 180
<input checked="" type="checkbox"/> 30 / 20	6'	10'
<input type="checkbox"/> 35 / 25 TO 90 / 61	10'	10'

TABLE 3-B.2: KNEE BRACE SCHEDULE

EAVE HEIGHT	KNEE BRACE LENGTH
<input checked="" type="checkbox"/> UP TO 8'	24"
<input checked="" type="checkbox"/> 9' TO 12'	36"

TABLE 3-B.3 FASTENER SCHEDULE

WIND SPEED (MPH)	NO. OF FASTENERS
<input checked="" type="checkbox"/> 105 TO 125	4
<input type="checkbox"/> 130 TO 155	6
<input type="checkbox"/> 160 TO 180	8

NOTE: COLUMN POST MAY BE ADJUSTED $\pm 1"$ FOR LEVELING.
MANUFACTURER IS NOT RESPONSIBLE FOR LEVELING OF GROUND
AND/OR CONCRETE SURFACE PROVIDED BY OTHERS.

TABLE 4: FRAME SPACING CHART / SCHEDULE

GROUND SNOW / ROOF LIVE LOAD (PSF)	ENCLOSED BUILDINGS							OPEN BUILDINGS						
	WIND SPEED (MPH)							WIND SPEED (MPH)						
105	115	130	140	155	165	180	105	115	130	140	155	165	180	
30 / 20	60	60	54/60	54	42	42	36	48	48	48	42	36	30	24
40 / 27	48/60	48/60	42/60	42/54	42	42	36	42	42	42	42	36	30	24
50 / 34	40/48	40/48	40/48	40/42	40/42	36	30	30	30	30	30	30	30	24
60 / 41	36	36	36	36	36	36	30	30	30	30	30	30	30	24
70 / 47	30	30	30	30	30	30	24	24	24	24	24	24	24	24
80 / 54	24	24	24	24	24	24	24	24	18	18	18	18	18	18
90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30 / 20	60	60	54/60	54	48	42/48	42	54	54	48/54	42/54	36/48	36	30
40 / 27	48/60	48/60	42/60	42/54	42/48	42/48	42	42	42	42	42	36/42	36	30
50 / 34	40/48	40/48	40/48	40/48	40/48	40/42	36	36	36	36	36	36	36	30
60 / 41	36	36	36	36	36	36	30	30	30	30	30	30	30	30
70 / 47	30	30	30	30	30	30	24	24	24	24	24	24	24	24
80 / 54	24	24	24	24	24	24	24	24	24	24	24	24	24	24
90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
30 / 20	60	60	54/60	54	48	42/48	42	60	54/60	48/60	42/54	36/48	36/42	36
40 / 27	48/60	48/60	42/60	42/54	42/48	42/48	42	48	48	42/48	42/48	36/48	36/42	36
50 / 34	40/48	40/48	40/48	40/48	40/48	40/42	40/42	40/42	40/42	40/42	40/42	36/42	36	36
60 / 41	36	36	36	36	36	36	36	36	36	36	36	36	36	30
70 / 47	30	30	30	30	30	30	30	30	30	30	30	30	30	30
80 / 54	24	24	24	24	24	24	24	24	24	24	24	24	24	24
90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---

EAVE HEIGHT = 10'-0" TO 12'-0"

EAVE HEIGHT = 7'-0" TO 9'-0"

EAVE HEIGHT = UP TO 6'-0"

NOTES:

1. FRAME SPACINGS ARE IN UNITS OF INCHES (IN).
2. WHERE TWO VALUES ARE SHOWN, THE HIGHER VALUE CAN ONLY BE USED FOR VERTICAL ROOF SHEATHING
3. SNOW LOADS AND ROOF LIVE LOADS ARE IN POUNDS PER SQUARE FOOT (PSF). WIND SPEED IS 3 SEC. GUST IN MILES PER HOUR (MPH).
4. FOR VALUES THAT LIE BETWEEN TWO CELLS, THE HIGHER (MORE STRINGENT) VALUE HAS TO BE USED. INTERPOLATION BETWEEN CELLS IS NOT ALLOWED.

ENCLOSURE CLASSIFICATION:

1. ENCLOSED BUILDING = ALL 4 WALLS FULLY ENCLOSED WITH DOORS/WINDOWS = USE ENCLOSED BUILDING SPACING CHART.
2. OPEN BUILDING = ALL 4 WALLS FULLY OPEN = USE OPEN BUILDING SPACING CHART.
3. 3FT PARTIALLY ENCLOSED = BOTH END-WALLS FULLY OPEN, WITH BOTH SIDE-WALLS ONLY 3FT ENCLOSED = USE OPEN BUILDING SPACING CHART.
4. PARTIALLY ENCLOSED = BOTH END-WALLS FULLY OPEN, WITH BOTH SIDE-WALLS ENCLOSED MORE THAN 3FT = START WITH OPEN BUILDING SPACING CHART AND THEN REDUCE SPACING BY 6".
5. 3 SIDED ENCLOSED = ALL WALLS ARE ENCLOSED EXCEPT FOR 1 END-WALL = START WITH ENCLOSED BUILDING SPACING + THE OPEN END FRAME MUST HAVE EITHER A GABLED END OR HAVE DOUBLED WELDED LEGS & ROOF.
6. FOR ALL SHEATHING ENCLOSURES NOT LISTED ABOVE, REFER TO SHEET 5 FOR SPACING AND DESIGN REQUIREMENTS.

GENERAL NOTES:

1. THE MAX. BUILDING LENGTH FOR ENCLOSED BUILDINGS IS 50'-0". THIS CAN BE INCREASED BY ADDING A DOUBLE FRAME AT THE CENTER TO BREAK THE LENGTH OF THE BUILDING.
2. BUILDINGS WITH PARTIALLY ENCLOSED END WALLS NEED TO HAVE SIDE WALL BRACING TO SUPPORT THE PARTIALLY ENCLOSED END WALL. (SEE FIGURE A ON SHEET 5).
3. ALL BUILDINGS WITH AN OPEN END WALL MUST HAVE A 10'-0" TUBE PEAK BRACE.



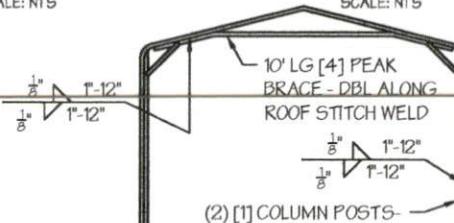
TYP. ENCLOSED BUILDING

SCALE: NTS



TYP. OPEN BUILDING

SCALE: NTS

TYP. OPEN END WALL ON 3
SIDE ENCLOSED BUILDING

SCALE: NTS

MANUFACTURED BY:



ENGINEERED BY:



DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

SPACING SCHEDULES
& ENCLOSURE NOTES

SHEET NO.: 4 / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

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SEAL:



STAMP EXPIRY: 12-31-2025

DATE SIGNED: 02-10-2025

TABLE 5.1: PURLIN SPACING SCHEDULE

GROUND SNOW / ROOF LIVE LOAD (PSF)	■ 14GA. HAT CHANNEL PURLIN						☒ 18GA. HAT CHANNEL PURLIN					
	WIND SPEED (MPH)						WIND SPEED (MPH)					
105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180	105 115 130 140 155 165 180
☒ 30 / 20	54 48 42 36 30 24 24	36 30 24 18 18 12 12	30 30 24 18 18 12 12	24 24 24 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12
☒ 40 / 27	42 42 42 36 30 24 24	30 30 30 24 24 18 18	24 24 24 18 18 12 12	12 12 12 12 12 12 12	12 12 12 12 12 12 12	12 12 12 12 12 12 12	12 12 12 12 12 12 12	12 12 12 12 12 12 12	12 12 12 12 12 12 12	12 12 12 12 12 12 12	12 12 12 12 12 12 12	12 12 12 12 12 12 12
☒ 50 / 34	40 40 40 36 30 24 24	36 30 30 24 24 18 18	30 30 30 24 24 18 18	24 24 24 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12
☒ 60 / 41	36 36 36 36 30 24 24	30 30 30 24 24 18 18	30 30 30 24 24 18 18	24 24 24 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12
☒ 70 / 47	32 32 32 32 30 24 24	24 24 24 18 18 12 12	24 24 24 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12
☒ 80 / 54	32 32 32 32 30 24 24	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12	18 18 18 18 18 12 12
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NOTES:
1. PURLIN SPACING UNITS ARE IN INCHES.
2. FRAME SPACING NEEDS TO BE DETERMINED FROM TABLE 4.

IRREGULAR BUILDING NOTES:

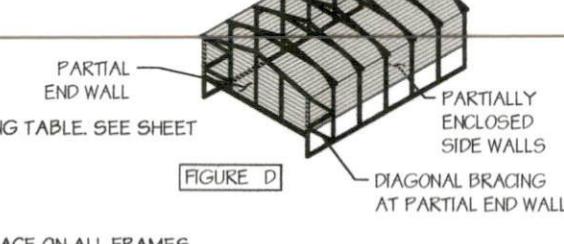
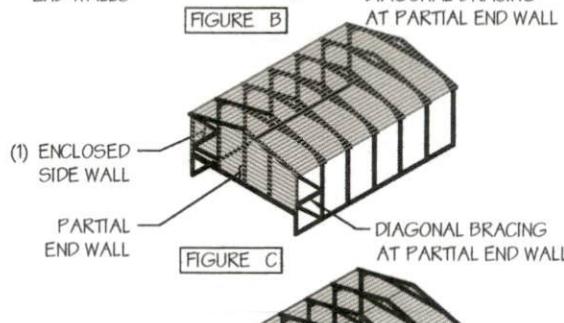
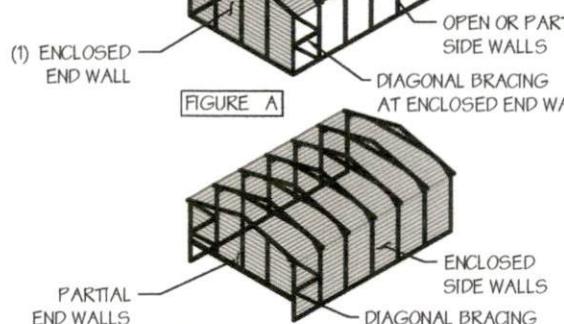
1. FIGURES A, B, C & D ON THE RIGHT INDICATE EXAMPLES OF IRREGULAR BUILDINGS.
2. FOR IRREGULAR BUILDINGS, FRAME SPACING MUST BE REDUCED BY 6" FROM OPEN BUILDING SPACING TABLE. SEE SHEET 4 FOR OPEN BUILDING TABLE.
3. SITE SPECIFICS MAY ALLOW FOR ALTERNATIVE SPACING.
4. IRREGULAR BUILDING & BUILDINGS W/ MORE THAN 2 SIDE OPENINGS MUST HAVE A 10' TUBE PEAK BRACE ON ALL FRAMES.

TABLE 5.2: GIRT SPACING SCHEDULE

FRAME SPACING	WIND SPEED (MPH)						
	105	115	130	140	155	165	180
☒ 5'-0"	60	48	36	30	24	24	18
☒ 4'-6"	60	60	48	42	36	30	24
☒ 4'-0"	60	60	54	54	42	36	30
☒ 3'-6"	60	60	54	48	42	42	36
☒ 2'-0" TO 3'-0"	60	60	54	48	42	42	42

NOTES:

1. GIRT SPACING UNITS ARE IN INCHES.
2. THIS SCHEDULE IS TO BE USED FOR BOTH 14GA AND 18 GA PURLINS.
3. FRAME SPACING NEEDS TO BE DETERMINED FROM TABLE 4.



MANUFACTURED BY:



DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

PURLIN & GIRT SPACING SCHEDULES

SHEET NO.: 5 / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

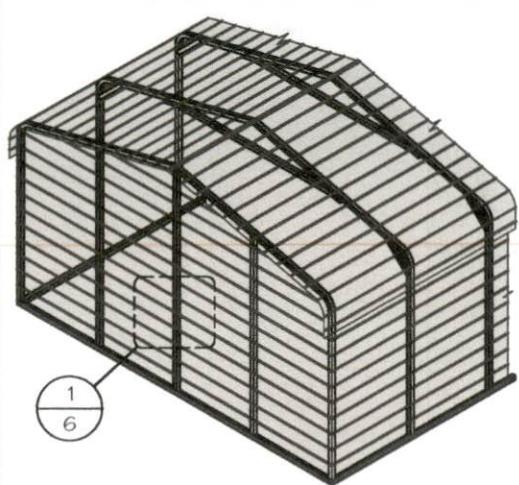
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SEAL:



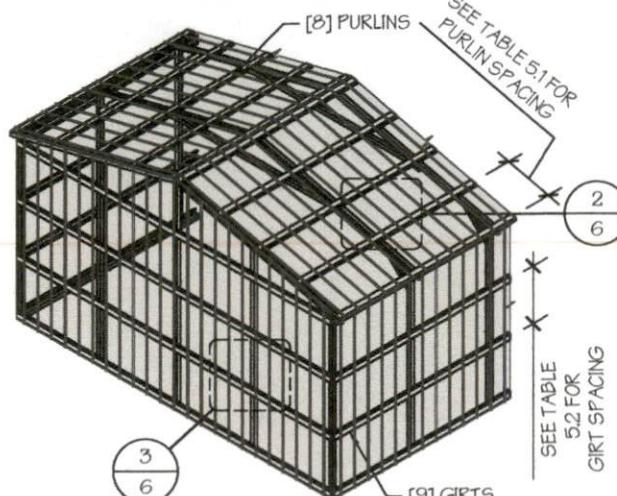
STAMP EXPIRY: 12-31-2025

DATE SIGNED: 02-10-2025



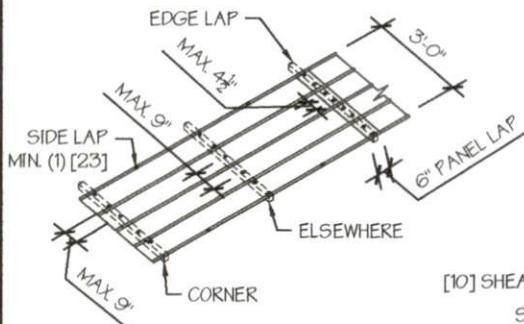
TYP. HORIZONTAL SHEATHING

SCALE: NTS



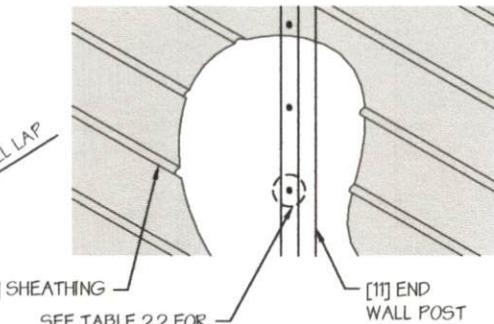
TYP. VERTICAL SHEATHING

SCALE: NTS



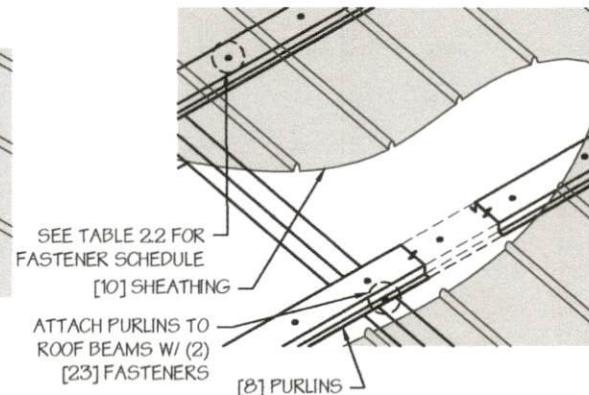
TYP. SHEATHING FASTENER SCHEDULE

SCALE: NTS



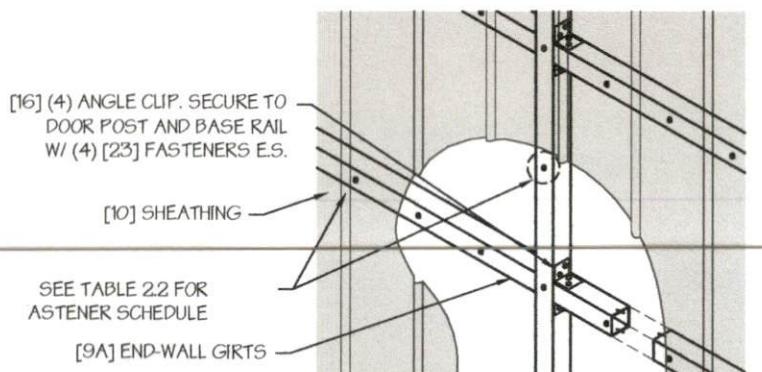
TYP. HORIZONTAL SHEATHING DETAIL

SCALE: NTS



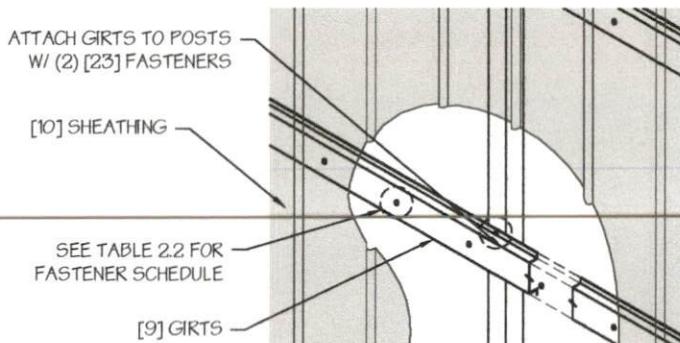
ROOF VERTICAL SHEATHING DETAIL

SCALE: NTS



WALL VERTICAL SHEATHING - TUBE DETAIL

SCALE: NTS



WALL VERTICAL SHEATHING - HAT CHANNEL DETAIL

SCALE: NTS

GENERAL SHEATHING NOTES:

1. REGULAR STYLE BUILDINGS CAN ONLY HAVE HORIZONTAL SHEATHING ON ROOF AND WALLS.
2. A-FRAME STYLE BUILDINGS CAN HAVE ANY COMBINATION OF HORIZONTAL OR VERTICAL SHEATHING ON ROOFS AND WALLS.
3. BOTH HORIZONTAL AND VERTICAL ROOF SHEATHING CAN HAVE MAX. 6" OVERHANG.
4. USING VERTICAL SHEATHING MAY ALLOW FOR GREATER FRAME SPACING. SEE NOTE 2 UNDER TABLE 4.
5. VERTICAL SHEATHING RECOMMENDED FOR BUILDINGS 30' OR LONGER.

MANUFACTURED BY:



ENGINEERED BY:



DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

SHEATHING OPTIONS & DETAILS

SHEET NO.: 6 / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

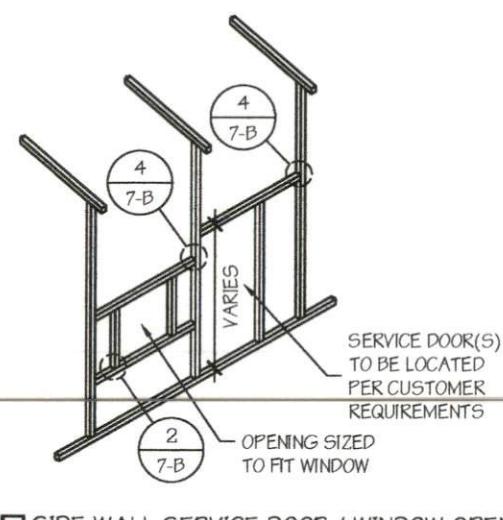
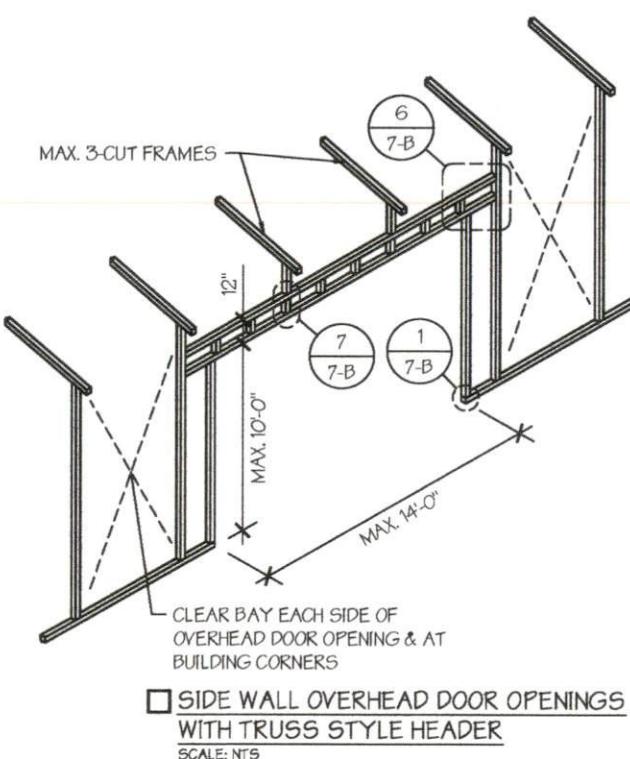
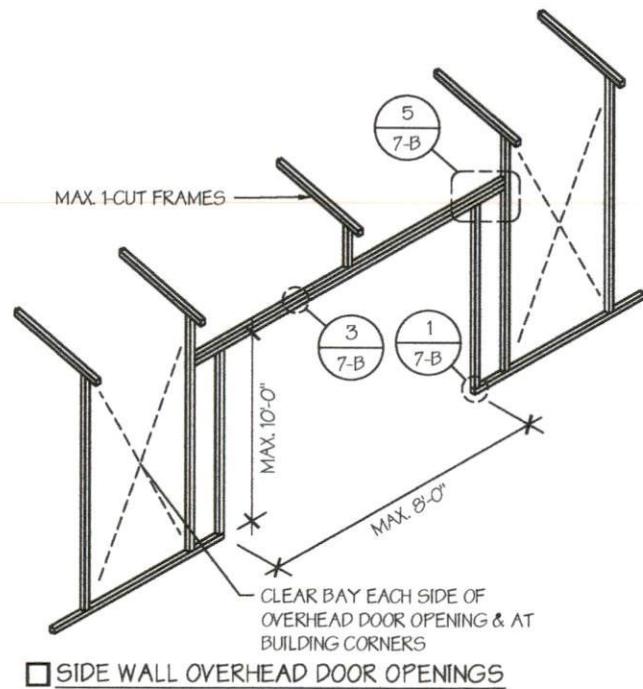
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SEAL:



STAMP EXPIRY: 12-31-2025

DATE SIGNED: 02-10-2025



SIDE WALL FRAMING NOTES:

1. TRUSS-STYLE HEADERS ARE REQUIRED FOR WHERE THE GROUND SNOW LOAD IS 40 PSF OR GREATER.
2. DESIGNS AND DETAILS SHOWN HERE ARE APPLICABLE TO BOTH REGULAR AND A-FRAME STYLE BUILDINGS.
3. MAX. HEIGHT OF SIDE WALL OVERHEAD DOOR OPENINGS IS 2 FT LESS THAN THE EAVE HEIGHT.
4. OVERHEAD DOOR OPENINGS CANNOT CUT THROUGH MORE THAN 2 FULL FRAMES.
5. MIN. 1 CLEAR BAY MUST BE MAINTAINED BETWEEN ANY 2 OVERHEAD DOOR OPENINGS. A CLEAR BAY IS A SPACE BETWEEN TWO FRAMES THAT HAS NO OVERHEAD DOOR OPENINGS.
6. MIN. 1 CLEAR BAY MUST ALSO BE MAINTAINED FROM THE BUILDING CORNERS.
7. SERVICE DOORS AND WINDOWS CAN BE PLACED IN CLEAR BAYS OR ANY WHERE ELSE AS NEEDED.

MANUFACTURED BY:



ENGINEERED BY:



DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

SIDE WALL FRAMING & OPENINGS

SHEET NO.: 7-A / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

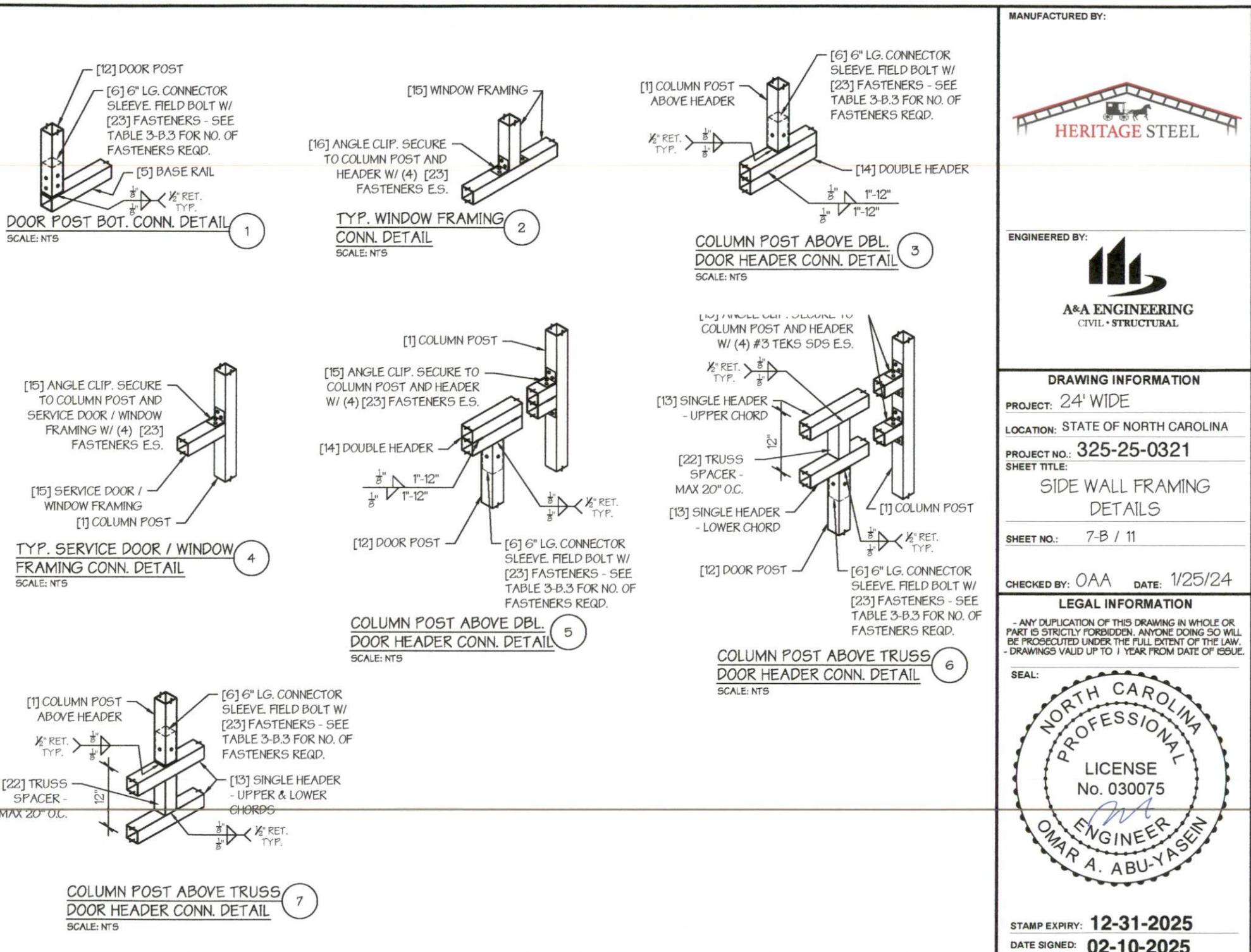
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SEAL:

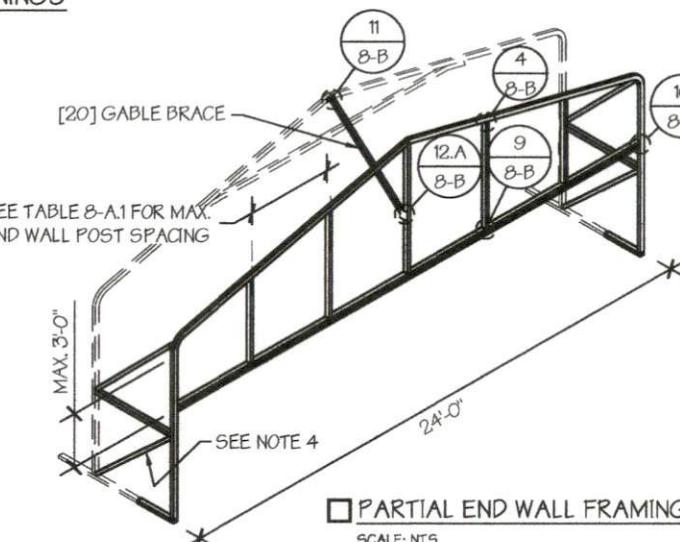
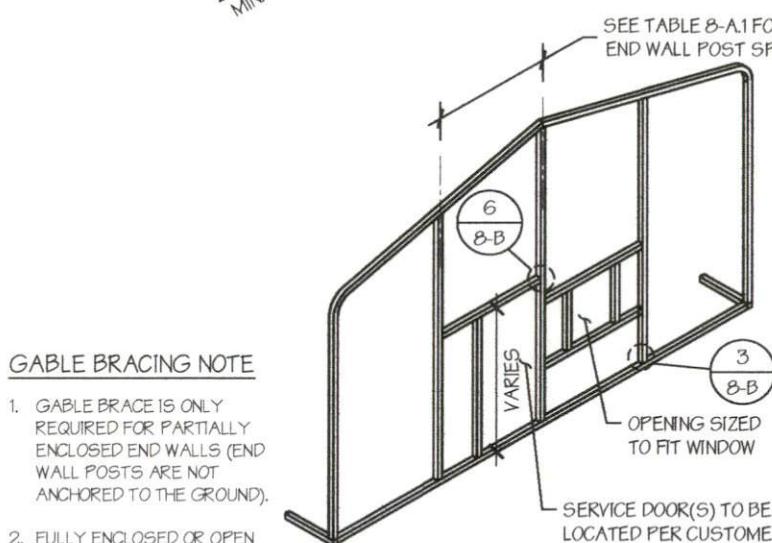
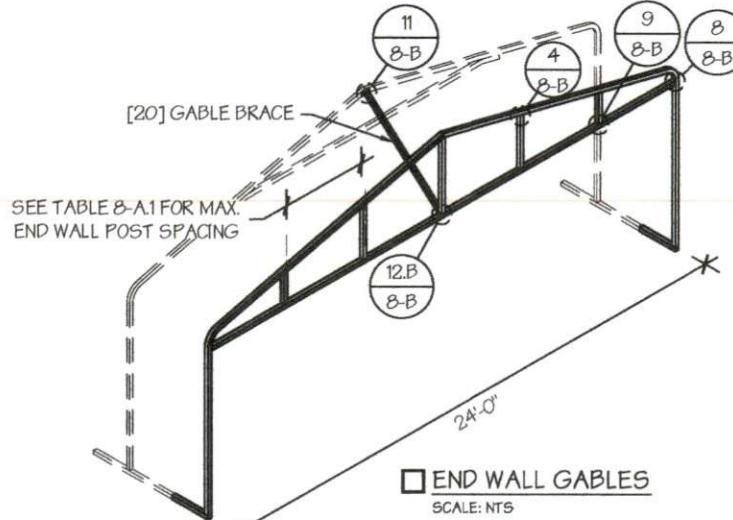
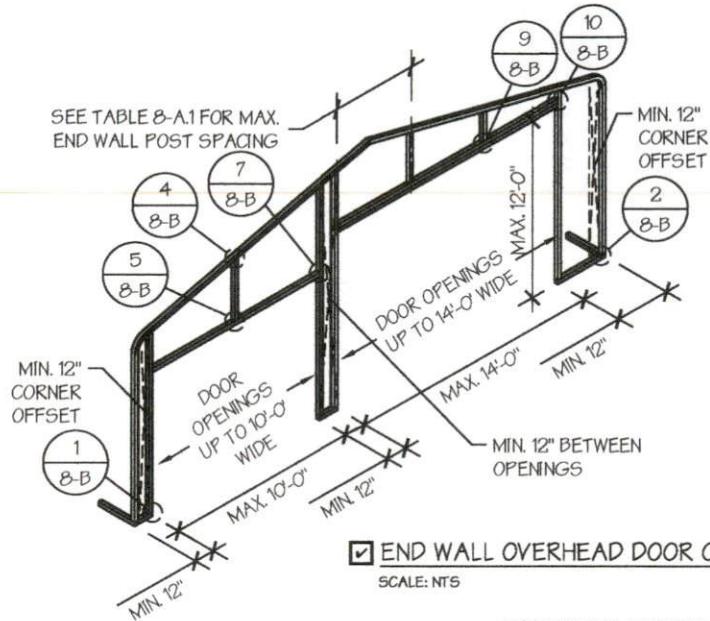


STAMP EXPIRY: 12-31-2025

DATE SIGNED: 02-10-2025



MANUFACTURED BY:



END WALL FRAMING NOTES:

1. DESIGNS AND DETAILS SHOWN HERE ARE APPLICABLE TO BOTH REGULAR AND A-FRAME STYLE BUILDINGS.
2. MIN. 12" CLEARANCE MUST BE MAINTAINED BETWEEN ANY TWO OPENINGS (OVERHEAD DOOR OR SERVICE DOOR) AND FROM CORNERS.
3. SERVICE DOORS AND WINDOWS CAN BE PLACED AS NEEDED.
4. DIAGONAL BRACES NEED TO BE ADDED FOR PARTIAL END WALL ENCLOSURES. SEE SHEET 9 FOR DIAGONAL BRACE CONNECTION DETAILS.

SCALE: NTS

WIND SPEED (mi/hr)	■ UP TO 7'	■ 8' TO 9'	■ 10' TO 12'
□ 105	5'	5'	5'
□ 115	5'	5'	4.5'
□ 130	4.5'	4.5'	4'
□ 140	4.5'	4.5'	3'
□ 155	4'	4'	2.5'
□ 165 - 180	3.5'	3'	2'

DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

END WALL FRAMING

SHEET NO.: 8-A / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

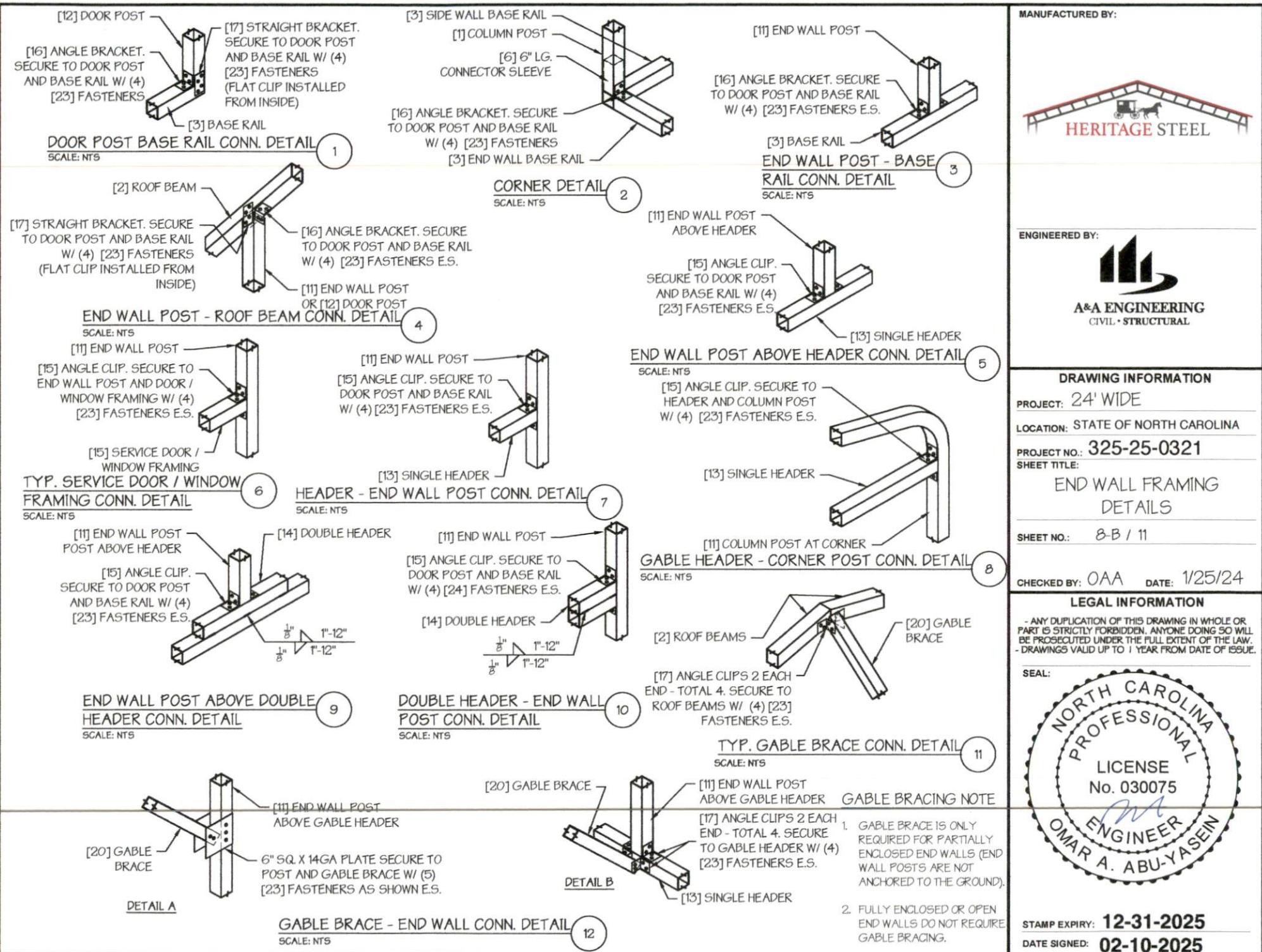
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DATE SIGNED: 02-10-2025



MANUFACTURED BY:



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DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

OPTIONAL LEAN-TO
ADDITION

SHEET NO.: 10 / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

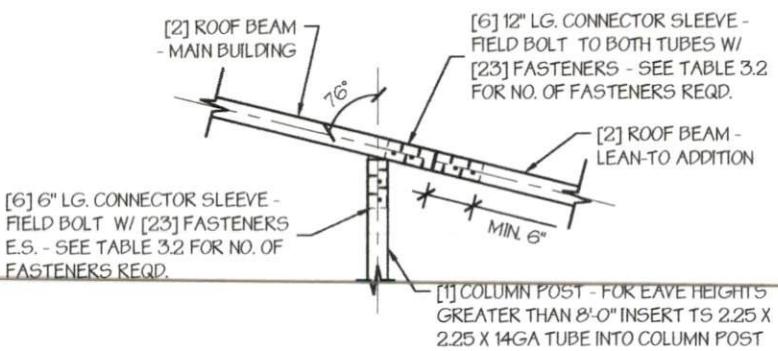
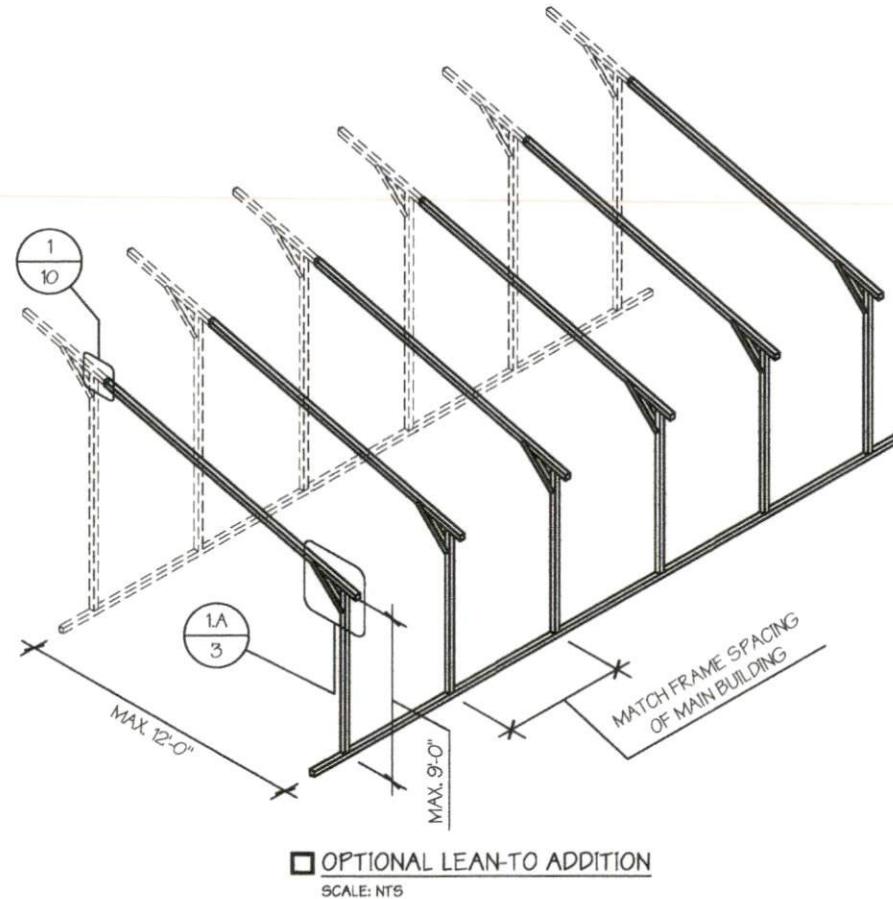
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DRAWINGS VALID UP TO 1 YEAR FROM DATE OF ISSUE.

SEAL:



LEAN-TO ADDITION NOTES:

1. LEAN-TO ADDITIONS CAN BE ADDED ON EITHER OR BOTH SIDES OF THE BUILDING.
2. ROOF SLOPE, PURFLIN, GIRT AND FRAME SPACING OF THE ADDITION HAVE TO MATCH THAT OF THE MAIN STRUCTURE.
3. IF THE LEAN-TO ADDITION IS "OPEN" (BOTH END WALLS OR SIDE WALL IS NOT ENCLOSED), THE DESIGN OF THE MAIN BUILDING HAS TO USE THE FRAME SPACING OF AN OPEN BUILDING FROM TABLE 4.



LEAN-TO ATTACHMENT DETAIL
SCALE: NTS

STAMP EXPIRY: 12-31-2025

DATE SIGNED: 02-10-2025

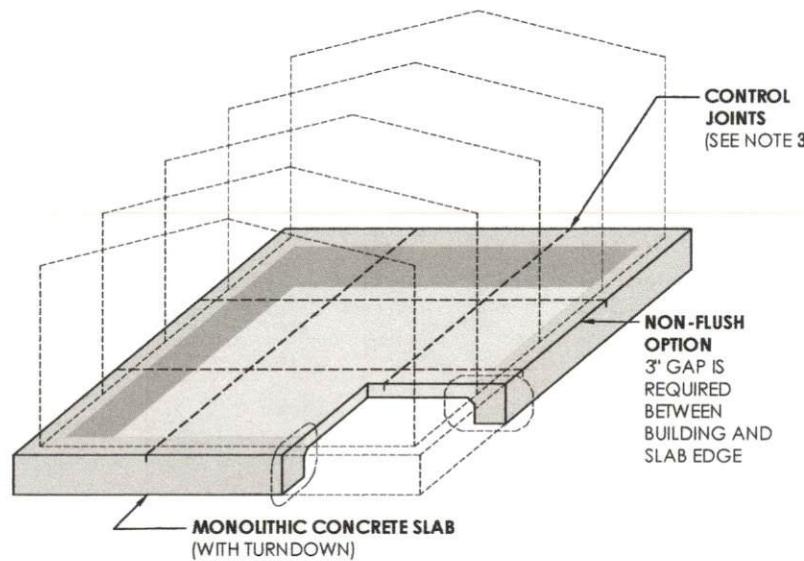
NON-FLUSH CONCRETE SLAB FOUNDATION NOTES:

1. THE LENGTH AND WIDTH OF THE SLAB SHALL **+6" GREATER** (3" GAP AROUND BUILDING PERIMETER ON ALL 4 SIDES) THAN THE FOOT-PRINT OF THE BUILDING TO ALLOW ANCHOR EDGE DISTANCE.
2. DEPTH OF SLAB TURN DOWN FOOTING SHALL BE GREATER THAN FROST DEPTH SPECIFIED PER LOCAL CODE.
3. CONTROL JOINTS SHALL BE PLACED SO AS TO LIMIT MAX. SLAB SPANS TO 20' IN EACH DIRECTION.
4. ASSUMED SOIL BEARING CAPACITY IS TO BE A MIN. OF 1500 PSF.
5. CONCRETE STRENGTH TO BE A MIN OF 2500 PSI @ 28 DAYS.
6. IT IS THE RESPONSIBILITY OF THE CONCRETE CONTRACTOR TO SECURE AND VERIFY ALL DESIGN DETAILS PRIOR TO STARTING ANY WORK.

NOTE: ANY FOUNDATION POURED PRIOR TO BUILDING DEPARTMENTS APPROVAL OF THESE GENERICS, **IS CONSIDERED "BY OTHERS"**, AND IT'S DESIGN IS NO LONGER CERTIFIABLE BY THIS ENGINEER OF RECORD.

ANCHORAGE NOTES:

1. ANCHORS ARE TO BE CONCRETE WEDGE OR EXPANSION ANCHORS.
2. MIN. EMBEDMENT DEPTH TO BE 3".
3. MINIMUM SPACING BETWEEN TWO ADJACENT ANCHORS TO BE 4".
4. ANCHORS TO BE SPACED NO MORE THAN 6" FROM POSTS.
5. REF. TABLE 11 FOR ANCHORAGE SCHEDULE.
 - IN LOCATIONS REQUIRING TWO ANCHORS DUE TO WIND, ONE ANCHOR IS TO BE ON EACH SIDE OF THE COLUMN POST.
 - AT MINIMUM, 1 CONCRETE ANCHOR SHALL BE LOCATED NEXT TO EVERY POST AND 1 ANCHOR ON EITHER SIDE OF OPENINGS.
 - AT MINIMUM, 2 ANCHORS SHALL BE INSTALLED AT CORNERS OF ENCLOSED BUILDINGS WITH END WALLS - ONE ON EACH BASE RAIL.

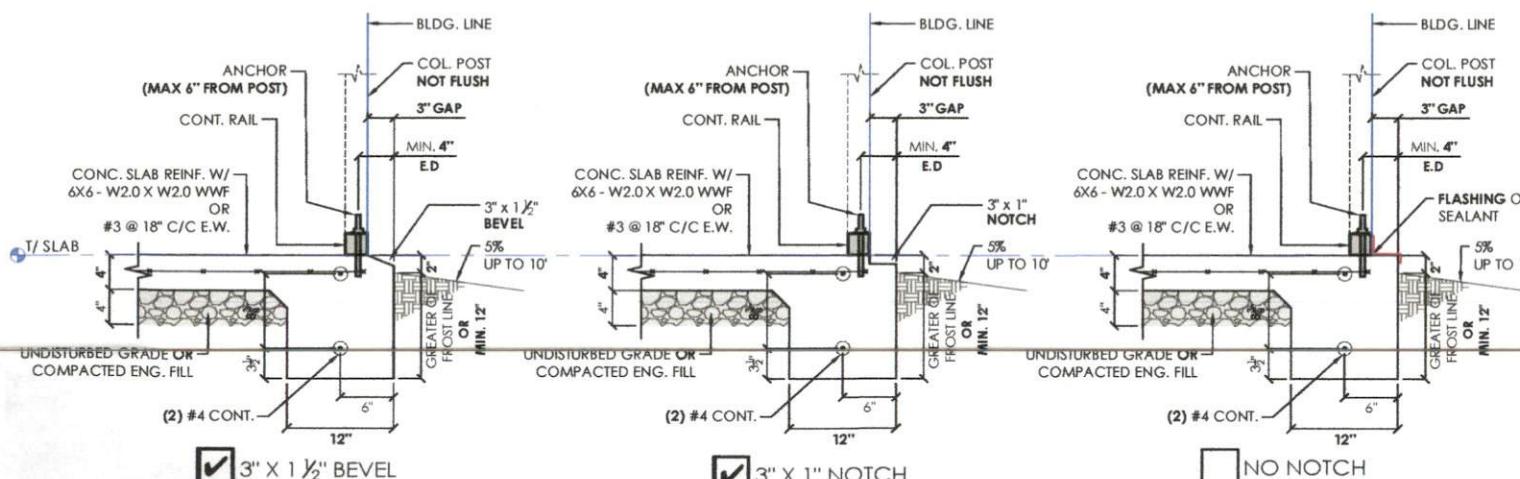


NON-FLUSH CONCRETE SLAB

SCALE : NTS

TABLE 11 : ANCHORAGE SCHEDULE

ENCLOSURE	WIND SPEED (MPH)	ANCHOR SIZE/NUMBER
ENCLOSED	❑ 05 TO 135	(1) 1/2"Ø X 7"
	❑ 136 TO 180	(2) 1/2"Ø X 7"
OPEN	❑ 05 TO 135	(1) 1/2"Ø X 7"
	❑ 136 TO 180	(2) 1/2"Ø X 7"



NON-FLUSH / OFFSET PERIMETER DETAIL

SCALE : NTS

1

MANUFACTURED BY:



ENGINEERED BY:



DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

FOUNDATION OPTION 1: CONCRETE SLAB

SHEET NO.: 11-A / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

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- DRAWINGS VALID UP TO 1 YEAR FROM DATE OF ISSUE.

SEAL:



STAMP EXPIRY: 12-31-2025

DATE SIGNED: 02-10-2025

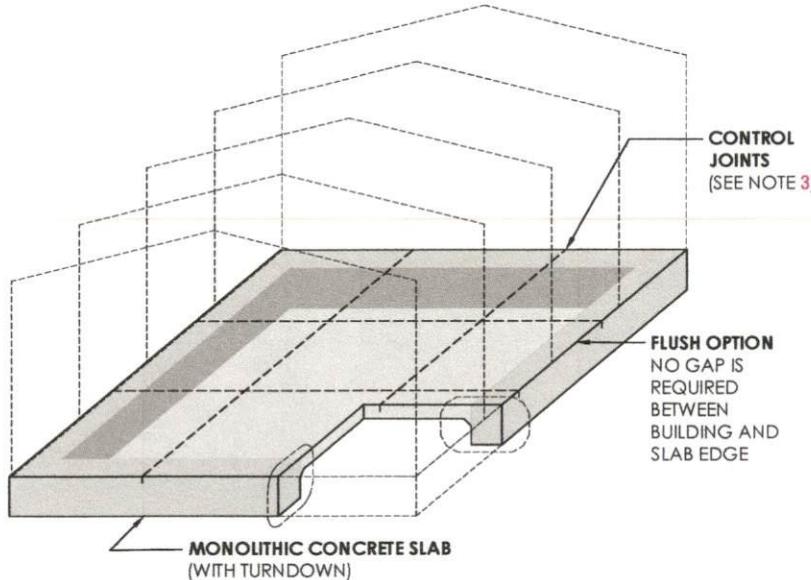
FLUSH CONCRETE SLAB FOUNDATION NOTES:

1. THE SIZE OF THE SLAB SHALL EQUAL THE FOOT-PRINT OF THE BUILDING. ANCHORS CANNOT BE INSTALLED THRU THE BASE RAIL. ANCHORS SHALL BE INSTALLED THRU WELDED ANGLES OR INTERNAL TUBE PIECES (REF. DETAIL 1) TO ALLOW ANCHOR EDGE DISTANCE.
2. DEPTH OF SLAB TURN DOWN FOOTING SHALL BE GREATER THAN FROST DEPTH SPECIFIED PER LOCAL CODE.
3. CONTROL JOINTS SHALL BE PLACED SO AS TO LIMIT MAX. SLAB SPANS TO 20' IN EACH DIRECTION.
4. ASSUMED SOIL BEARING CAPACITY IS TO BE A MIN. OF 1500 PSF.
5. CONCRETE STRENGTH TO BE A MIN OF 2500 PSI @ 28 DAYS.
6. IT IS THE RESPONSIBILITY OF THE CONCRETE CONTRACTOR TO SECURE AND VERIFY ALL DESIGN DETAILS PRIOR TO STARTING ANY WORK.

NOTE: ANY FOUNDATION POURED PRIOR TO BUILDING DEPARTMENTS APPROVAL OF THESE GENERICS, IS CONSIDERED "BY OTHERS", AND IT'S DESIGN IS NO LONGER CERTIFIABLE BY THIS ENGINEER OF RECORD.

ANCHORAGE NOTES:

1. ANCHORS ARE TO BE CONCRETE WEDGE OR EXPANSION ANCHORS.
2. MIN. EMBEDMENT DEPTH TO BE 3".
3. MINIMUM SPACING BETWEEN TWO ADJACENT ANCHORS TO BE 4".
4. ANCHORS TO BE SPACED NO MORE THAN 6" FROM POSTS.
5. REF. TABLE 11 FOR ANCHORAGE SCHEDULE.
 - IN LOCATIONS REQUIRING TWO ANCHORS DUE TO WIND, ONE ANCHOR IS TO BE ON EACH SIDE OF THE COLUMN POST.
 - AT MINIMUM, 1 CONCRETE ANCHOR SHALL BE LOCATED NEXT TO EVERY POST AND 1 ANCHOR ON EITHER SIDE OF OPENINGS.
 - AT MINIMUM, 2 ANCHORS SHALL BE INSTALLED AT CORNERS OF ENCLOSED BUILDINGS WITH END WALLS - ONE ON EACH BASE RAIL.

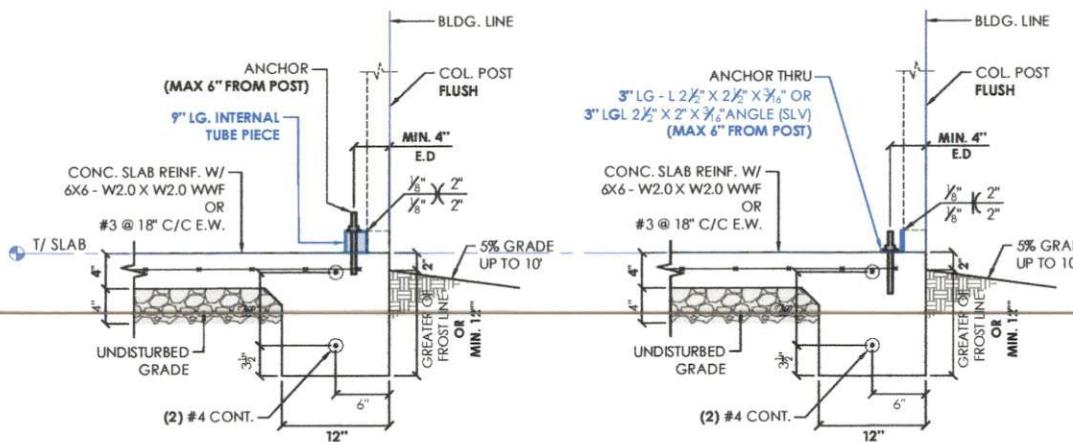


FLUSH CONCRETE SLAB

SCALE : NTS

TABLE 11 : ANCHORAGE SCHEDULE

ENCLOSURE	WIND SPEED (MPH)	ANCHOR SIZE/NUMBER
ENCLOSED	05 TO 135	(1) 1/2'Ø X 7"
	136 TO 180	(2) 1/2'Ø X 7"
OPEN	05 TO 135	(1) 1/2'Ø X 7"
	136 TO 180	(2) 1/2'Ø X 7"



1

FLUSH PERIMETER DETAIL

SCALE : NTS

MANUFACTURED BY:



ENGINEERED BY:



DRAWING INFORMATION

PROJECT: 24' WIDE

LOCATION: STATE OF NORTH CAROLINA

PROJECT NO.: 325-25-0321

SHEET TITLE:

FOUNDATION OPTION 1:
FLUSH CONCRETE SLAB

SHEET NO.: 11-A / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

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DATE SIGNED: 02-10-2025

TABLE 11-B.1: ANCHOR SCHEDULE

ENCLOSURE	WIND SPEED (MPH)	ANCHOR SIZE/NUMBER
ENCLOSED	<input checked="" type="checkbox"/> 105 TO 135	(1) 1/2"Ø X 7"
	<input type="checkbox"/> 136 TO 180	(2) 1/2"Ø X 7"
OPEN	<input type="checkbox"/> 105 TO 135	(1) 1/2"Ø X 7"
	<input checked="" type="checkbox"/> 136 TO 180	(2) 1/2"Ø X 7"

NOTES:

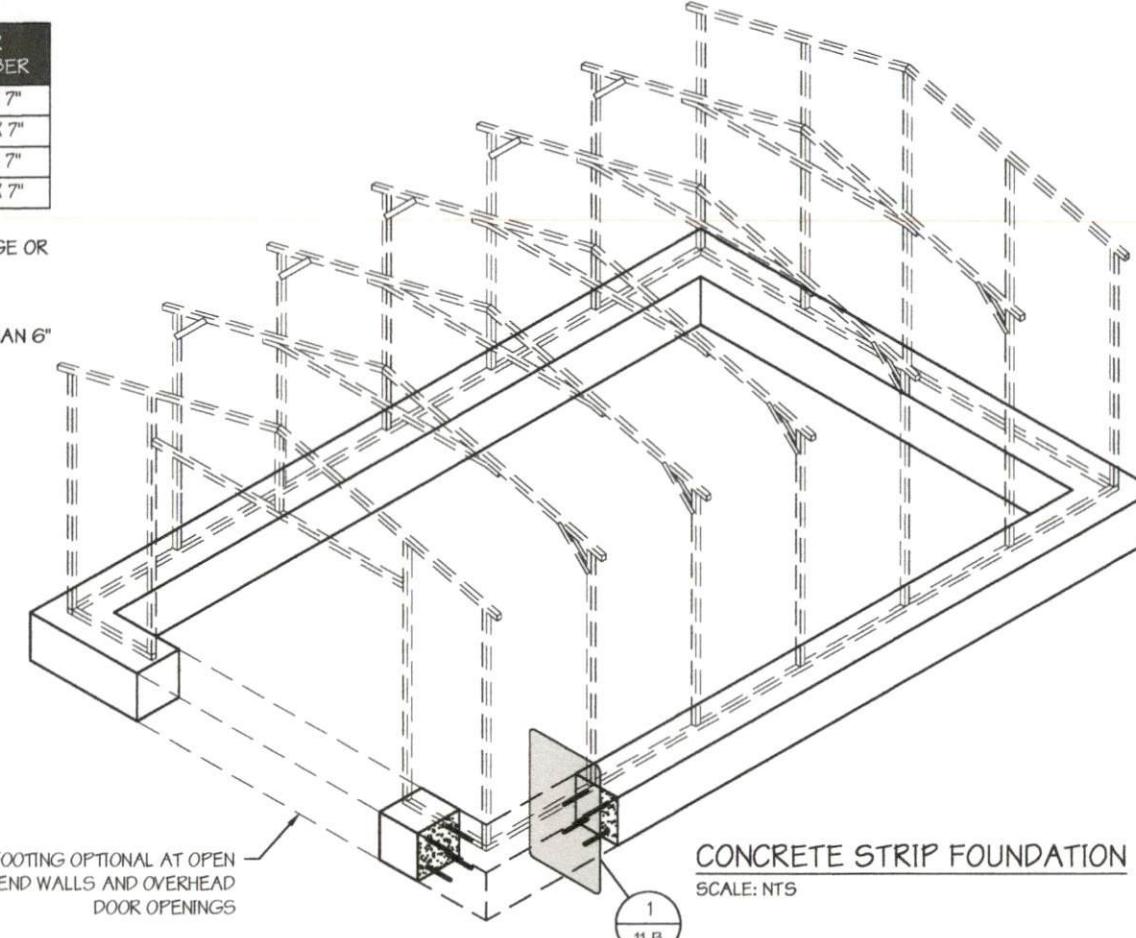
1. ANCHORS ARE TO BE CONCRETE WEDGE OR EXPANSION ANCHORS.
2. MIN. EMBEDMENT DEPTH TO BE $2\frac{7}{8}$ ".
3. ANCHORS TO BE SPACED NO MORE THAN 6" FROM POSTS.

TABLE 11-B.2: CONC. STRIP SCHEDULE

WIND SPEED (MPH)	MIN. SIZE REQD.
<input checked="" type="checkbox"/> 105 TO 130	15" X 12"
<input type="checkbox"/> 140 TO 155	24" X 12"
<input type="checkbox"/> 165 TO 180	30" X 12" 24 X 15" 20" X 18"

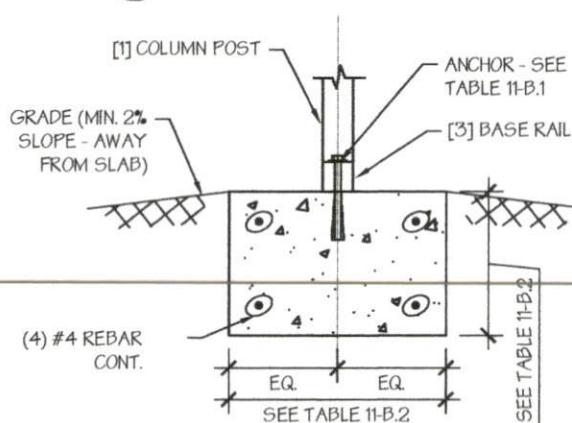
NOTES:

1. WIDTH AND DEPTH DIMENSIONS CAN BE INTERCHANGED.



CONCRETE STRIP FOUNDATION NOTES:

1. DESIGNS SHOWN ON THIS SHEET ARE FOR CONCRETE STRIP FOUNDATION. ANY OF THE FOUNDATIONS SHOWN ON SHEETS 11-A THRU C CAN BE USED.
2. CONCRETE ANCHORS SHALL BE LOCATED NEXT TO EVERY POST AND ON EITHER SIDE OF OPENINGS. TWO ANCHORS SHALL BE INSTALLED AT CORNERS OF ENCLOSED BUILDINGS WITH END WALLS - ONE ON EACH BASE RAIL. IN LOCATIONS REQUIRING TWO ANCHORS DUE TO WIND, ONE ANCHOR IS TO BE ON EACH SIDE OF THE COLUMN POST.
3. MIN. NUMBER OF CONCRETE ANCHORS PER POST SHALL BE AS SHOWN IN TABLE 11-B.1.
4. ANCHORS IN CLOSE PROXIMITY TO EACH OTHER MUST HAVE A MIN. 4" SPACING.
5. DEPTH OF CONCRETE STRIP FOOTING SHALL BE GREATER THAN FROST DEPTH SPECIFIED PER LOCAL CODE.
6. ASSUMED SOIL BEARING CAPACITY IS TO BE A MIN. OF 1500 PSF.
7. CONCRETE STRENGTH TO BE A MIN OF 2500 PSI @ 28 DAYS.
8. BUILDING IS TO BE MOUNTED ON THE CENTER OF THE STRIP FOUNDATION.



CONCRETE STRIP FOUNDATION DETAIL

SCALE: NTS

1

MANUFACTURED BY:



ENGINEERED BY:



DRAWING INFORMATION

PROJECT: 24' WIDE
LOCATION: STATE OF NORTH CAROLINA
PROJECT NO.: 325-25-0321
SHEET TITLE:

FOUNDATION OPTION 2:
CONCRETE STRIP

SHEET NO.: 11-B / 11

CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

- ANY DUPLICATION OF THIS DRAWING IN WHOLE OR PART IS STRICTLY FORBIDDEN. ANYONE DOING SO WILL BE PROSECUTED UNDER THE FULL EXTENT OF THE LAW. DRAWINGS VALID UP TO 1 YEAR FROM DATE OF ISSUE.

SEAL:



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[1] COLUMN POST OR
[11] END WALL POST

[3] BASE RAIL

ANCHOR ROD

MAX 6"

MAX 6"

30"

1/2" Ø SHAFT X (2)
4" DISKS - HELICAL
SOIL ANCHOR

DRILL 5/8" HOLE THROUGH
BASE RAIL AND SECURE
ANCHOR EYE WITH 1/2" Ø
THROUGH BOLT AND 2" WASHERS E.S.

OPTION 1: HELICAL SOIL ANCHORS

SCALE: NTS

SOIL ANCHORS EITHER SIDE OF OVERHEAD DOOR OPENINGS

SOIL ANCHORS AT ALL CORNERS

SOIL ANCHORS AT ALTERNATE END WALL POSTS

SOIL ANCHORS AT ALTERNATE INTERIOR COLUMN POSTS

ANCHOR RODS AT ALL POSTS NOT SUPPORTED ON SOIL ANCHORS

SOIL FOUNDATION NOTES:

1. DESIGNS SHOWN ON THIS SHEET ARE FOR SOIL ANCHOR FOUNDATION.
2. SOIL ANCHORS (HELICAL OR ROCK/ASPHALT) SHALL BE LOCATED AT ALL 4 CORNERS, ON EACH SIDE OF OVERHEAD DOOR OPENINGS, ON POSTS WITH DIAGONAL BRACING IF REQUIRED, AND ON ALTERNATE INTERIOR COLUMN POSTS AND END WALLS POSTS.
3. HELICAL ANCHORS ARE TO BE USED ONLY IF THE DRIVING TORQUE INTO THE GROUND IS 150 FT-LBS OR GREATER. MANUFACTURER IS NOT RESPONSIBLE FOR SOIL QUALITY AT SITE.
4. HELICAL ANCHORS CAN ONLY BE USED FOR CLASS 2, 3 & 4 SOILS (SEE SOIL CLASSIFICATIONS THIS PAGE).
5. ALL POSTS WITH NO ANCHORS ADJACENT SHALL BE ANCHORED TO THE GROUND WITH A 1/2" X 30" LG. ROD. RODS WILL HAVE A PRE-FORMED HEAD AT THE TOP AND ONE COAT OF RUST PROOF MATERIAL.
6. ASSUMED SOIL BEARING CAPACITY IS TO BE A MIN. OF 1500 PSF.

SOIL CLASSIFICATIONS:

SOIL CLASS	DESCRIPTION
2	SANDY GRAVEL AND GRAVEL, VERY THIN DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL/COBBLES, PRELOADED SILTS, CLAYS AND CORAL.
3	SAND, SILTY SAND, CLAYEY SAND, SILTY GRAVEL, MEDIUM DENSE COARSE SANDS, SANDY GRAVEL, VERY STIFF SILT AND SANDY CLAYS.
4	LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS AND ALLUVIAL FILLS.

***FROM HUD "MODEL MANUFACTURED HOME INSTALLATION STANDARDS"**

OPTION 2: ROCK / ASPHALT ANCHORS

SCALE: NTS

[1] COLUMN POST OR
[11] END WALL POST

[3] BASE RAIL

ANCHOR ROD

MAX 6"

MAX 6"

[7] BASE ANGLE

EXISTING ASPHALT

HP9-A ASPHALT /
HP-9 ROCK ANCHOR

DRILL 5/8" HOLE THROUGH
BASE RAIL AND SECURE
[7] BASE ANGLE WITH
1/2" Ø THROUGH BOLT
AND 1" WASHERS E.S.

MANUFACTURED BY:

HERITAGE STEEL

ENGINEERED BY:

A&A ENGINEERING
CIVIL • STRUCTURAL

DRAWING INFORMATION

PROJECT: 24' WIDE
LOCATION: STATE OF NORTH CAROLINA
PROJECT NO.: 325-25-0321
SHEET TITLE: FOUNDATION OPTION 4: SOIL ANCHORS
SHEET NO.: 11-D / 11
CHECKED BY: OAA DATE: 1/25/24

LEGAL INFORMATION

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- DRAWINGS VALID UP TO 1 YEAR FROM DATE OF ISSUE.

SEAL:

NORTH CAROLINA
PROFESSIONAL
LICENSE
No. 030075
MA
ENGINEER
MAR A. ABU-YASEIN

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DATE SIGNED: 02-10-2025