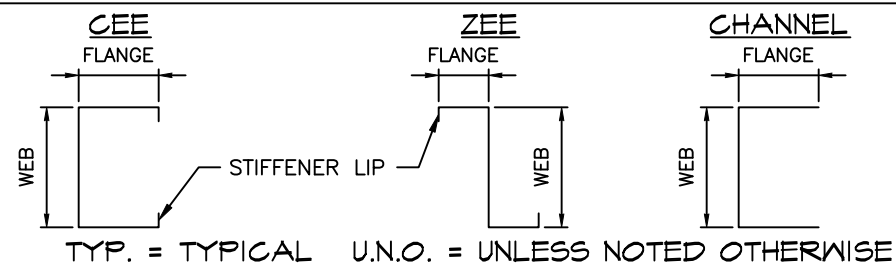


# FOUNDATION DETAIL KEYS

(A) ENDWALL COLUMN (SEE DETAIL C/9 FOR TOP CONNECTION AND G/10 FOR BASE CONNECTION)

# COMPONENT DIAGRAM



# WALL OPENING SCHEDULE

DOOR	WIDTH	HEIGHT	OPENING TYPE	HEADER GIRT	OPENING JAMBS
(1-2)	10'-0"	10'-0"	ROLL UP DOOR	SEE NOTE #4	CHN4X 3X12
(3)	10'-0"	10'-0"	ROLL UP DOOR	SINGLE	CHN4X 3X12
(4)	3'-0"	7'-0"	PERSONNEL DOOR	DOUBLE	CHN4X 3X14
(5)	2'-6"	2'-6"	WINDOW	DOUBLE	CHN4X 3X16
(6-9)	4'-0"	1'-0"	WINDOW	SEE NOTE #4	CHN4X 3X14

**NOTES:**

- 1) JAMB MEMBERS SHOWN AS "CHN" ARE CHANNEL MEMBERS (WITHOUT STIFFENER LIPS). FIRST NUMBER IS WEB DEPTH IN INCHES, SECOND NUMBER IS FLANGE WIDTH IN INCHES, AND THIRD NUMBER IS MATERIAL THICKNESS (GAUGE).
- 2) SEE DETAILS J/10 AND K/10 FOR OPENING FRAMING INFORMATION.
- 3) SIZE OF HEADER GIRT MEMBER TO BE SAME AS SIDEWALL OR ENDWALL GIRT, AS APPROPRIATE, PER ELEVATIONS. AT WINDOWS, INSTALL HEADER GIRT SPECIFIED ABOVE AND BELOW WINDOWS, U.N.O.
- 4) AT OPENINGS NOTED, INSTEAD OF ATTACHING DOOR JAMBS TO HEADER GIRT PER DETAIL L1/11 ATTACH DOOR JAMBS TO UNDERSIDE OF EAVE PURLIN PER DETAIL L2/11.
- 5) ALL OPENINGS AND ACCESSORIES SHALL BE CAPABLE OF SUPPORTING ALL WIND PRESSURES PERPENDICULAR TO THE SURFACE (GENERATED BY WINDS AT THE SPEED AND EXPOSURE INDICATED ABOVE) BY SPANNING BETWEEN THE JAMBS.

**IMPORTANT:** IN ADDITION TO THESE ENGINEERING PLANS (WHICH ALWAYS TAKE PRECEDENCE), YOU SHOULD HAVE THE FOLLOWING FROM ACT BUILDING SYSTEMS:

- CONSTRUCTION PACKAGE
- INSTALLATION MANUALS
- CONSTRUCTION VIDEOS

PLEASE CONTACT YOUR SALES REP IF YOU HAVE NOT RECEIVED THESE PRIOR TO STARTING CONSTRUCTION.

# PROJECT DESIGN CRITERIA

ROOF DEAD LOAD: 3 psf  
 ROOF COLLATERAL LOAD: 0 psf  
 GROUND SNOW LOAD: 10 psf Ct = 1.0  
 ROOF SNOW LOAD: 7 psf  
 ROOF LIVE LOAD: 20 psf  
 WIND SPEED: 117 mph  
 WIND EXPOSURE: B  
 Ss: 0.153 Sds: 0.163  
 Sl: 0.071 Sd1: 0.114

SEISMIC DESIGN CATEGORY:  
 A (for both periods)  
 R transverse: 3.0 R longitudinal: 3.0  
 RISK CATEGORY: II  
 SOIL BEARING PRESSURE: 1500 psf

WIND DESIGN OF LATERAL FORCE-RESISTING SYSTEMS IS BASED ON THE DIRECTIONAL DESIGN PROCEDURE OF ASCE 7-16, CHAPTER 27

SEISMIC DESIGN OF LATERAL FORCE-RESISTING SYSTEMS ARE AS FOLLOWS:  
 -- TRANSVERSE: ORDINARY STEEL MOMENT FRAME (SEISMIC DESIGN IS BASED ON ASCE 07-16, SECTIONS 12.1 - 12.13)  
 -- LONGITUDINAL: ORDINARY STEEL BRACED FRAME. (SEISMIC DESIGN IS PERFORMED USING THE SIMPLIFIED DESIGN PROCEDURE (ASCE 07-16, SECTION 12.14).

DESIGN BASE SHEAR: IS SHOWN ON CALCULATION SHEET M2.



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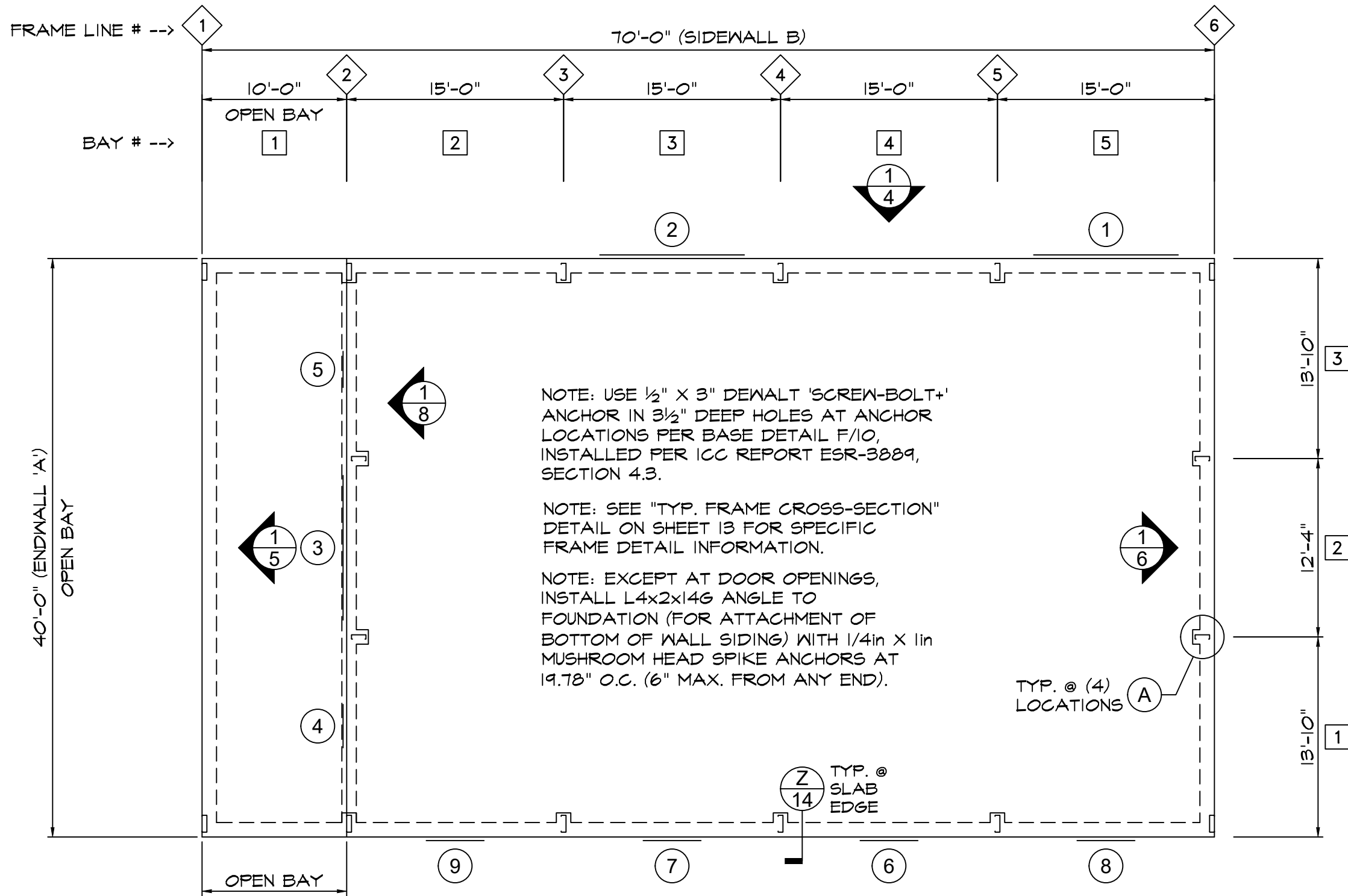


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**Ruth L. Stickley**  
 90 High Green Point  
 Cameron, NC 28326

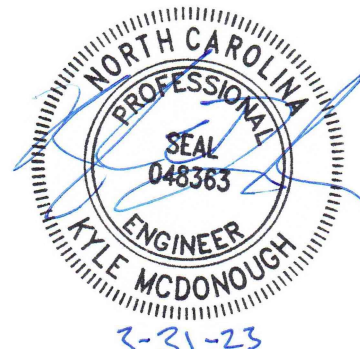
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 JOB ADDRESS:

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 DATE: 3/31/2023  
 JOB NO.: MMRC92693692

SHEET  
**1**  
 OF  
**15**



1 FOUNDATION PLAN  
2 SCALE: 1/8" = 1'-0"



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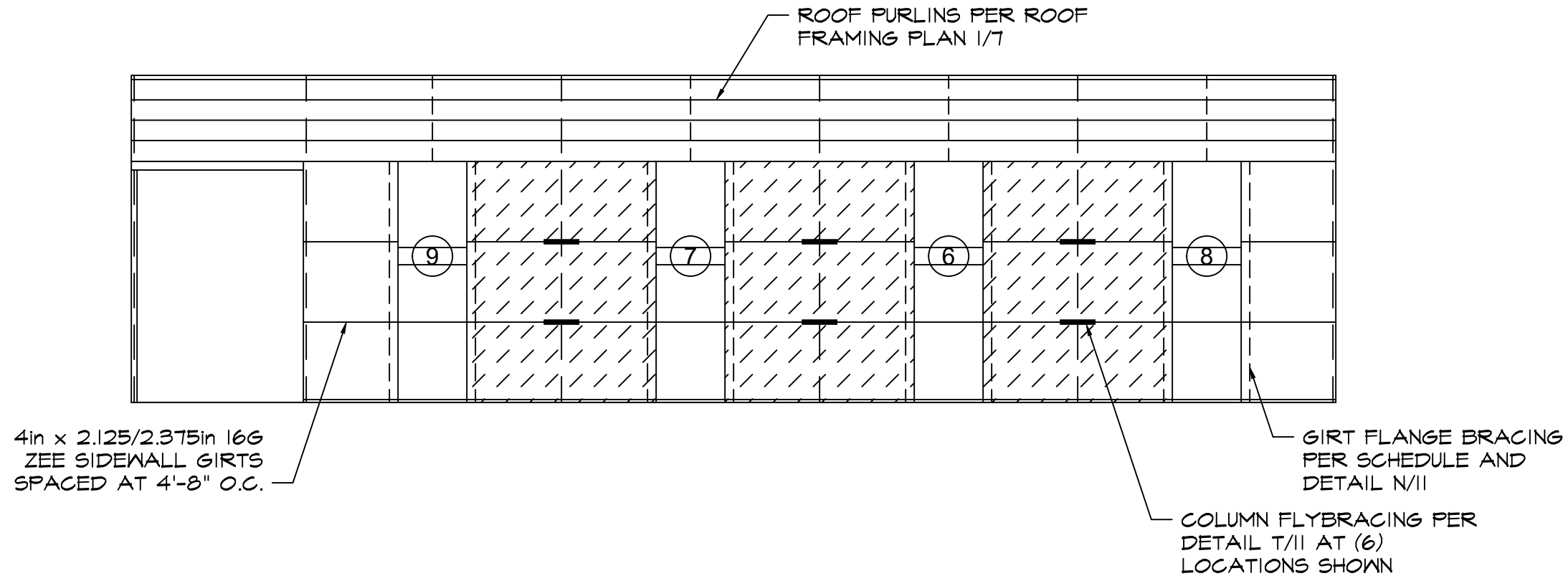
GIRT FLANGE BRACING SCHEDULE

	BAY #2	BAY #3	BAY #4	BAY #5
Sidewall 'A'	1/3 PTS.	1/3 PTS.	1/3 PTS.	1/3 PTS.

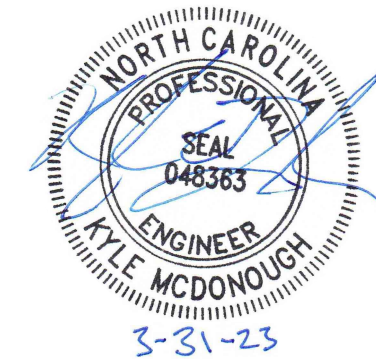
DIAPHRAGM SCHEDULE

SHEETING IN DIAPHRAGM SECTIONS (SHOWN AS HATCHED AREA ON ELEVATIONS) NOT TO BE CUT UNDER ANY CIRCUMSTANCES


WALL	DISTANCE FROM WALL EDGE		
Sidewall 'A'	19.5'-30.5'	34.5'-45.5'	49.5'-60.5'



1 SIDEWALL 'A' EXTERIOR ELEVATION  
 3 SCALE: 1/8" = 1'-0"



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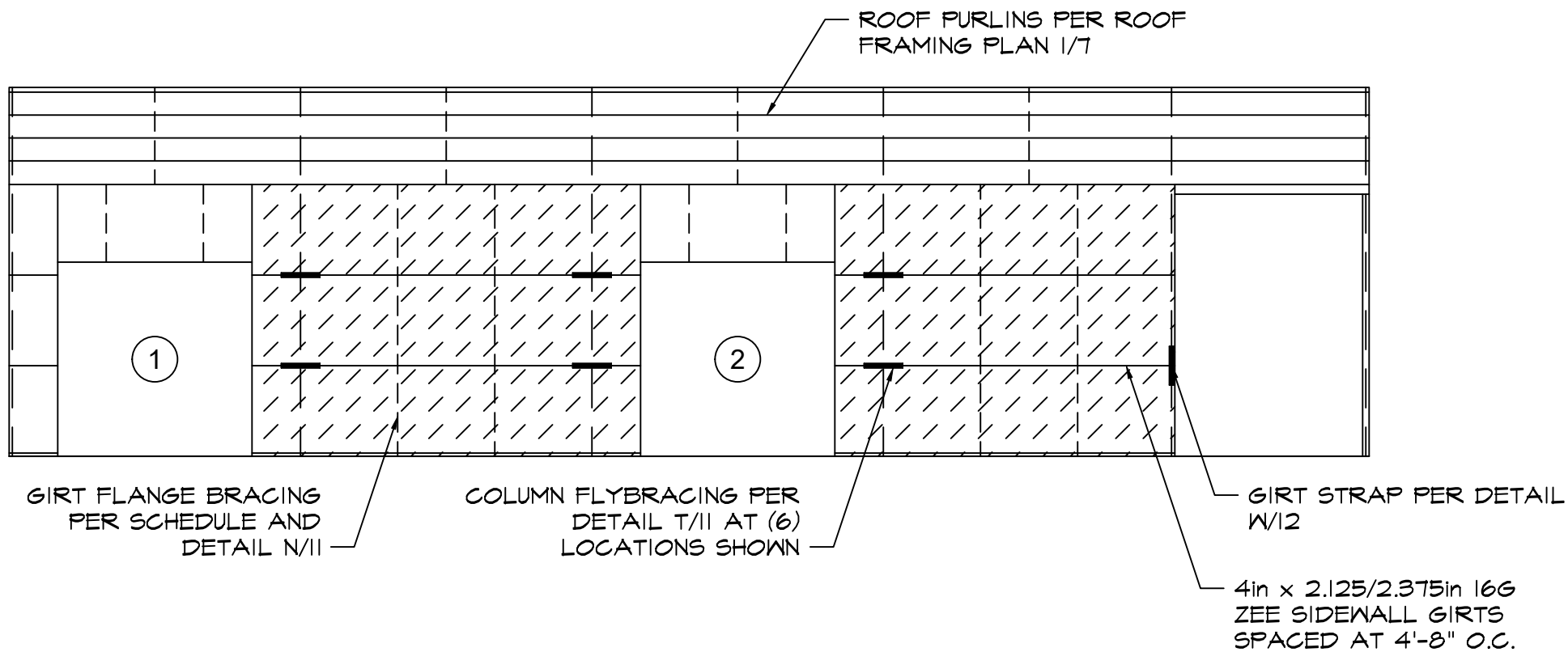
GIRT FLANGE BRACING SCHEDULE

	BAY #2	BAY #3	BAY #4	BAY #5
Sidewall 'B'	1/3 PTS.	1/3 PTS.	1/3 PTS.	1/3 PTS.

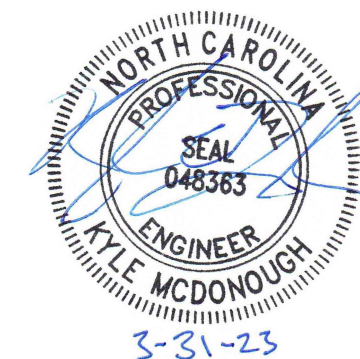
DIAPHRAGM SCHEDULE

SHEETING IN DIAPHRAGM SECTIONS (SHOWN AS HATCHED AREA ON ELEVATIONS) NOT TO BE CUT UNDER ANY CIRCUMSTANCES

WALL	DISTANCE FROM WALL EDGE	
Sidewall 'B'	10.0'-27.5'	37.5'-57.5'



1 SIDEWALL 'B' EXTERIOR ELEVATION  
4 SCALE: 1/8" = 1'-0"



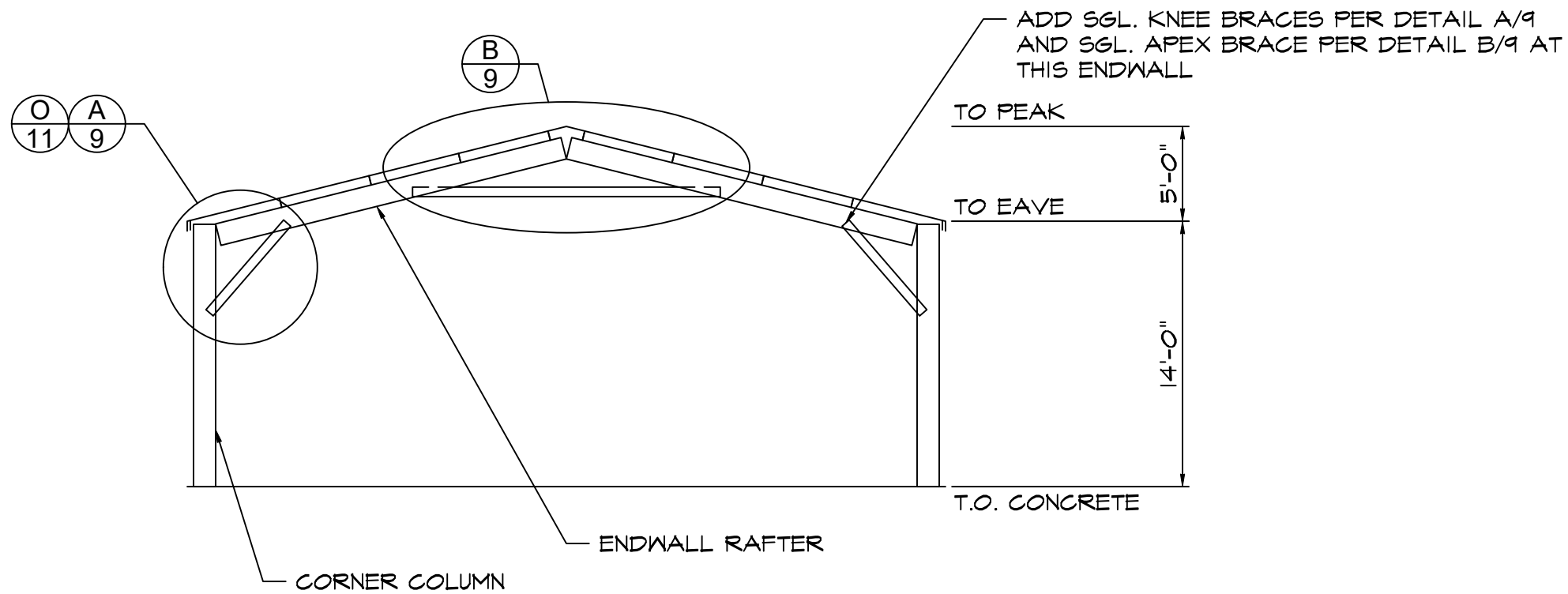
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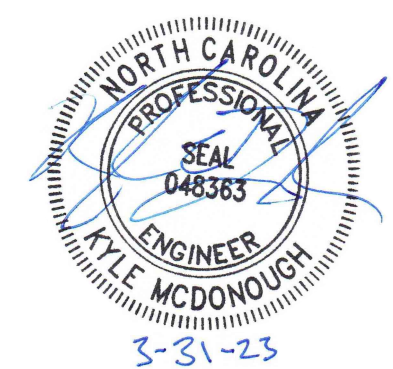
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1
5
**ENDWALL 'A' INTERIOR ELEVATION**  
 SCALE: 1/8" = 1'-0" FRAME #1



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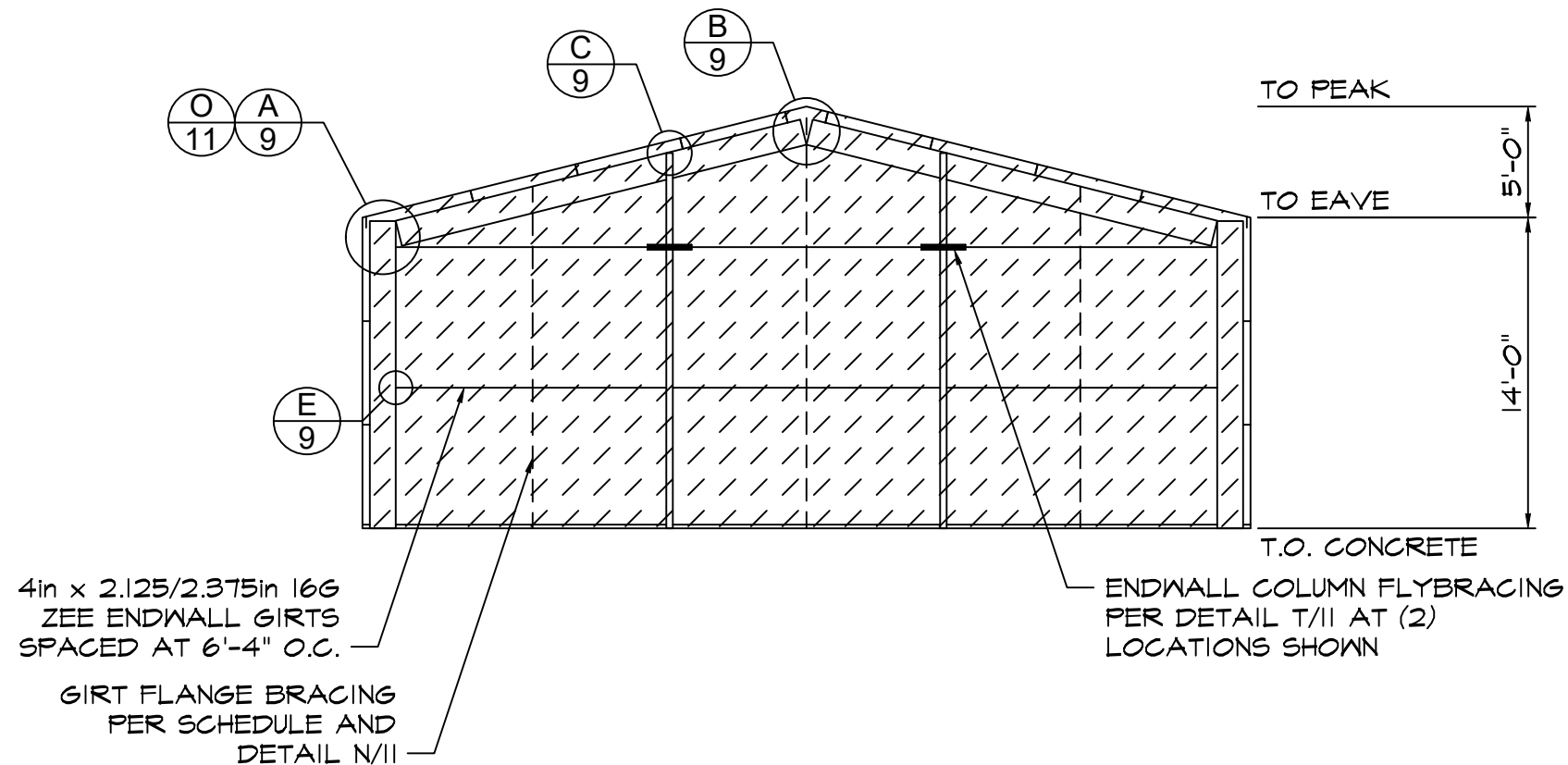
GIRT FLANGE BRACING SCHEDULE

	BAY #1	BAY #2	BAY #3
Endwall 'B'	M/S	M/S	M/S

M/S = MIDSPAN

DIAPHRAGM SCHEDULE SHEETING IN DIAPHRAGM SECTIONS (SHOWN AS HATCHED AREA ON ELEVATIONS) NOT TO BE CUT UNDER ANY CIRCUMSTANCES

WALL	DISTANCE FROM WALL EDGE
Endwall 'B'	0.0'-40.0'



1 ENDWALL 'B' INTERIOR ELEVATION  
6 SCALE: 1/8" = 1'-0" FRAME #6

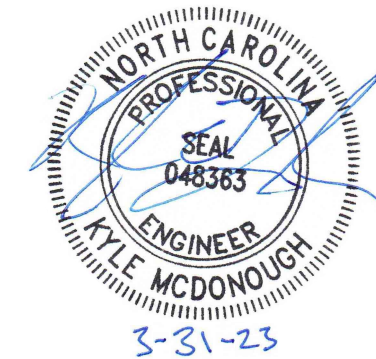
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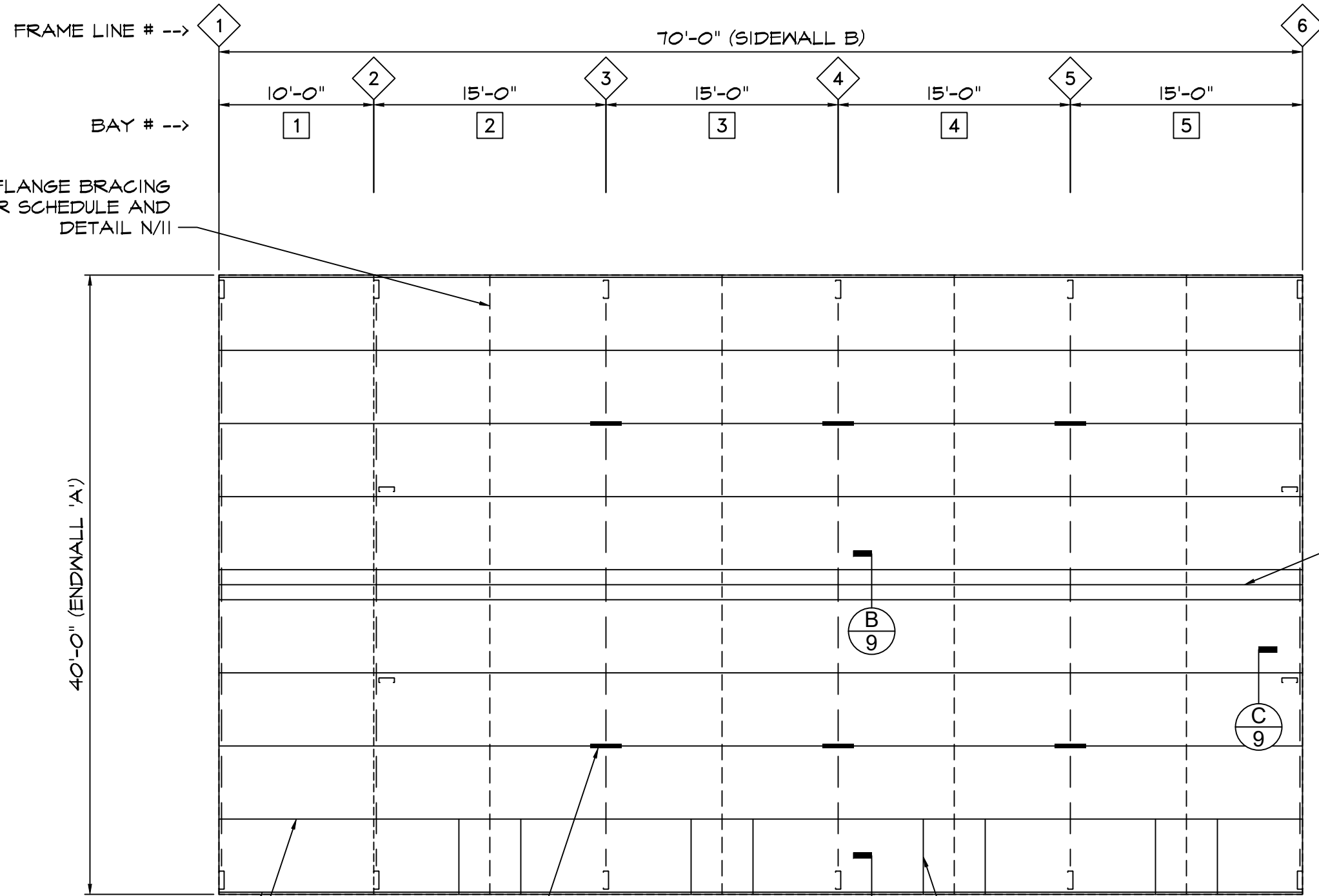
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PURLIN FLANGE BRACING SCHEDULE

	BAY #2	BAY #3	BAY #4	BAY #5
Main Roof	M/S	M/S	M/S	M/S

M/S = MIDSPAN

**ROOF DIAPHRAGM NOTE**  
 ROOF SHEETING IS USED AS DIAPHRAGM TO BRACE THE BUILDING AND IS NOT TO BE CUT UNDER ANY CIRCUMSTANCES

PURLIN FLANGE BRACING PER SCHEDULE AND DETAIL N/II

ROOF PEAK

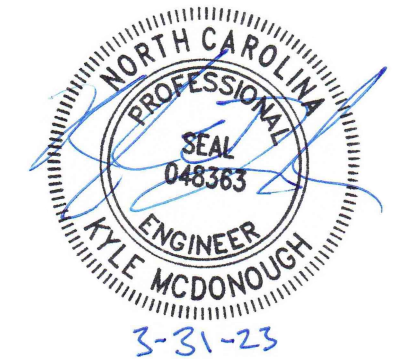
6in x 3.5in x 16G EAVE PURLIN PER DETAIL O/II, TYP. BOTH SIDES

6in x 2.125/2.375in 14G ZEE ROOF PURLINS SPACED AT 4'-10 1/16" O.C.

RAFTER FLYBRACING PER DETAIL T/II AT (6) LOCATIONS SHOWN

EAVE BRACE PER DETAIL P/II AT (8) LOCATIONS SHOWN

**1** ROOF FRAMING PLAN  
**7** SCALE: 1/8" = 1'-0"



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DIAPHRAGM SCHEDULE

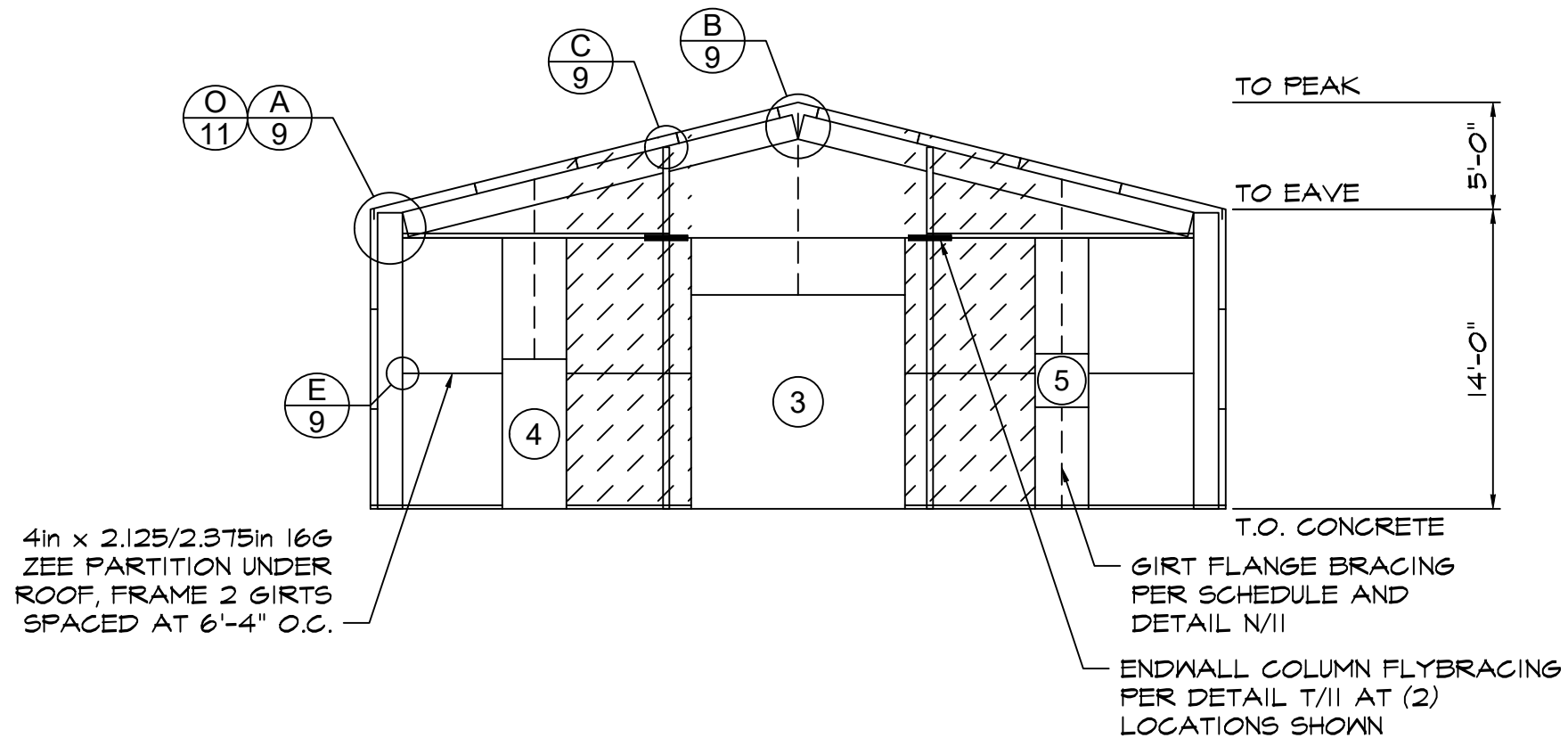
SHEETING IN DIAPHRAGM SECTIONS (SHOWN AS HATCHED AREA ON ELEVATIONS) NOT TO BE CUT UNDER ANY CIRCUMSTANCES

WALL	DISTANCE FROM WALL EDGE
Partition Under Roof, Frame 2	9.2'-15.0' 25.0'-31.1'

GIRT FLANGE BRACING SCHEDULE


	BAY #1	BAY #2	BAY #3
Partition Under Roof, Frame 2	M/S	M/S	M/S

M/S = MIDSPAN

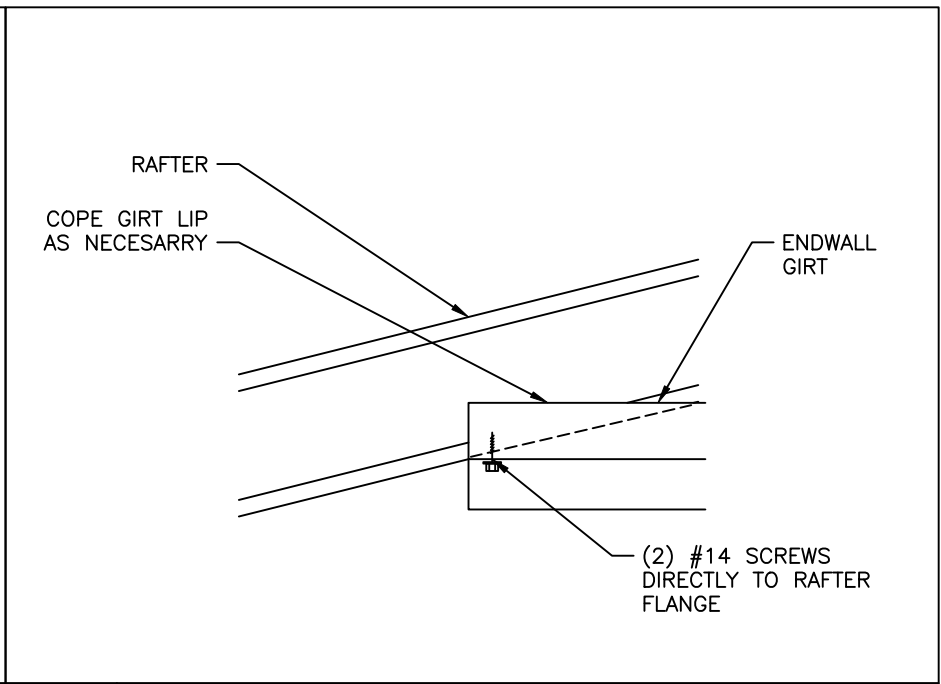
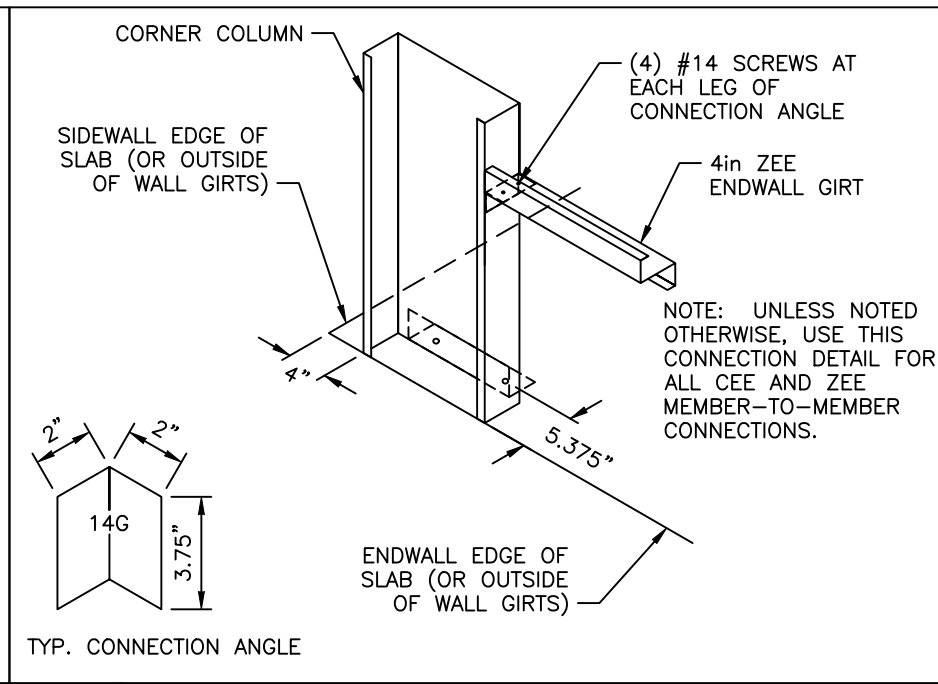
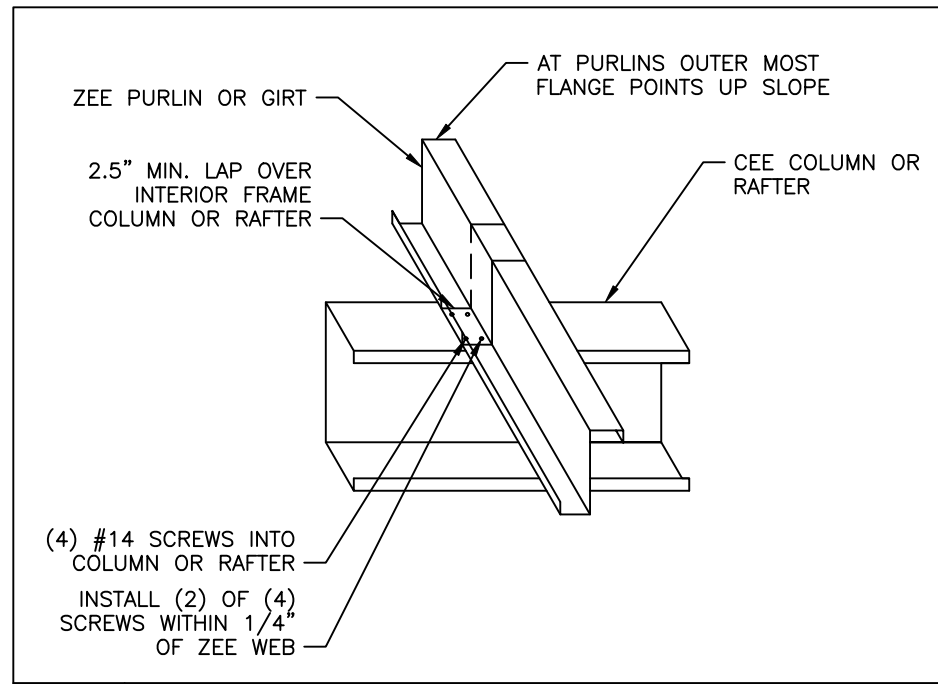


**1** PARTITION WALL INTERIOR ELEVATION  
**8** SCALE: 1/8" = 1'-0" FRAME # 2



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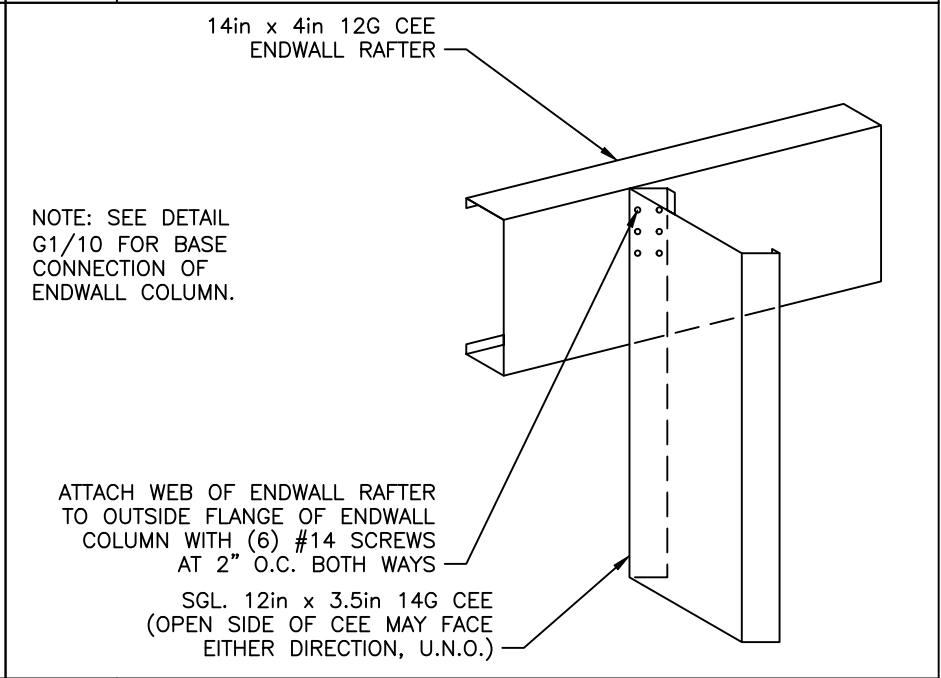
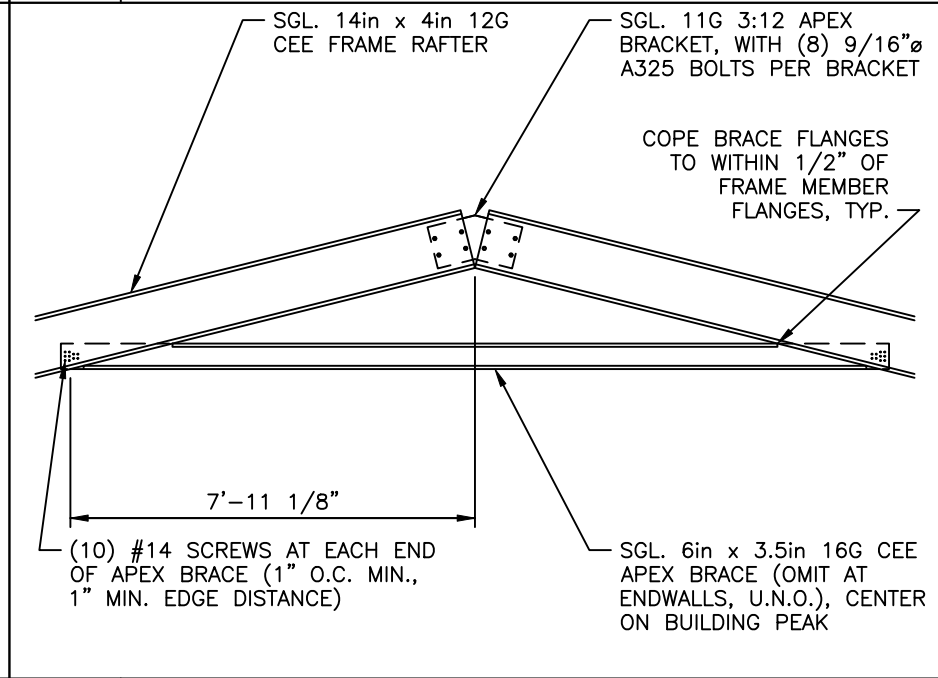
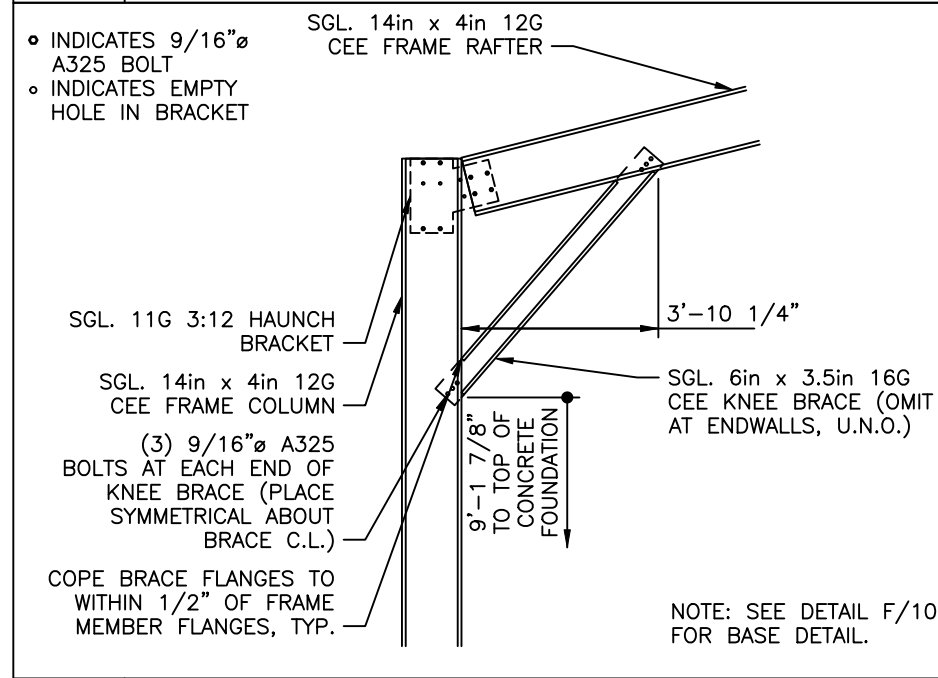




D ZEE PURLIN/GIRT CONNECTION

E ENDWALL GIRT AT CORNER COLUMN

E2 END GIRT TO RAFTER



A HAUNCH CONNECTION

B APEX CONNECTION

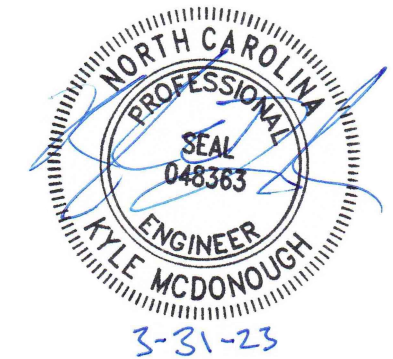
C ENDWALL COLUMN TO RAFTER

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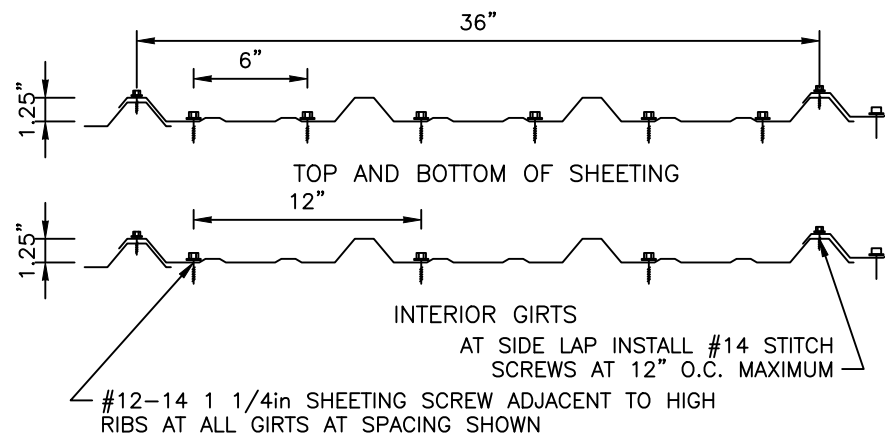


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NOTE: ONLY STRUCTURAL INFORMATION IS INCLUDED IN THIS DETAIL. CONSULT PANEL MANUFACTURER FOR ADDT'L WEATHERTIGHTNESS RECOMMENDATIONS.



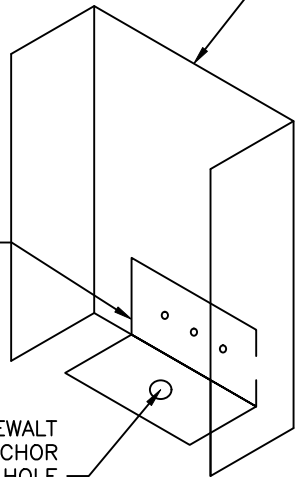
Metal Sales Manufacturing Corp.  
PBR-Panel 26G

$I_x(t) = 0.0367 \text{ In}^4/\text{ft}$      $I_x(b) = 0.0317 \text{ In}^4/\text{ft}$   
 $S_x(t) = 0.0367 \text{ In}^3/\text{ft}$      $F_y = 80 \text{ ksi}$      $S_x(b) = 0.0458 \text{ In}^3/\text{ft}$

CHANNEL 'OPENING JAMB'  
PER OPENING SCHEDULE

INSTALL MIN. 2in x  
2in 14G ANGLE  
WITH (3) #10  
PANHEAD SCREWS  
TO JAMB WEB

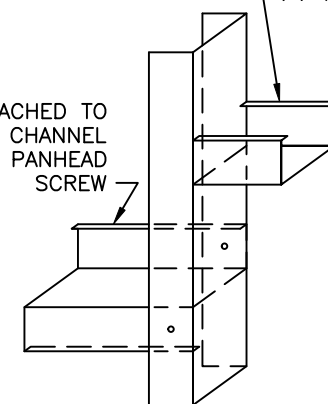
1/2" x 5" DEWALT  
'SCREW-BOLT+' ANCHOR  
IN 5 1/2" DEEP HOLE



J OPENING JAMB BASE CONNECTION

MIN. 16G CEE OPENING HEADER  
(MATCH WEB DEPTH AND FLANGE  
WIDTH OF WALL GIRT), CONNECT  
MIN. 2in x 2in 14G ANGLE WITH  
(4) #14 SCREWS AT EACH LEG

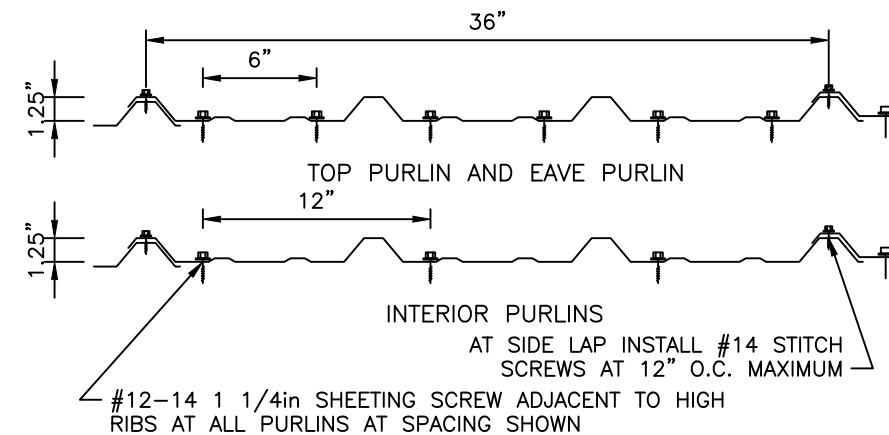
WALL GIRT ATTACHED TO  
EACH DOOR JAMB CHANNEL  
FLANGES WITH #10 PANHEAD  
SCREW



CHANNEL 'OPENING JAMB'  
PER OPENING SCHEDULE

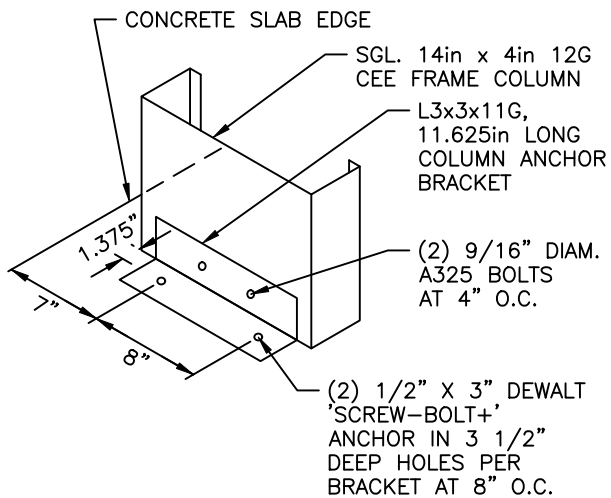
K OPENING JAMB GIRT CONNECTION

NOTE: ONLY STRUCTURAL INFORMATION IS INCLUDED IN THIS DETAIL. CONSULT PANEL MANUFACTURER FOR ADDT'L WEATHERTIGHTNESS RECOMMENDATIONS.



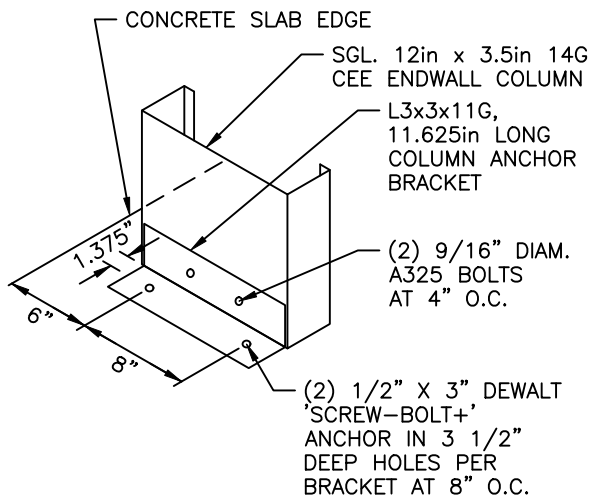
Metal Sales Manufacturing Corp.  
PBR-Panel 26G

$I_x(t) = 0.0367 \text{ In}^4/\text{ft}$      $I_x(b) = 0.0317 \text{ In}^4/\text{ft}$   
 $S_x(t) = 0.0367 \text{ In}^3/\text{ft}$      $F_y = 80 \text{ ksi}$      $S_x(b) = 0.0458 \text{ In}^3/\text{ft}$



NOTE: CENTER ALL BOLTS ON COLUMN ANCHOR BRACKET LENGTHS. BRACKET MAY BE PLACED ON EITHER SIDE OF COLUMN. EXCEPT AT CORNER COLUMN, BRACKET MUST BE INSTALLED ON SIDE OF COLUMN SHOWN.

F FRAME COLUMN BASE DETAIL



NOTE: CENTER ALL BOLTS ON COLUMN ANCHOR BRACKET LENGTHS. BRACKET MAY BE PLACED ON EITHER SIDE OF COLUMN.

G1 ENDWALL COLUMN BASE DETAIL

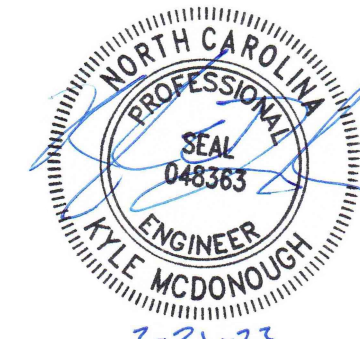
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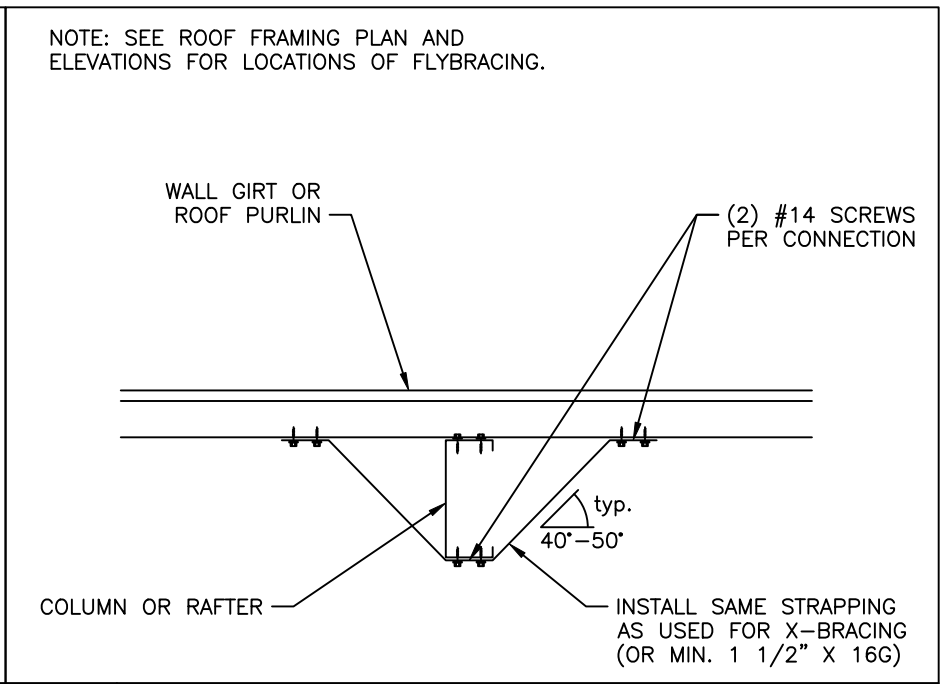
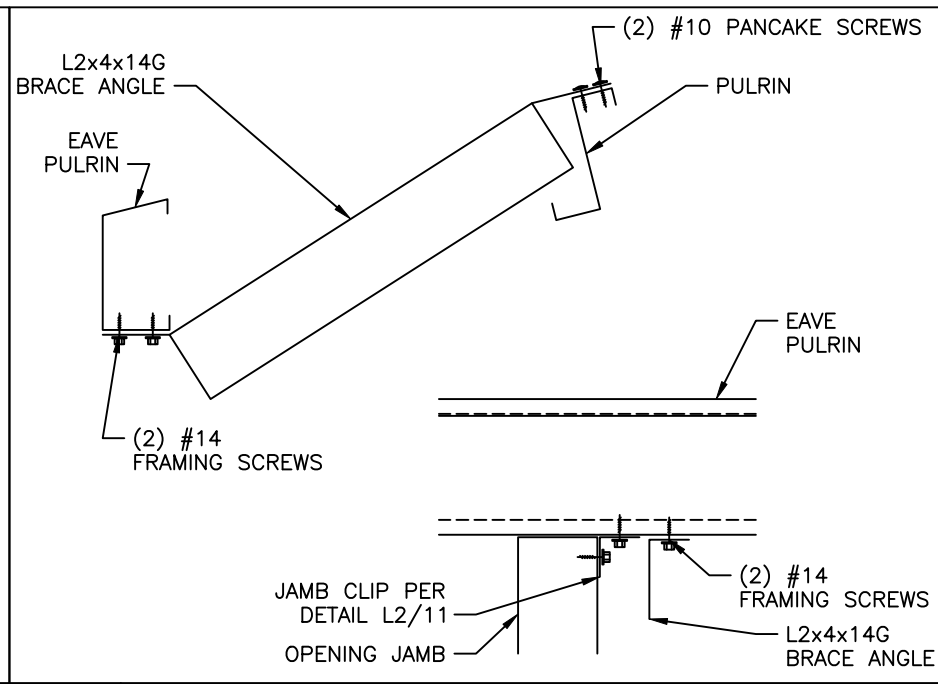
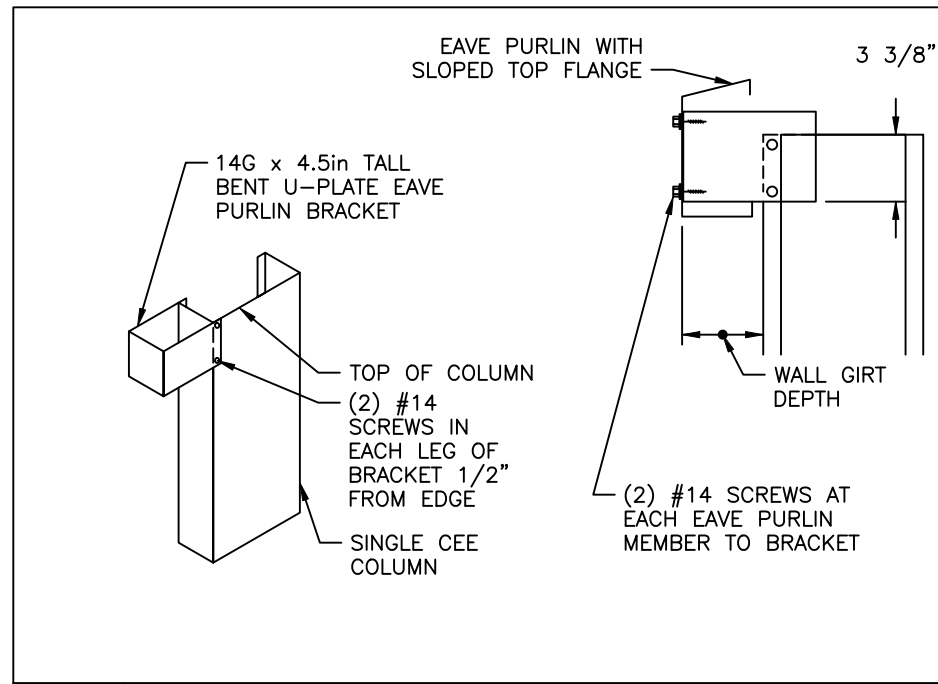


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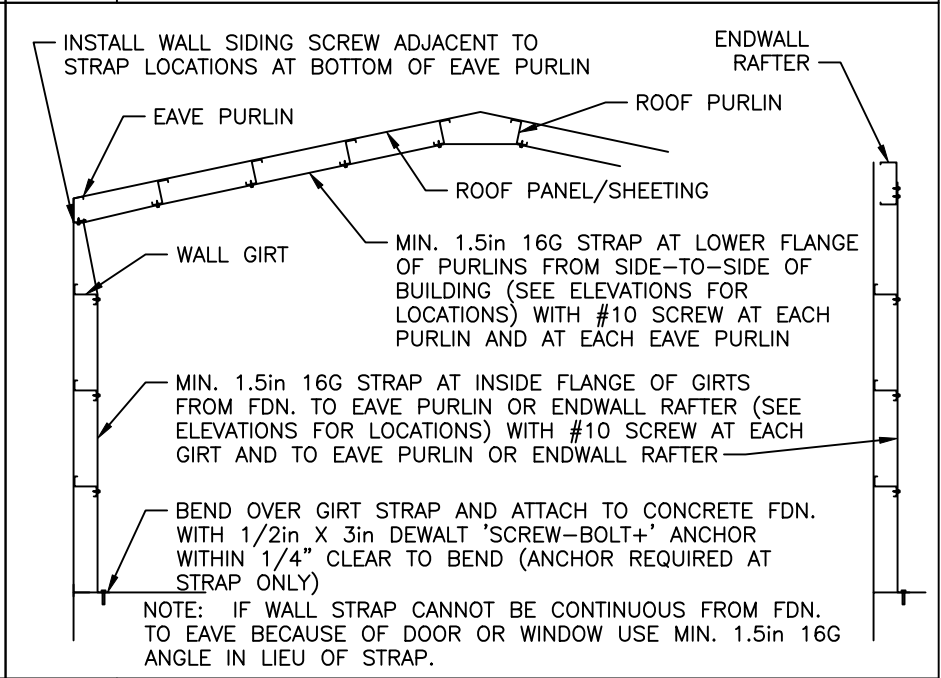
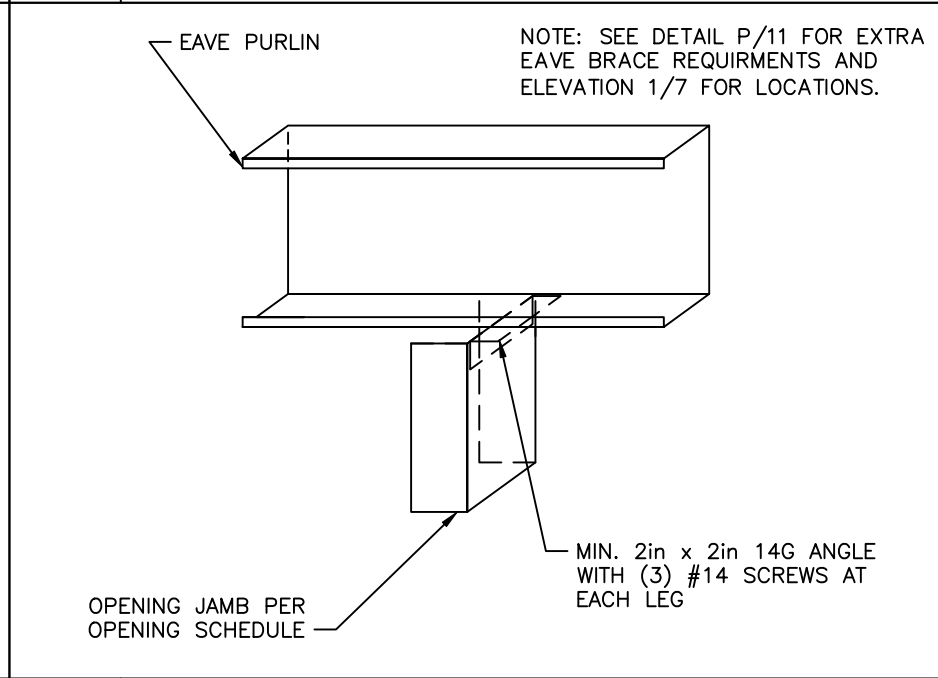
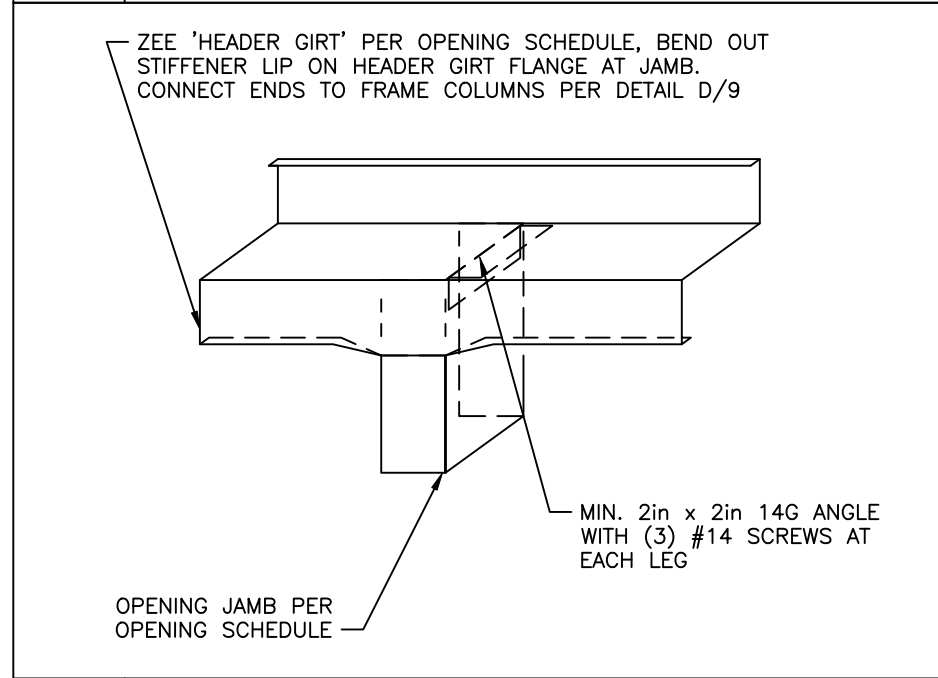




O EAVE PURLIN BRACKET

P EAVE PURLIN BRACE

T FLYBRACING CONNECTION



L1 JAMB TO HEADER GIRT CONNECTION

L2 JAMB TO CEE CONNECTION

N PURLIN AND GIRT FLANGE BRACING

NOTE: SEE ROOF FRAMING PLAN AND ELEVATIONS FOR LOCATIONS OF FLYBRACING.

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3-31-23

<p>ROOF PURLIN AT INTERIOR PORTION OF BUILDING (ATTACHED TO ENDWALL RAFTER PER DETAIL D/9)</p> <p>2in x 2in 14G x 3.75" LONG ANGLE ATTACHED TO SIDE OF EACH PURLIN WITH (3) #14 SCREWS</p> <p>ROOF PURLIN AT 'ROOF ONLY' BAY (SET IN CHANNEL AND ATTACH FLANGES TOGETHER WITH #10 PANCAKE SCREWS TOP AND BOTTOM)</p> <p>6in x 3in 16G CHANNEL ATTACHED TO ANGLE WITH (3) #14 SCREWS AT EACH 'INTERIOR BAY' ROOF PURLIN</p> <p>ENDWALL RAFTER</p> <p>ENDWALL SIDING</p>	<p>COLUMN</p> <p>INSTALL SAME STRAPPING AS USED FOR X-BRACING (OR MIN. 1 1/2" X 16G)</p> <p>typ.</p> <p>40°-50°</p> <p>(4) #14 SCREWS PER CONNECTION</p>	<p>ALL NUTS AND BOLTS TO HAVE WASHER OR FLANGED HEADS</p>
<p>U 'ROOF ONLY' PURLIN CONNECTION</p>	<p>W DIAPHRAGM GIRT STRAP CONNECTION</p>	<p>X BOLT OPTIONS</p>

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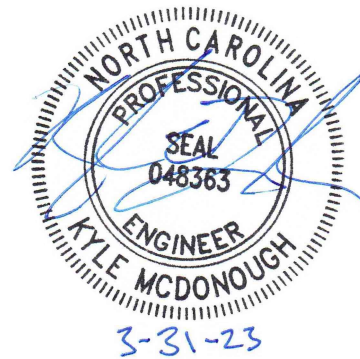
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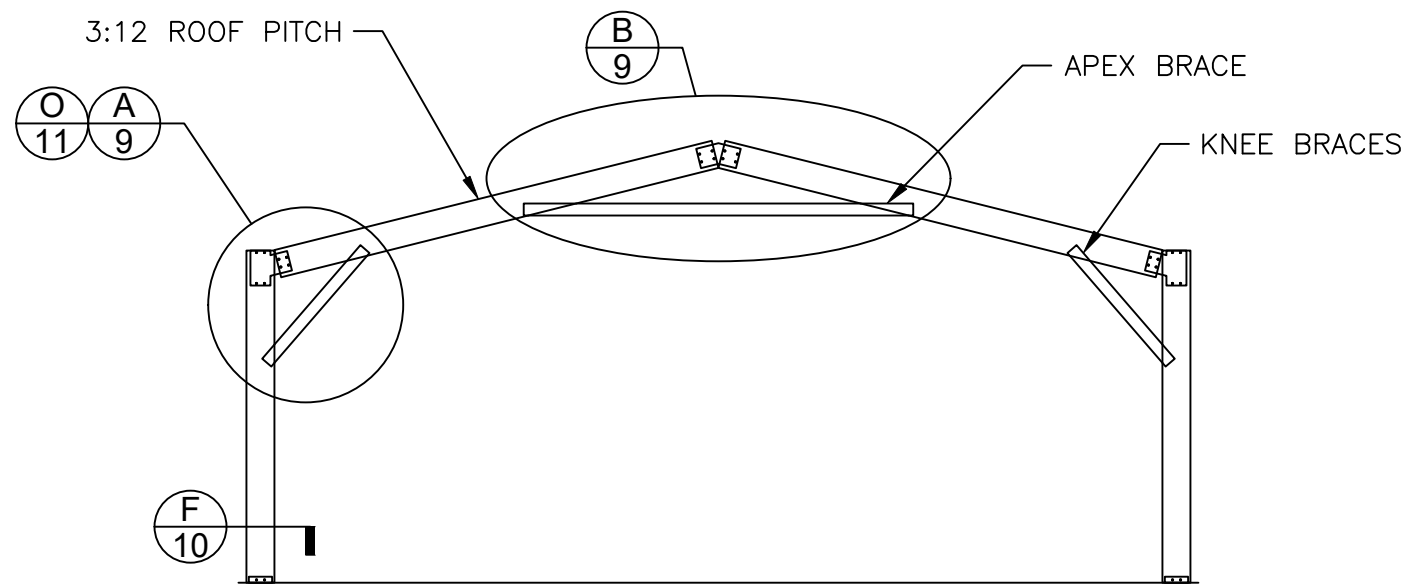
CHECKED: KM

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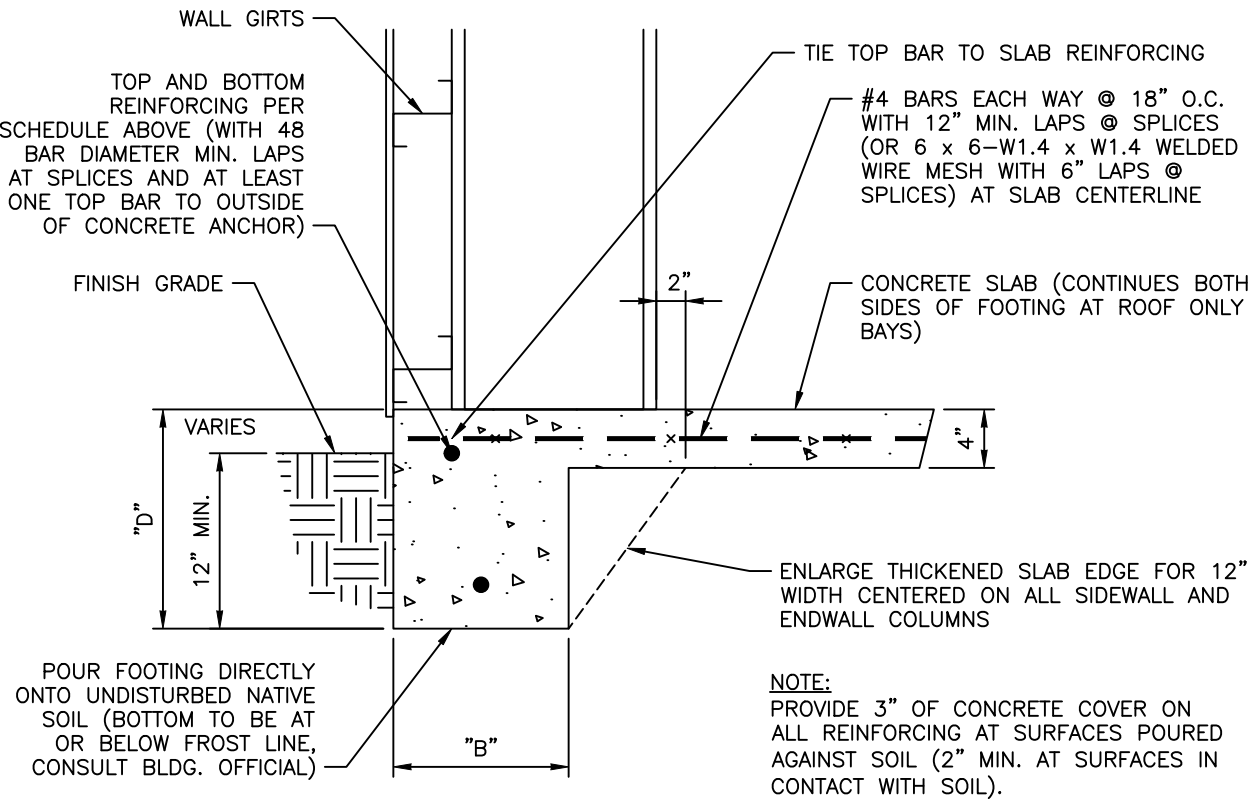
1  
13 TYP. FRAME CROSS-SECTION  
SCALE: 1/8" = 1'-0" FRAMES 3-5



Structural Engineering by: <b>Metal Building Engineering, LLC</b> Fountain Inn, SC 29644 engsupport@actbuildingsystems.com	
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DRAWN	CM
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LOCATIONS	"B"	"D"	TOP REINF.	BOTTOM REINF.
SIDEWALLS	12"	12"	(1)-#4	(1)-#4
ENDWALLS	12"	12"	(1)-#4	(1)-#4

\* NOTE: INSTALL TOP REINFORCING BAR AT A DISTANCE FROM EDGE OF SLAB EQUAL TO DEPTH OF WALL GIRTS.



NOTES:


- 1) SLAB REINFORCING SHOWN ABOVE IS SPECIFIED AS A METHOD OF CONTROLLING SHRINKAGE CRACKING AT THE SLAB SURFACE. CUSTOMER MAY CHOOSE ANOTHER METHOD OR REMOVE SLAB REINFORCING ALL TOGETHER BUT CUSTOMER WILL ASSUME ALL RESPONSIBILITY FOR THE PERFORMANCE OF THE SLAB. IF ANY OTHER METHOD IS CHOSEN BESIDES WHAT IS SHOWN ON THIS DETAIL, CUSTOMER SHALL INSTALL, AT EACH FRAME, (1) #4 CONT. BAR SIDEWALL-TO-SIDEWALL WITH A 6" 90° HOOK AT EACH END AROUND FRAME COLUMN CONCRETE ANCHOR GROUP.
- 2) SLAB DESIGN AND REINFORCING SPECIFIED IS BASED SOLELY ON THE 'SOIL DESIGN PRESSURE' INDICATED ON DRAWING SHEET 1 ASSUMING A MAX. POINT (WHEEL) LOAD OF 3000#. SLAB DESIGN FOR ANY OTHER SLAB THICKNESS OR POINT LOADS SHALL BE PROVIDED BY OTHERS.
- 3) SLAB AND FOUNDATION DESIGN SHOWN IS FOR STRUCTURAL PURPOSES ONLY. SLAB DESIGN SHOWN DOES NOT ADDRESS SLAB CONCRETE STRENGTH FOR WEAR RESISTANCE, VAPOR OR MOISTURE BARRIERS, SLAB SUBBASE MATERIAL SPECIFICATIONS OR INSTALLATION METHODS, OR THERMAL (INSULATION) REQUIREMENTS. A QUALIFIED PROFESSIONAL SHOULD BE RETAINED TO PROVIDE GUIDANCE FOR THOSE CONCERNS NOT ADDRESSED ON THIS DETAIL.

Z EDGE OF SLAB DETAIL SCALE: NO SCALE



3-31-23

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JOB ADDRESS: \_\_\_\_\_

DRAWN: CM  
CHECKED: KM  
DATE: 3/31/2023  
JOB NO.: MMRC92693692  
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# STRUCTURAL GENERAL NOTES

1. GOVERNING CODE: 2021 INTERNATIONAL BUILDING CODE
2. DRAWING OWNERSHIP:  
THESE DRAWINGS ARE JOINTLY OWNED BY METAL SALES MANUFACTURING CORP. (MSM) AND METAL BUILDING ENGINEERING, LLC. DRAWINGS ARE PROVIDED FOR THE SOLE PURPOSE OF OBTAINING BUILDING PERMITS. ENGINEERING SEAL IS VALID FOR THE CONSTRUCTION OF A SINGLE BUILDING AT THE JOB ADDRESS SHOWN IN DRAWING TITLEBLOCK. ANY OTHER USE OF THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM MSM AND METAL BUILDING ENGINEERING, LLC IS PROHIBITED.
3. DRAWING SEAL REQUIREMENTS:  
THESE DRAWINGS ARE NOT VALID UNLESS 1) THE SEAL (STAMP) ON A PAPER COPY IS WET SIGNED IN INK BY THE ENGINEER, OR 2) THE PAPER COPIES ARE OF A DRAWING DIGITALLY SIGNED BY THE ENGINEER, OR 3) THE ELECTRONIC FILE OF THE DRAWING IS DIGITALLY SIGNED BY THE ENGINEER. IF A COPY OF THESE DRAWINGS IS DISTRIBUTED WITHOUT EITHER A PROPER WET SIGNATURE OR A DIGITAL SIGNATURE, THE DRAWING IS CONSIDERED INVALID. IF A COPY OF THESE DRAWINGS IS DISTRIBUTED WITHOUT EITHER A PROPER WET SIGNATURE OR A DIGITAL SIGNATURE, THE DRAWING IS CONSIDERED INVALID. THE ENGINEER ACCEPTS NO LIABILITY OR RESPONSIBILITY FOR DRAWINGS CONSIDERED INVALID AS NOTED ABOVE.
4. CONTRACTOR RESPONSIBILITIES:  
CONTRACTOR SHALL VERIFY AND CONFIRM ALL EXISTING CONDITIONS AND DIMENSIONS. METAL BUILDING ENGINEERING, LLC (ENGINEER) SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN DRAWINGS AND EXISTING CONDITIONS PRIOR TO START OF WORK.  
CONTRACTOR MUST SUBMIT IN WRITING ANY REQUEST FOR MODIFICATION TO THE PLANS AND/OR SPECIFICATIONS AND NO STRUCTURAL CHANGES FROM THE APPROVED PLANS SHALL BE MADE IN THE FIELD UNLESS, PRIOR TO MAKING CHANGES, WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. SHOP DRAWINGS SUBMITTED TO THE ENGINEER FOR REVIEW DO NOT CONSTITUTE "IN WRITING" UNLESS IT IS NOTED THAT SPECIFIC CHANGES ARE BEING REQUESTED. IF CHANGES ARE MADE WITHOUT WRITTEN APPROVAL, SUCH CHANGES SHALL BE THE LEGAL AND FINANCIAL RESPONSIBILITY OF THE CONTRACTOR OR SUB-CONTRACTORS INVOLVED AND IT SHALL BE THEIR FULL RESPONSIBILITY TO REPLACE OR REPAIR THE CONDITION AS DIRECTED BY THE ENGINEER.  
CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING, SHORING, GUYING, OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING ERECTION. THESE TEMPORARY PROVISIONS SHALL REMAIN IN PLACE UNTIL SUFFICIENT PERMANENT MEMBERS ARE ERECTED TO INSURE THE SAFETY OF PARTIALLY ERECTED STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL LAWS REGULATING THE ERECTION OF STEEL BUILDINGS.  
THESE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. BUILDING IS NOT CONSIDERED COMPLETE UNTIL THE INSTALLATION OF ALL COMPONENTS AND DETAILS SHOWN HEREIN ARE INSTALLED ACCORDING TO THE DRAWINGS.
5. ENGINEERING:  
THE SUPPLYING OF STAMPED ENGINEERING CALCULATIONS AND DRAWINGS FOR THIS METAL BUILDING DOES NOT IMPLY OR CONSTITUTE AN AGREEMENT THAT METAL BUILDING ENGINEERING, LLC IS ACTING AS THE ENGINEER OR ARCHITECT OF RECORD OR THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR THE WHOLE OF THE PROJECT.  
THIS BUILDING HAS BEEN REVIEWED BY METAL BUILDING ENGINEERING, LLC FOR CONFORMITY ONLY TO THE STRUCTURAL DESIGN PORTIONS OF THE GOVERNING CODE. THE BUILDING OWNER IS RESPONSIBLE TO SEEK PROFESSIONAL ADVICE IN ADDRESSING ANY OTHER CODE REQUIREMENTS (INCLUDING, BUT NOT LIMITED TO, FIRE AND LIFE SAFETY, ENVIRONMENTAL, ACCESSIBILITY, OR ELECTRICAL) THAT MAY APPLY TO THIS PROJECT.  
DRAWINGS SCALES INDICATED ON DRAWINGS ARE APPROXIMATE AND INTENDED TO BE USED FOR REFERENCE ONLY. DO NOT SCALE DRAWINGS FOR CONSTRUCTION PURPOSES.  
THESE DOCUMENTS ARE STAMPED ONLY AS TO THE COMPONENTS FURNISHED BY MSM. IT IS THE RESPONSIBILITY OF THE PURCHASER TO COORDINATE DRAWINGS PROVIDED BY METAL BUILDING ENGINEERING, LLC WITH OTHER PLANS AND/OR OTHER COMPONENTS THAT ARE PART OF THE OVERALL PROJECT. IN CASES OF DISCREPANCIES, DRAWINGS PROVIDED BY METAL BUILDING ENGINEERING, LLC SHALL GOVERN. THE UNDERSIGNED ENGINEER WILL NOT SUPERVISE THE FABRICATION OR ERECTION OF THIS STRUCTURE. ANY OBSERVATION VISITS TO THE PROJECT SITE BY THE UNDERSIGNED ENGINEER ARE NOT TO BE CONSTRUED AS BEING INSPECTIONS FOR THE CONSTRUCTION OF ANY COMPONENT OF THIS BUILDING.
6. INSPECTIONS:  
NO SPECIAL INSPECTIONS ARE REQUIRED BY THE GOVERNING CODE ON THIS JOB. ALL SPECIAL INSPECTIONS AND ANY OTHER ADDITIONAL INSPECTIONS REQUESTED BY BUILDING DEPARTMENT SHALL BE AT OWNER'S EXPENSE.
7. SOIL REQUIREMENTS:  
ALLOWABLE SOIL BEARING VALUE INDICATED ON DRAWING SHEET 1 OCCURS AT 12" BELOW FINISH GRADE, OR EXISTING NATURAL GRADE, OR AT FROST DEPTH SPECIFIED BY BUILDING DEPARTMENT, WHICHEVER IS THE LOWEST ELEVATION. FOUNDATION DESIGN SHOWN ASSUMES BOTTOM OF FOOTING BEARS ON NATIVE SOILS.  
FOUNDATION DESIGN SHOWN DOES NOT ACCOUNT FOR EXPANSIVE SOIL CONDITIONS OR FOR CONCRETE THAT WILL BE EXPOSED TO SULFATE CONTAINING SOLUTIONS OR CHLORIDES. OWNER SHALL CONTACT ENGINEER PRIOR TO CONSTRUCTION IF ANY OF THESE CONDITIONS EXIST.
8. CONCRETE REQUIREMENTS:  
ALL CONCRETE SHALL HAVE A MIN. 28-DAY STRENGTH OF 2500 psi. HIGHER STRENGTH CONCRETE MAY BE USED, AT OWNER'S DISCRETION, FOR FINISH AND DURABILITY PURPOSES. CEMENT SHALL COMPLY WITH ASTM C150, TYPE 2, AND SHALL CONTAIN NO FLYASH.  
ALL CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE", WHICH IS HEREBY MADE A PART OF THESE DOCUMENTS.  
CONCRETE REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60 FOR #4 BARS AND LARGER, GRADE 40 FOR #3 BARS. WELDED WIRE MESH SHALL CONFORM TO ASTM A185 (Fy MIN. OF 70 ksi). ALL FOOTING REINFORCING BARS TO BE CONTINUOUS AROUND CORNERS. LAP SPLICE FOOTING REINFORCING MIDWAY BETWEEN COLUMNS. ALL LAP SPLICES TO BE 48 BAR DIAMETERS MIN., U.N.O.  
CONCRETE GRADE BEAMS, THICKENED SLAB EDGES, PIERS, AND SPREAD FOOTINGS SHALL BE POURED ONTO UNDISTURBED, NATIVE SOIL WHICH IS FREE FROM ANY MATERIAL THAT WILL ADVERSELY AFFECT THE MIN. ALLOWABLE SOIL BEARING PRESSURE SPECIFIED ON SHEET 1.  
CONCRETE ANCHOR INSTALLATION SHALL BE DONE IN ACCORDANCE WITH ICC REPORT ESR-3889, SECTION 4.3.

9. STRUCTURAL STEEL REQUIREMENTS:  
ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 (Fy MIN. OF 36000 psi), U.N.O. ALL BOLTS SHALL CONFORM TO ASTM A325, U.N.O. BOLT HOLE DIAMETERS SHALL BE 1/16" LARGER THAN NOMINAL BOLT DIAMETER. ALL INSTALLATION SHALL BE IN ACCORDANCE WITH AISC "CODE OF STANDARD PRACTICE".  
NO WELDING IS REQUIRED ON THIS JOB.

10. LIGHT GAUGE STRUCTURAL STEEL REQUIREMENTS:  
ALL LIGHT GAUGE STEEL FRAMING MATERIAL AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".  
ALL LIGHT GAUGE STEEL MATERIAL SHALL CONFORM TO ASTM A653 HAVING A MINIMUM YIELD STRENGTH OF 55000 psi. THE GRADE AND ASTM SPECIFICATION NUMBER SHALL BE INDICATED BY PAINTING, DECAL, TAGGING, OR OTHER SUITABLE MEANS, ON EACH LIFT OR BUNDLE OF FABRICATED ELEMENTS.

UNLESS NOTED OTHERWISE, CEE, ZEE, AND CHANNEL MEMBERS' WEB AND FLANGE DIMENSIONS (IN INCHES) SHALL BE AS NOTED IN DETAILS IN THE FOLLOWING FORMAT: [WEB DEPTH]in x [FLANGE WIDTH]in [GAUGE]G. FOR ZEES WITH UNEQUAL FLANGES, THE WIDTHS FOR BOTH FLANGES WILL BE LISTED, SEPARATED BY A " / ". MIN. FLANGE STIFFENER LIPS SHALL BE 0.885" FOR 12G CEES, 0.800" FOR 14G CEES, 0.773" FOR 16G CEES, 0.900" FOR 12G ZEES, 0.900" FOR 14G ZEES, AND 0.900" FOR 16G ZEES. ALL BEND RADIUSES SHALL BE .1875". FOR ANGLES, THE FIRST TWO NUMBERS ARE THE LEG DIMENSIONS.

DECIMAL THICKNESS OF THE DELIVERED LIGHT GAUGE STEEL MATERIAL, ACCORDING TO NOMINAL GAUGES, SHALL MEET OR EXCEED 95% THE FOLLOWING DESIGN VALUES

GAUGE NO.	DECIMAL THICKNESS, IN.	GAUGE NO.	DECIMAL THICKNESS, IN.	GAUGE NO.	DECIMAL THICKNESS, IN.
10	0.135	14	0.070	18	0.048
12	0.105	16	0.059	20	0.036

EXCEPT AS SHOWN ON DRAWINGS, CEE COLUMN AND RAFTER MEMBERS SHALL NOT BE DRILLED OR NOTCHED WITHOUT PRIOR APPROVAL OF THE ENGINEER. DOOR JAMB, ROOF PURLIN, AND WALL GIRT ENDS MAY HAVE FLANGES COPEDED 3" MAX. IF CONNECTION IS MADE TO PERPENDICULAR MEMBER PER DETAIL E/9. ROUND HOLES MAY BE DRILLED THROUGH ANY GIRT OR PURLIN MEMBER WITHIN THE MIDDLE THIRD OF THE DEPTH OF THAT MEMBER AND NOT WITHIN 24" OF MEMBER END (FIELD-DRILLED BOLT HOLES INDICATED AT ENDS OF KNEE OR APEX BRACE WEBS AND SHOP-PUNCHED HOLES IN BRACE FLANGES EXCEPTED).

ALL BOLTS USED TO CONNECT LIGHT GAUGE MATERIAL SHALL CONFORM TO ASTM A325. BOLTS TO BE SNUG TIGHT PER THE RCSC AND AISC SPECIFICATIONS, UNLESS SPECIFICALLY NOTED OTHERWISE. BOLTS SHALL BE SPACED NO LESS THAN 3 BOLT DIAMETERS BETWEEN CENTERS. DISTANCE FROM BOLT CENTER TO THE END OR EDGE OF ANY LIGHT GAUGE MEMBER SHALL BE A MIN. OF 1.5 BOLT DIAMETERS. ALL SCREWS USED TO CONNECT LIGHT GAUGE MATERIAL SHALL BE SELF-DRILLING SCREWS AND SHALL HAVE A MIN. TENSILE BREAKING STRENGTH OF 100,000 psi. SCREWS SHALL BE SPACED NO LESS THAN 1" O.C. AND EDGE OR END DISTANCE SHALL NOT BE LESS THAN 1". UNLESS NOTED OTHERWISE, ALL REFERENCES TO 'SCREWS' CONNECTING MATERIAL THICKER THAN 20 ga. SHALL BE MIN. #14 SCREWS AND SHALL HAVE MIN. 14 THREADS PER INCH.

SCREW ROOT DIAMETERS SHALL NOT BE LESS THAN: #14 SCREW: .200" #12 SCREW: .177" #10 SCREW: .153"

11. STEEL ROOF AND WALL PANELS (CLADDING):  
LIGHT GAUGE STEEL ROOF AND WALL PANELS SHALL CONFORM TO ASTM A653 AND THE STEEL DECK INSTITUTE SPECIFICATIONS AND HAVE A MIN. YIELD STRENGTH OF 80000 psi.

DECIMAL THICKNESSES, ACCORDING TO NOMINAL GAUGES, SHALL MEET OR EXCEED THE FOLLOWING:

GAUGE NO.	DECIMAL THICKNESS, IN.	GAUGE NO.	DECIMAL THICKNESS, IN.	GAUGE NO.	DECIMAL THICKNESS, IN.
22	0.0299	26	0.0179	29	0.0134
24	0.0239	28	0.0149	30	0.0120

SEE DETAILS H/10 AND I/10 FOR ROOF AND WALL PANEL FASTENER TYPES AND SPACINGS.



3-31-23

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