

**TABLE 1**  
**BOW/RAFTER FRAME, END POST, GROUND ANCHOR AND PANEL FASTENER SPACING SPECIFICATIONS**

WIND EXPOSURE CATEGORY	ULTIMATE WIND SPEED (MPH)	NOMINAL WIND SPEED (MPH)	MAXIMUM GROUND SNOW LOAD (PSF)	MAXIMUM POST/RAFTER SPACING (FEET)	AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS OR GIRTS (INCHES)	
					METAL PANELS	SPACING
B OR C	105 TO 140	85 TO 112	35	5.0	29 Gauge	8
			65	4.0		

**NOTES:**

- Specifications applicable to 29 gauge metal panels fastened directly to 12 or 14 gauge steel tube bow frames.
- Fasteners consist of #12 x 2" self-drilling screws with control seal washers.
- Specifications applicable only for mean roof height of 24 feet or less and roof slopes of 7 to 27 degrees (1.5:12 to 8:12 pitch). Spacing requirements for other roof heights and/or slopes may vary.

**TABLE 1 (HIGH WIND REGION)**  
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B OR C	141 TO 150	113 TO 121	30	5.0	29 Gauge	8
B, C OR D	151 TO 170	122 TO 136	20	4.0	26 Gauge	6

**NOTES:**

- Specifications applicable to 29 gauge and 26 gauge metal panels fastened directly to 12 or 14 gauge steel tube bow frames.
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**GENERAL NOTES:**

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ALL STEEL TUBING SHALL BE 55 KSI STEEL OR BETTER. ALL METAL PANELS SHALL BE 80 KSI STEEL OR BETTER.

FASTEN METAL ROOF AND WALL PANELS TO FRAMING WITH #12 x 2" SELF DRILLING FASTENERS WITH CONTROL SEAL WASHERS AT AN AVERAGE SPACING OF 8" FOR 29 GAUGE PANELS AND 6" FOR 26 GAUGE PANELS.

ALL FIELD CONNECTIONS SHALL BE #12 x 2" SELF DRILLING FASTENERS (SDF) UNLESS NOTED OTHERWISE.

ALL WELDED CONNECTIONS SHALL BE SHOP WELDED UNLESS NOTED OTHERWISE.

GROUND ANCHOR REQUIREMENTS: INSTALL HELICAL ANCHORS WITHIN 6" OF EACH CORNER POST AND AT A MAXIMUM SPACING OF 20' ALONG THE BASE RAIL. INSTALL GROUND RODS (#4 THREADED REBAR) BETWEEN THE HELICAL ANCHORS AT A MAXIMUM SPACING OF 5' AND A MINIMUM SPACING OF 4' ALONG THE BASE RAIL. HELICAL ANCHORS AND GROUND RODS ARE NOT REQUIRED FOR CONCRETE FOOTING AND/OR CONCRETE SLAB CONSTRUCTION.

CONCRETE EXPANSION ANCHORS SHALL BE ITW RAMMST/HEAD-RAIL WEDGE ANCHOR, WEJ-IT ANCHOR-TITE MODEL AT1252, OR SLEEVE ANCHOR MODEL HSA 1260, OR APPROVED EQUAL.

POST/RAFTER BRACING: BRACE ON EVERY POST/RAFTER CONNECTION, EXCEPT FOR END WALLS AND HEADERS.

GALVANIZATION: METAL ACCESSORIES FOR USE IN EXTERIOR WALL CONSTRUCTION AND NOT DIRECTLY EXPOSED TO THE WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153, CLASS B-2. METAL PLATE CONNECTORS, SCREWS, BOLTS AND NAILS EXPOSED DIRECTLY TO THE WEATHER SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED.

# STANDARD CARPORT DETAILS

## 12 ft to 24 ft SPAN

NOTE: USE 2" x 2" x 1/4" GALV. STEEL TUBE FOR ALL FRAME AND BASE RAIL MEMBERS UNLESS OTHERWISE SHOWN.



**CONCRETE FOUNDATION DESIGN RECOMMENDATIONS:**

CONCRETE SLAB AND FOUNDATION ARE BY OTHERS. COORDINATE CONCRETE STRENGTH AND FOUNDATION DEPTH REQUIREMENTS WITH THE LOCAL BUILDING CODE OFFICIALS. THE OWNER IS RESPONSIBLE FOR PROVIDING A SUITABLE FOUNDATION FOR THE PROPOSED STRUCTURE.

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS OR AS REQUIRED BY LOCAL BUILDING CODE. THE USE OF HIGHER STRENGTH CONCRETE IS ACCEPTABLE.

**COVER OVER REINFORCING STEEL:** MINIMUM CONCRETE OVER REINFORCING BARS SHALL BE 3 INCHES WHERE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER AND 1 1/2" ELSEWHERE.

**REINFORCING STEEL:** THE REINFORCING STEEL SHALL BE MINIMUM GRADE 40.



**CAROLINA CARPORTS INC.**  
P.O. BOX 1263  
DOBSON, NC 27017  
TOLL FREE 1-800-670-4262  
LOCAL 336-367-6400  
FAX 336-367-6410

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### METAL CARPORT INSTALLATION PLANS AND DETAILS AND FRAMING AND FASTENER SPECIFICATIONS

CAROLINA CARPORTS, INC.  
187 Cardinal Ridge Trail  
DOBSON, NORTH CAROLINA 27017

THE OWNER IS RESPONSIBLE FOR OBTAINING A BUILDING PERMIT, IF NEEDED, AND FOR COMPLYING WITH ALL LOCAL BUILDING CODE REQUIREMENTS.

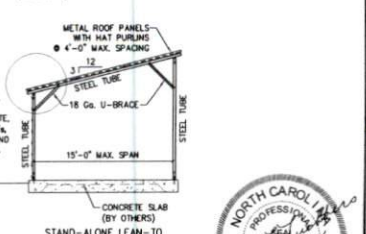
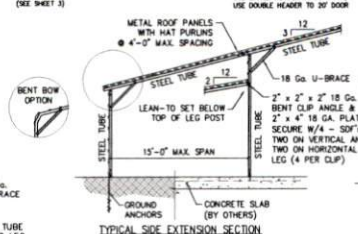
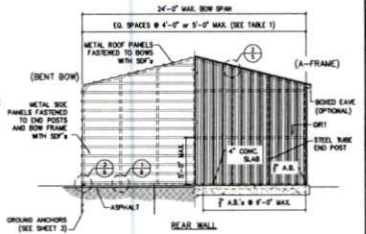
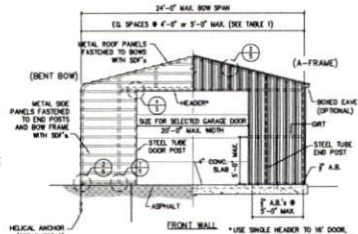
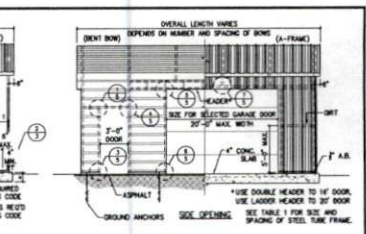
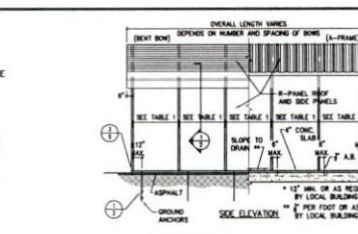
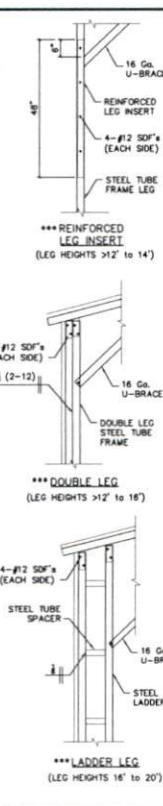
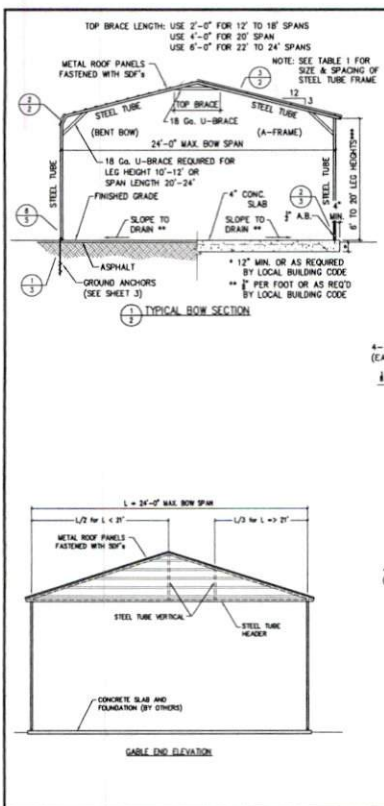
THIS IS TO CERTIFY THAT THE CALCULATIONS AND SPECIFICATIONS HEREIN HAVE BEEN PREPARED BY THE UNDERSIGNED PROFESSIONAL ENGINEER, AND ARE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2009, 2012, 2015 & 2018 INTERNATIONAL BUILDING CODES AND THE 2018 NORTH CAROLINA BUILDING CODE.

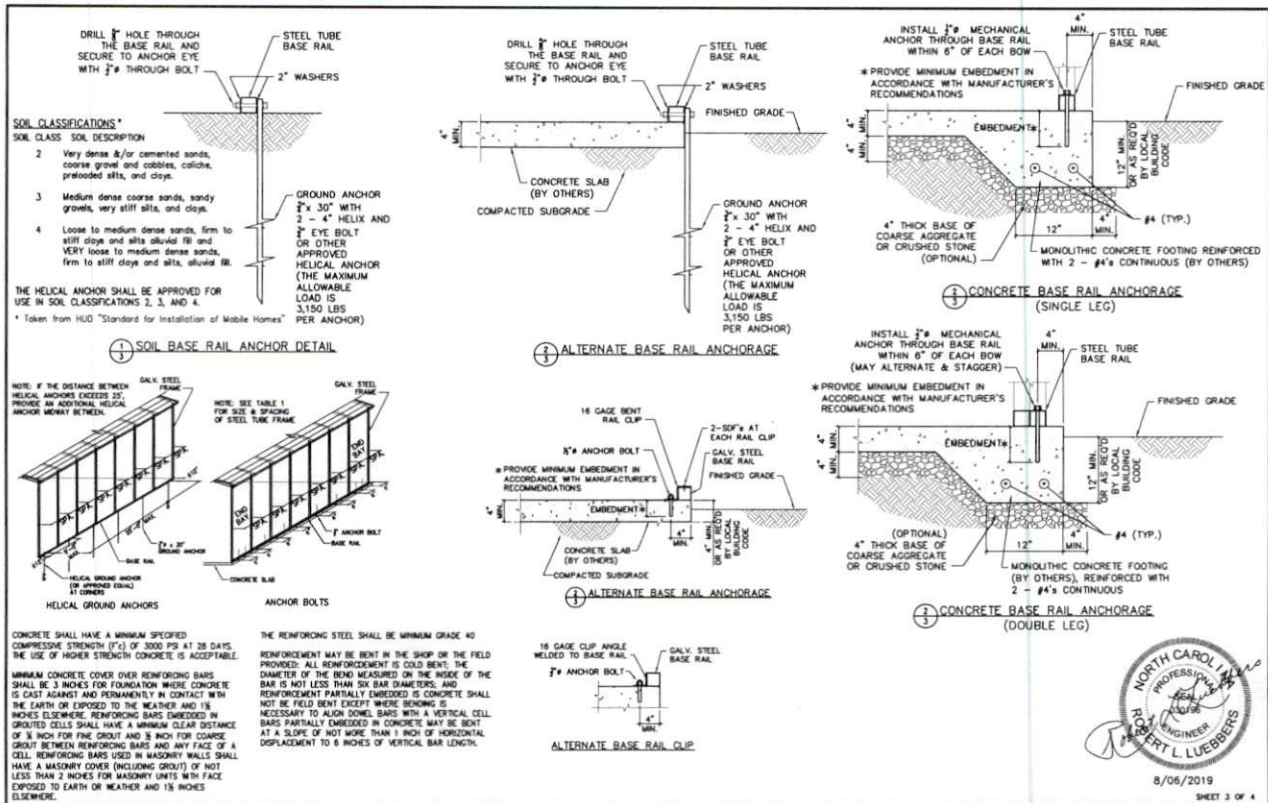
BUILDING CODE INFORMATION		DESIGN LOADS	
OCCUPANCY CATEGORY	I	MIN. DEAD LOAD	5 PSF
USE GROUP	U	MIN. FLOOR LIVE LOAD	100 PSF
CONSTRUCTION TYPE	5B	MIN. ROOF LIVE LOAD	20 PSF
		MIN. GROUND SNOW LOAD	
		MAX. GROUND SNOW LOAD	
		MIN. ULTIMATE WIND SPEED	SEE TABLE 1
		MAX. ULTIMATE WIND SPEED	
		EXPOSURE CATEGORY	
		SEISMIC RESPONSE COEFFICIENT	0.300

These plans have been provided for the requirements of obtaining a building permit for:

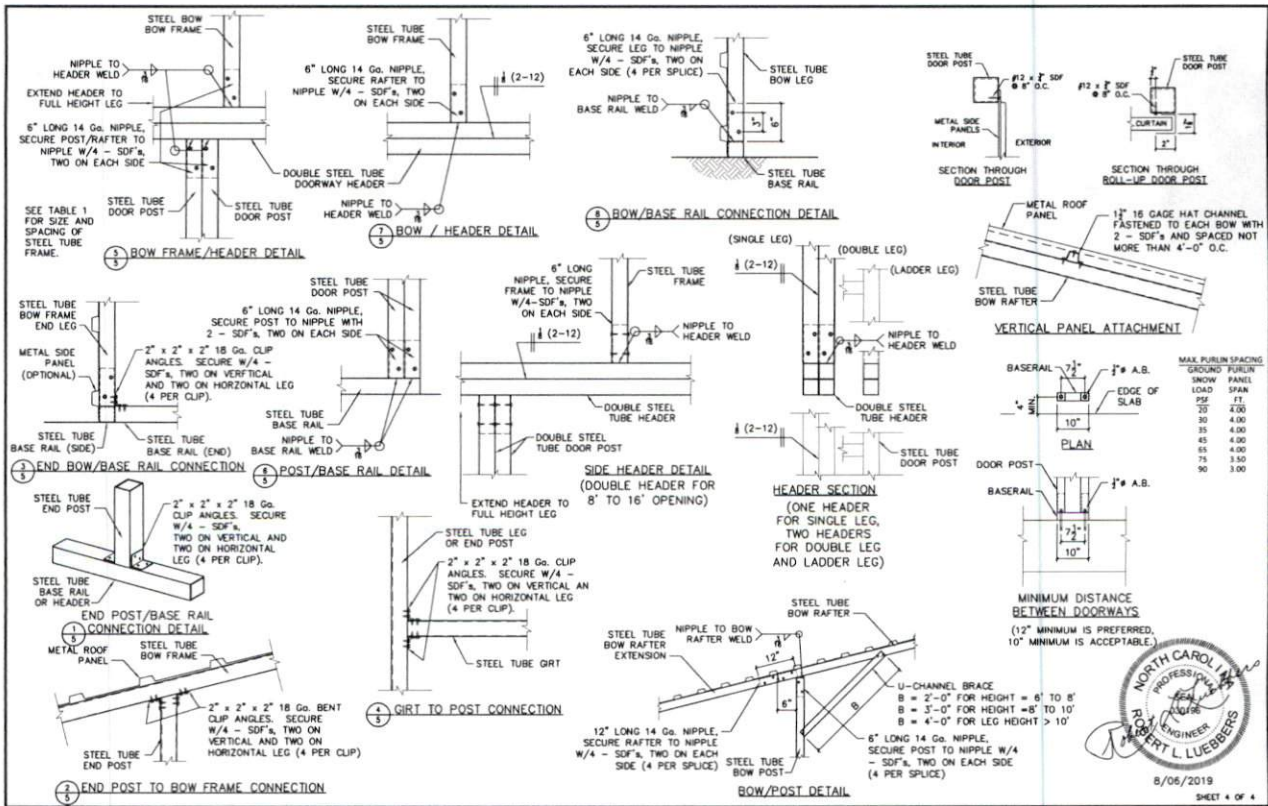
Name: Ed Champin  
Address: 2377 Byrds Mill Rd  
City: Erwin State: NC Zip: 28339

Use of these plans by anyone else or for any other purpose is prohibited.





8/06/2019  
SHEET 3 OF 4



8/06/2019  
SHEET 4 OF 4

# STANDARD CARPORT DETAILS 12 ft to 24 ft SPA

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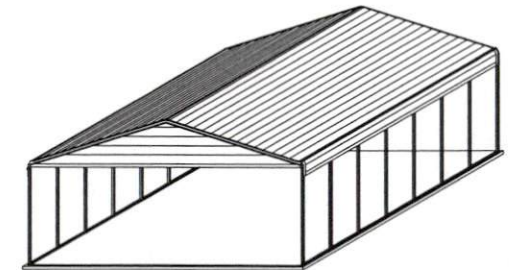
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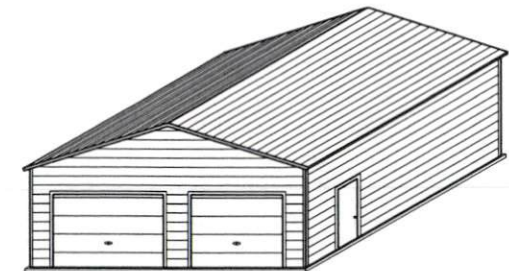
ALL STEEL TUBING SHALL BE 55 KSI STEEL OR BETTER. ALL METAL PANELS SHALL BE 80 KSI STEEL OR BETTER.

FASTEN METAL ROOF AND WALL PANELS TO FRAMING WITH #12" x 3/4" SELF DRILLING FASTENERS WITH CONTROL SEAL

NOTE: USE  2 1/2" x 2 1/2" 14 Ga.  
 2 1/4" x 2 1/4" 12 Ga.  
STEEL TUBE FOR ALL FRAME AND BASE RAIL MEMBERS UNLESS OTHERWISE SHOWN.



ISOMETRIC

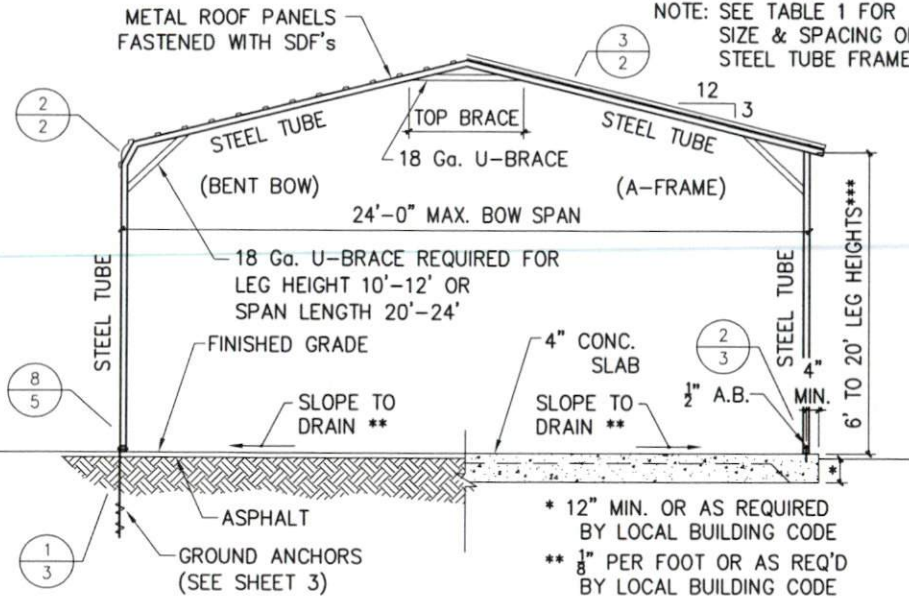


ISOMETRIC

CONCRETE FOUNDATION DESIGN RECOMMENDATIONS:

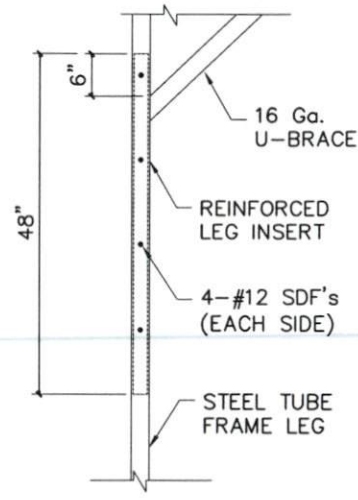
TOP BRACE LENGTH: USE 2'-0" FOR 12' TO 18' SPANS  
 USE 4'-0" FOR 20' SPAN  
 USE 6'-0" FOR 22' TO 24' SPANS

NOTE: SEE TABLE 1 FOR  
 SIZE & SPACING OF  
 STEEL TUBE FRAME

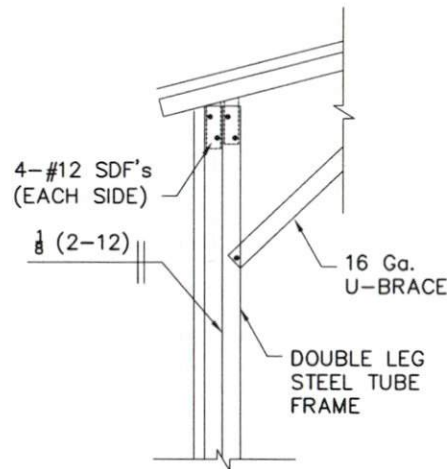


(1/2) TYPICAL BOW SECTION

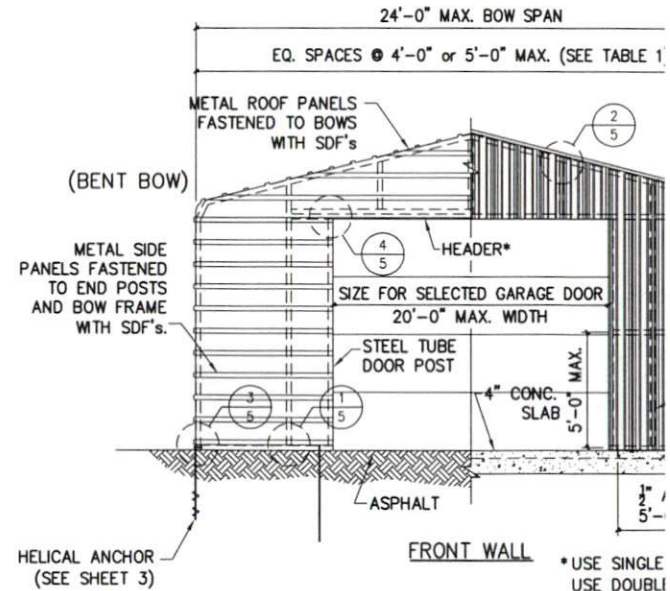
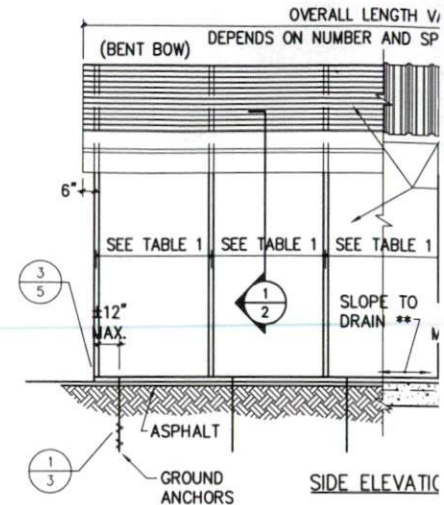
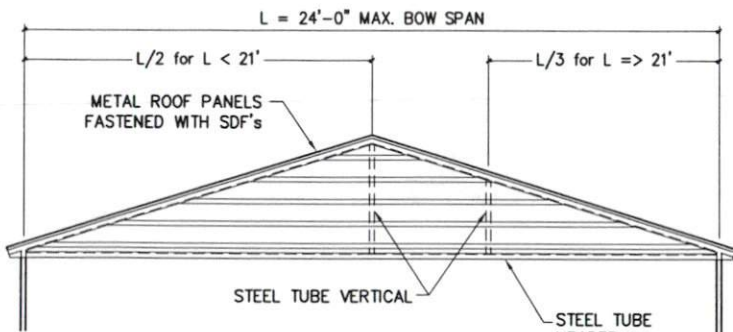
\* 12" MIN. OR AS REQUIRED BY LOCAL BUILDING CODE  
 \*\* 1/8" PER FOOT OR AS REQ'D BY LOCAL BUILDING CODE



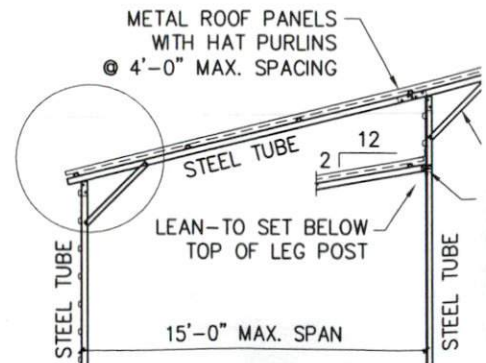
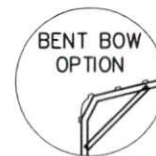
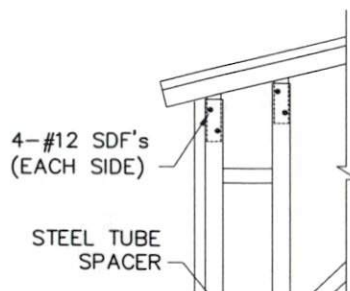
\*\*\* REINFORCED LEG INSERT  
 (LEG HEIGHTS >12' to 14')



\*\*\* DOUBLE LEG  
 (LEG HEIGHTS >12' to 16')



\* USE SINGLE USE DOUBLE



DRILL  $\frac{5}{8}$ " HOLE THROUGH THE BASE RAIL AND SECURE TO ANCHOR EYE WITH  $\frac{1}{2}$ "  $\phi$  THROUGH BOLT

STEEL TUBE BASE RAIL

2" WASHERS

**SOIL CLASSIFICATIONS \***

SOIL CLASS	SOIL DESCRIPTION
2	Very dense &/or cemented sands, coarse gravel and cobbles, caliche, preloaded silts, and clays.
3	Medium dense coarse sands, sandy gravels, very stiff silts, and clays.
4	Loose to medium dense sands, firm to stiff clays and silts alluvial fill and VERY loose to medium dense sands, firm to stiff clays and silts, alluvial fill.

THE HELICAL ANCHOR SHALL BE APPROVED FOR USE IN SOIL CLASSIFICATIONS 2, 3, AND 4.

\* Taken from HUD "Standard for Installation of Mobile Homes"

GROUND ANCHOR  $\frac{3}{4}$ " x 30" WITH 2 - 4" HELIX AND  $\frac{3}{4}$ " EYE BOLT OR OTHER APPROVED HELICAL ANCHOR (THE MAXIMUM ALLOWABLE LOAD IS 3,150 LBS PER ANCHOR)

DRILL  $\frac{5}{8}$ " HOLE THROUGH THE BASE RAIL AND SECURE TO ANCHOR EYE WITH  $\frac{1}{2}$ "  $\phi$  THROUGH BOLT

STEEL TUBE BASE RAIL

2" WASHERS

FINISHED GRADE

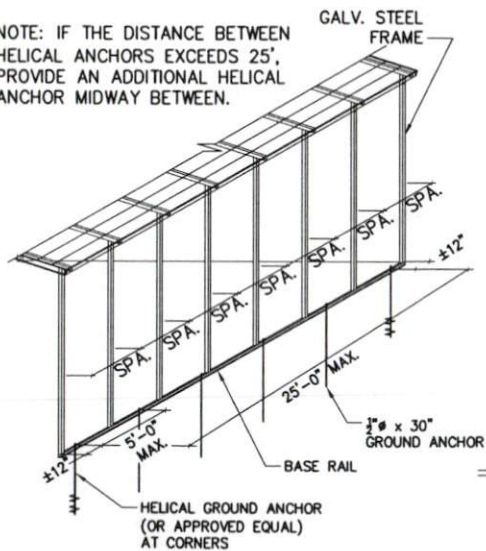
CONCRETE SLAB (BY OTHERS)  
COMPACTED SUBGRADE

GROUND ANCHOR  $\frac{3}{4}$ " x 30" WITH 2 - 4" HELIX AND  $\frac{3}{4}$ " EYE BOLT OR OTHER APPROVED HELICAL ANCHOR (THE MAXIMUM ALLOWABLE LOAD IS 3,150 LBS PER ANCHOR)

**1** SOIL BASE RAIL ANCHOR DETAIL

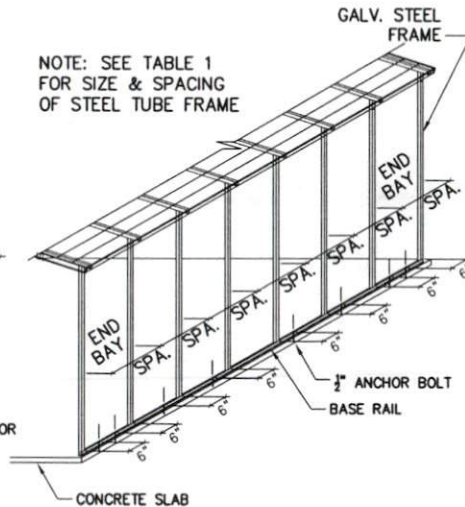
**2** ALTERNATE BASE RAIL ANCHORAGE

NOTE: IF THE DISTANCE BETWEEN HELICAL ANCHORS EXCEEDS 25', PROVIDE AN ADDITIONAL HELICAL ANCHOR MIDWAY BETWEEN.

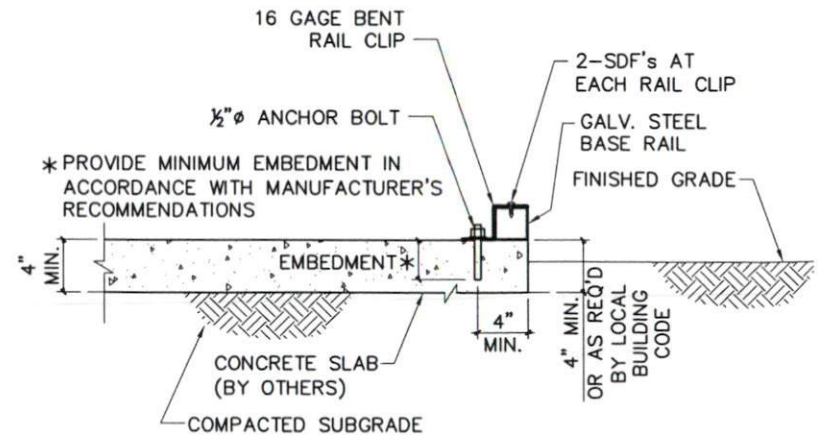


HELICAL GROUND ANCHORS

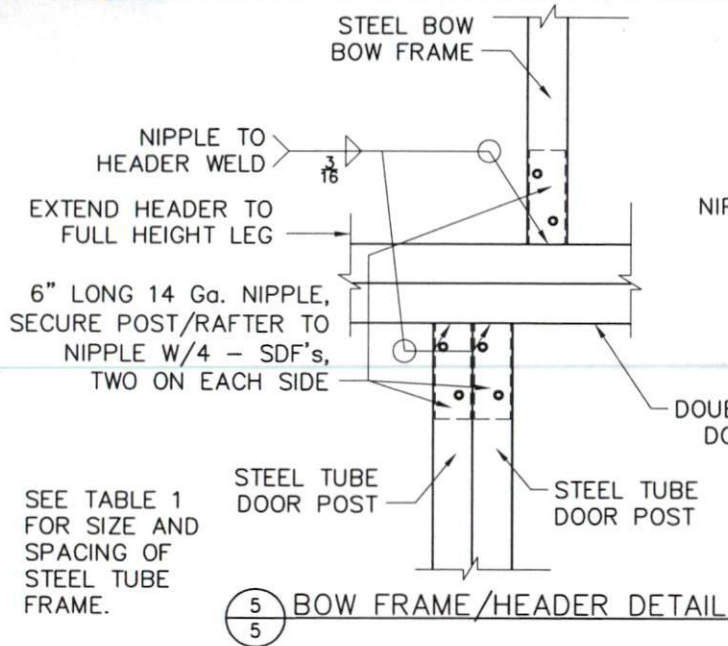
NOTE: SEE TABLE 1 FOR SIZE & SPACING OF STEEL TUBE FRAME



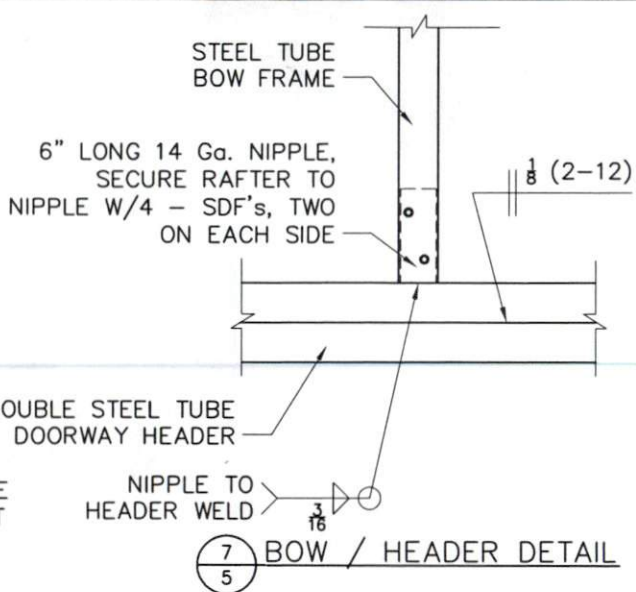
ANCHOR BOLTS



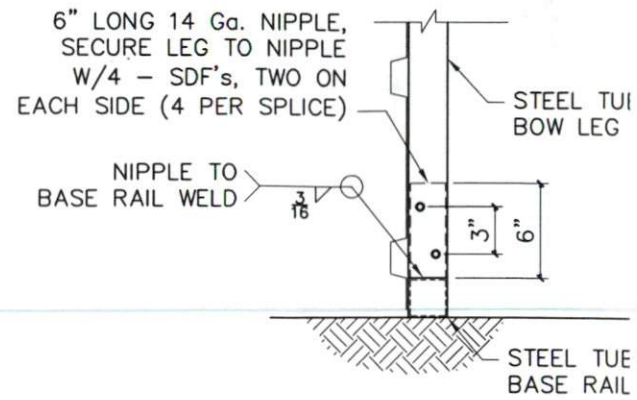
**2** ALTERNATE BASE RAIL ANCHORAGE



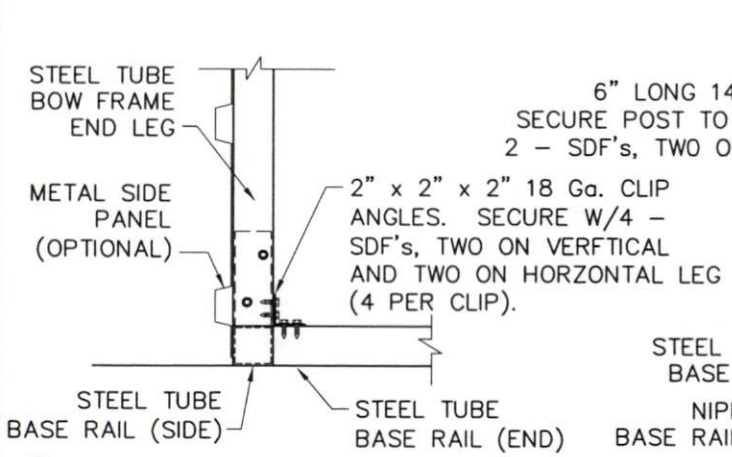
5 BOW FRAME/HEADER DETAIL



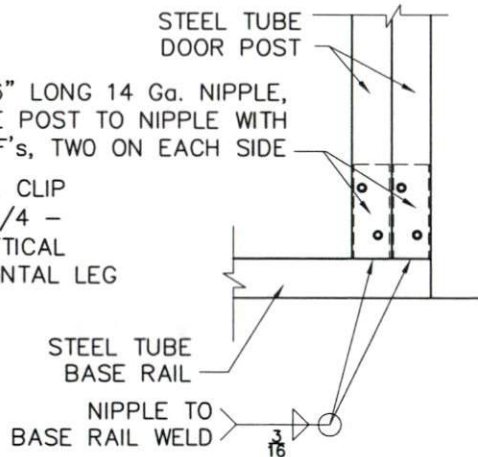
7 BOW / HEADER DETAIL



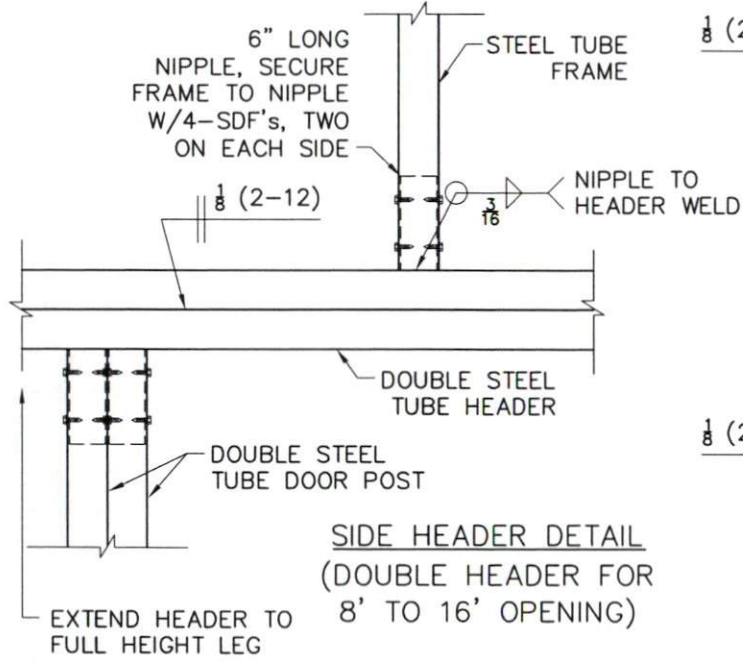
8 BOW/BASE RAIL CONNECTION DETAIL



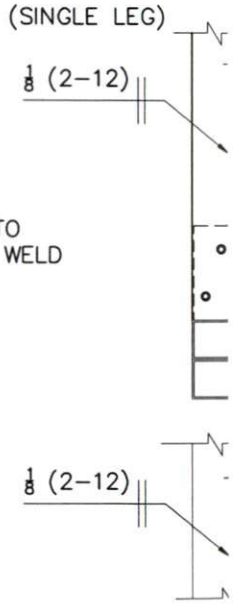
3 END BOW/BASE RAIL CONNECTION



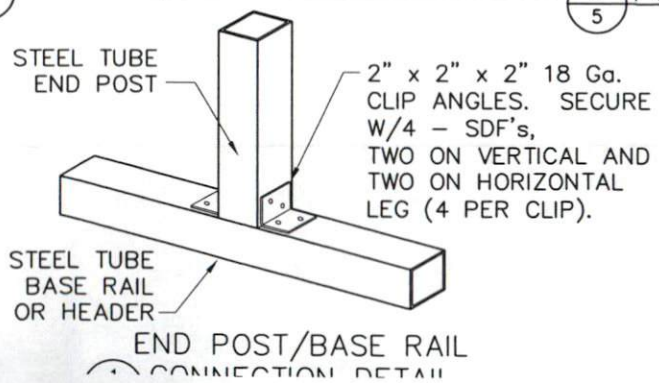
6 POST/BASE RAIL DETAIL



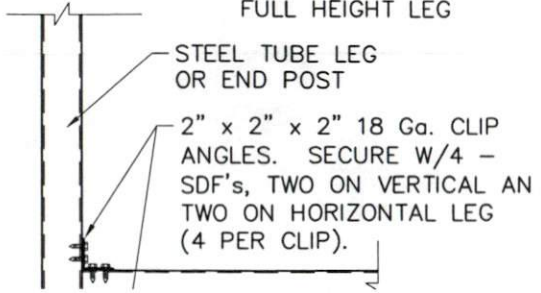
9 SIDE HEADER DETAIL (DOUBLE HEADER FOR 8' TO 16' OPENING)



10 HEADER (ONE FOR SINGLE LEG, TWO FOR DOUBLE LEG AND LA)



11 END POST/BASE RAIL CONNECTION DETAIL



12 STEEL TUBE LEG OR END POST

NIPPLE TO BOW