Secondary Framing

Secondary Framing

Materials

Secondary Framing

Variety of material thicknesses

- Thickness range from 17 gage to 11 gage
- Acrylic-coated galvanized secondary (VP Tech Perspective#38) (Gray and Patrician Bronze also available.
- Individual members are designed for specific loads

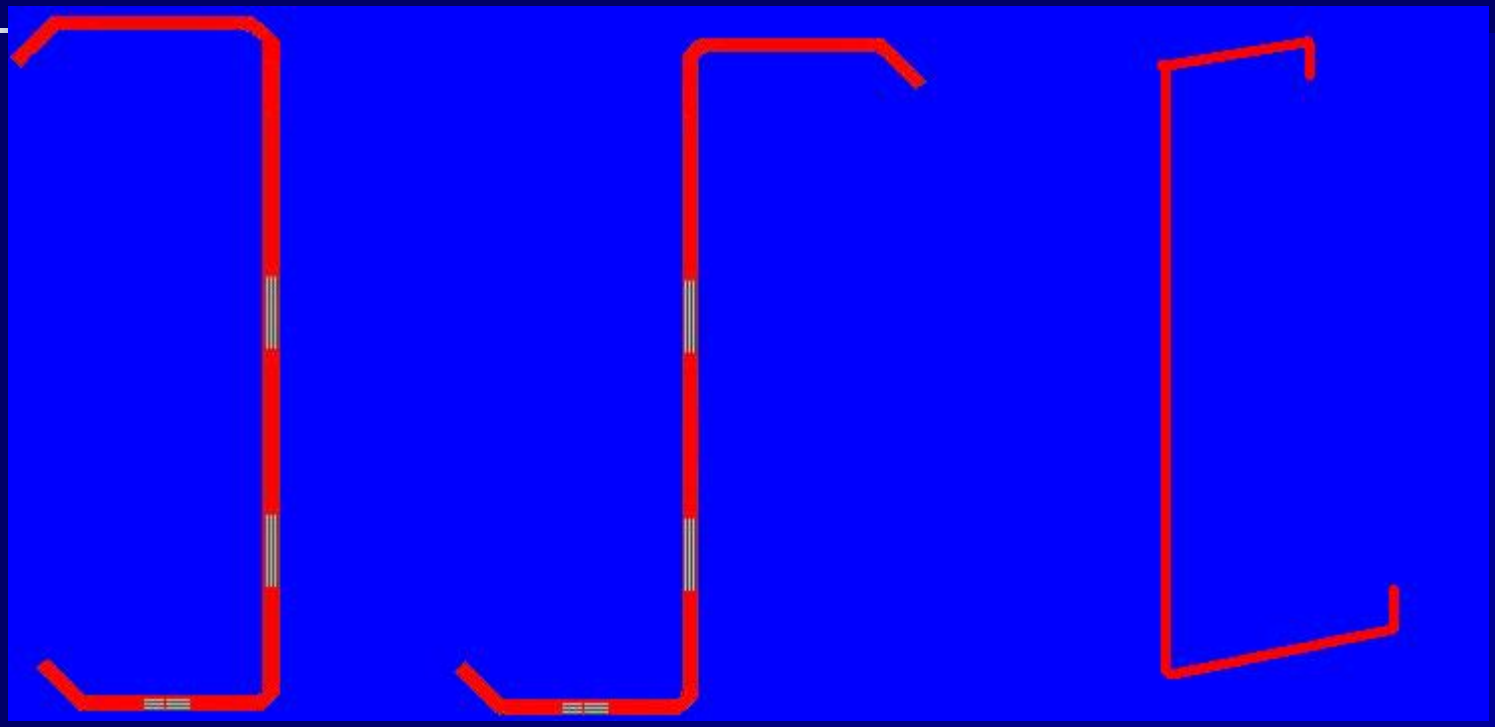
Secondary Framing

SEDs used shown on Erection Drawings

Secondary Part Schedule

Mark	Part	Thick.	Depth	Lap	Detail
G3	08Z2511417A100	0.0600	8 1/2"	10 1/2"	WS01G3
G4	08Z26114171100	0.0600	8 1/2"	10 1/2"	WS01G3

Secondary Shapes



Cee Zee Eave Purlin

Common Secondary Depths

Depths - 7", 8 1/2", 10", 11 1/2" (All may be used as Purlins or Girts)

✓ Struts & non-struts are "grouped" in the same bay.

Thickness	7"	8 ½"	10"	11 ½"
17 Gage (0.060)	√	√	√	
16 Gage (0.068)		√	√	√
15 Gage (0.073)	√	√	√	√
14 Gage (0.079)		√	√	
13 Gage (0.088)		√	√	√
12 Gage (0.098)	√	√	√	
11 Gage (0.113)	√	√	√	√

Galvanized Secondary To Become VP Standard

Varco Pruden Buildings recently announced plans to begin using G-30 galvanized steel with clear acrylic coating as the standard for cold-formed secondary members including purlins and girts. The change is anticipated to take effect in the fourth quarter of 2008.

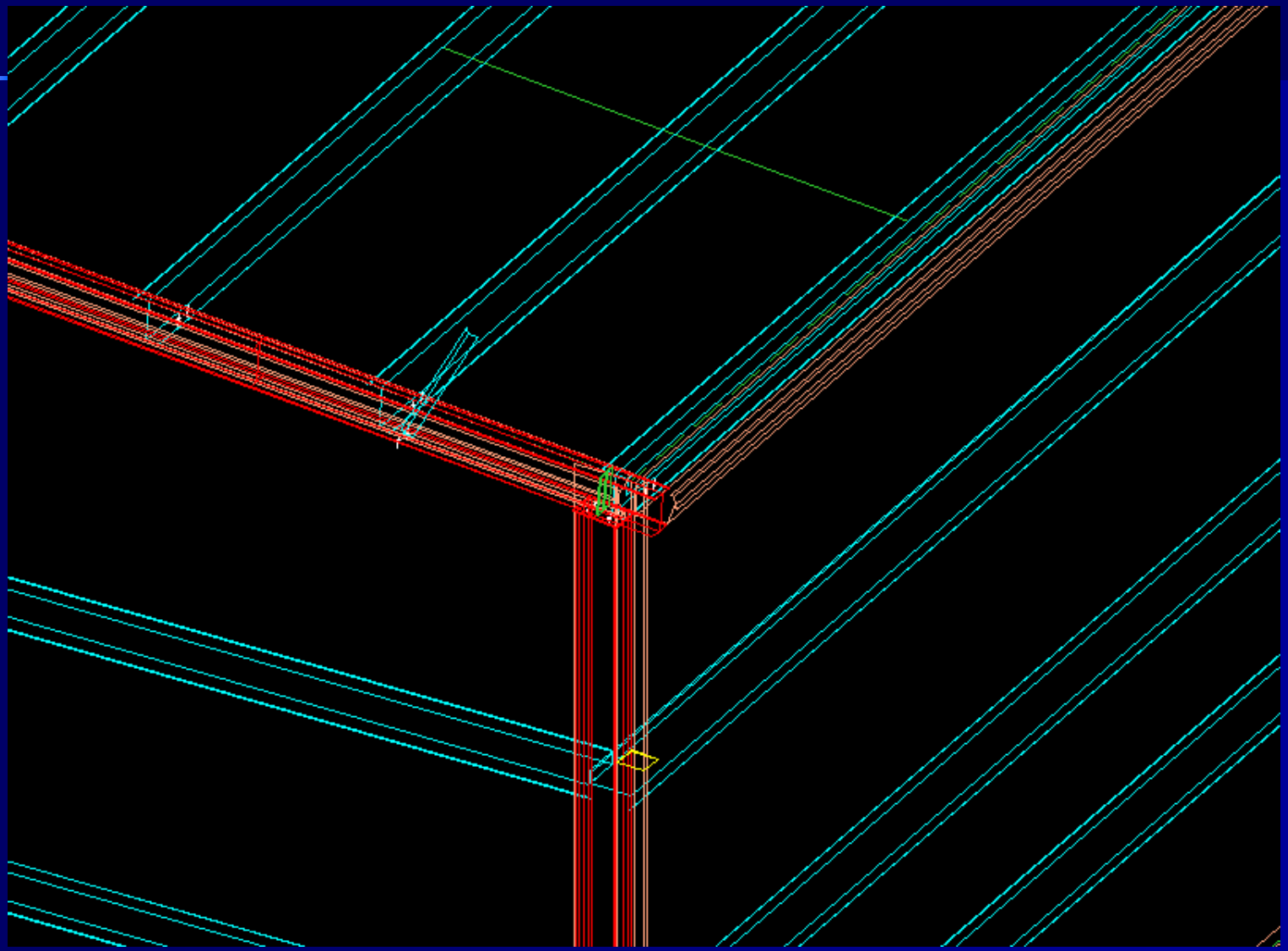
Based on recommendations from the Product Erection Council and PAC, the G-30 material will offer improvement in overall product quality and eliminate some inherent problems of using shop-applied primer. The galvanized coating offers a structural appearance and superior protection against rusting. The clear acrylic top-coat provides additional protection against "white rust" during transport and erection of the material.

While G-30 will become the default selection in VP Command, builders will still be able to order secondary material in primer colors including Patrician Bronze, Gray and Red Oxide.

Further information regarding this new product standard is available on Tech Perspective #38, available online at www.vpmarketinginfo.com.

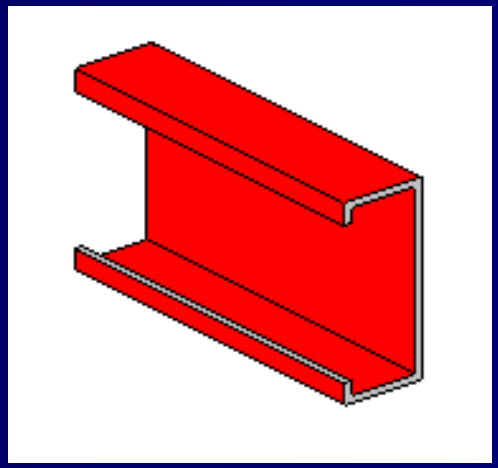
From Details, August 2008 issue

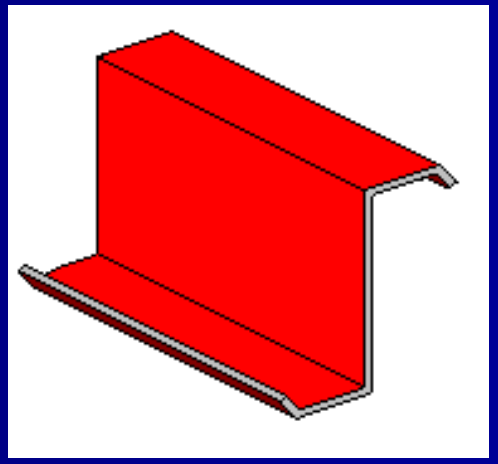
Purlins and Girts



Secondary Framing

Basic Structural Shapes





ZEEs and CEEs - 7”, 8 1/2”, 10”,
& 11 1/2”

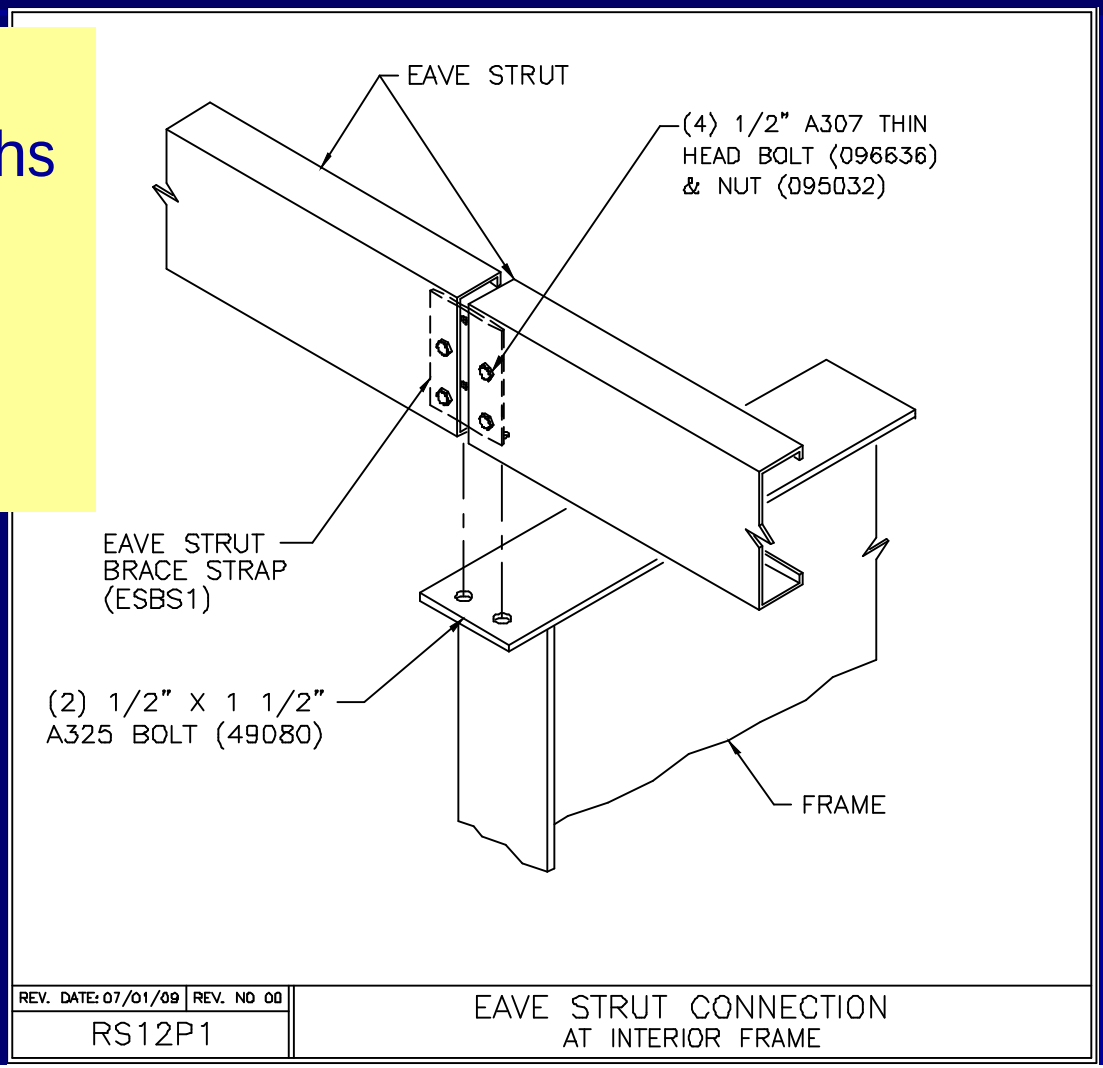
Secondary Framing

Roof

Erecting Bay

Roof Secondary Framing
Eave Members

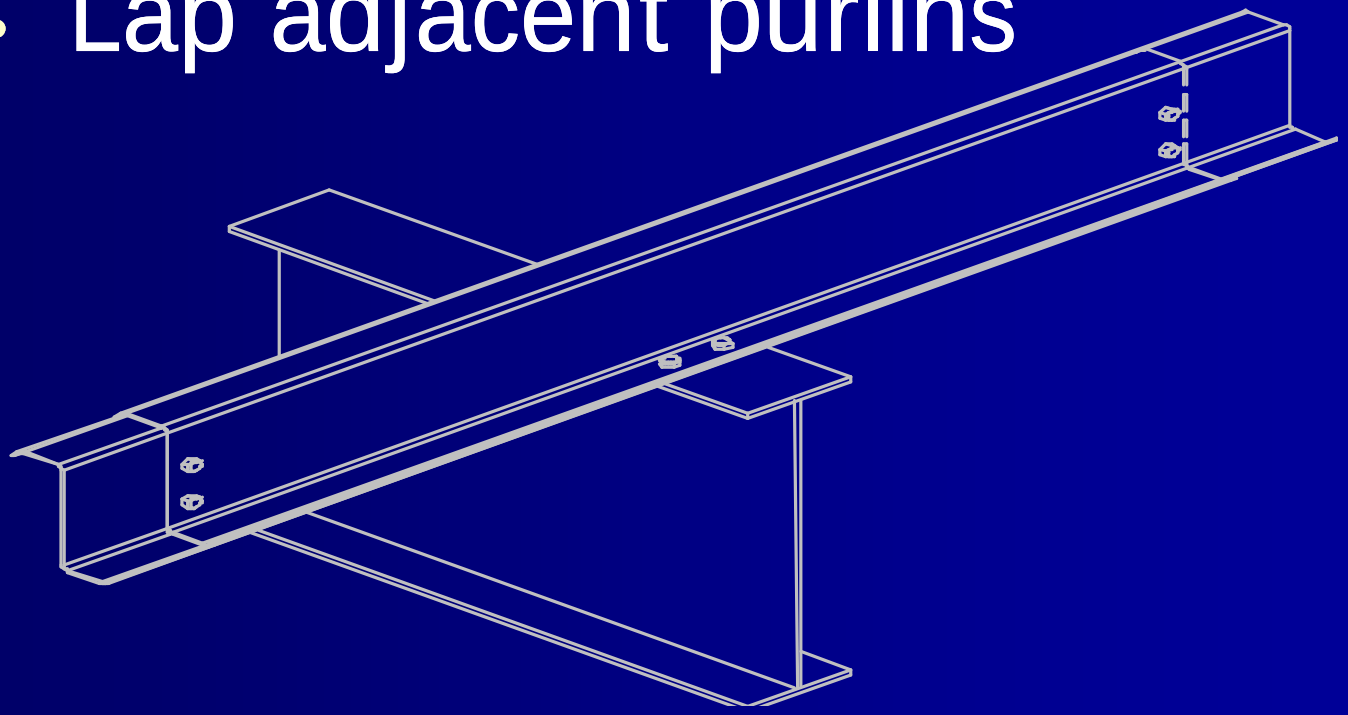
- 7” , 8 1/2”, 10”, and 11 ½” Depths
- Always simple span because of shape



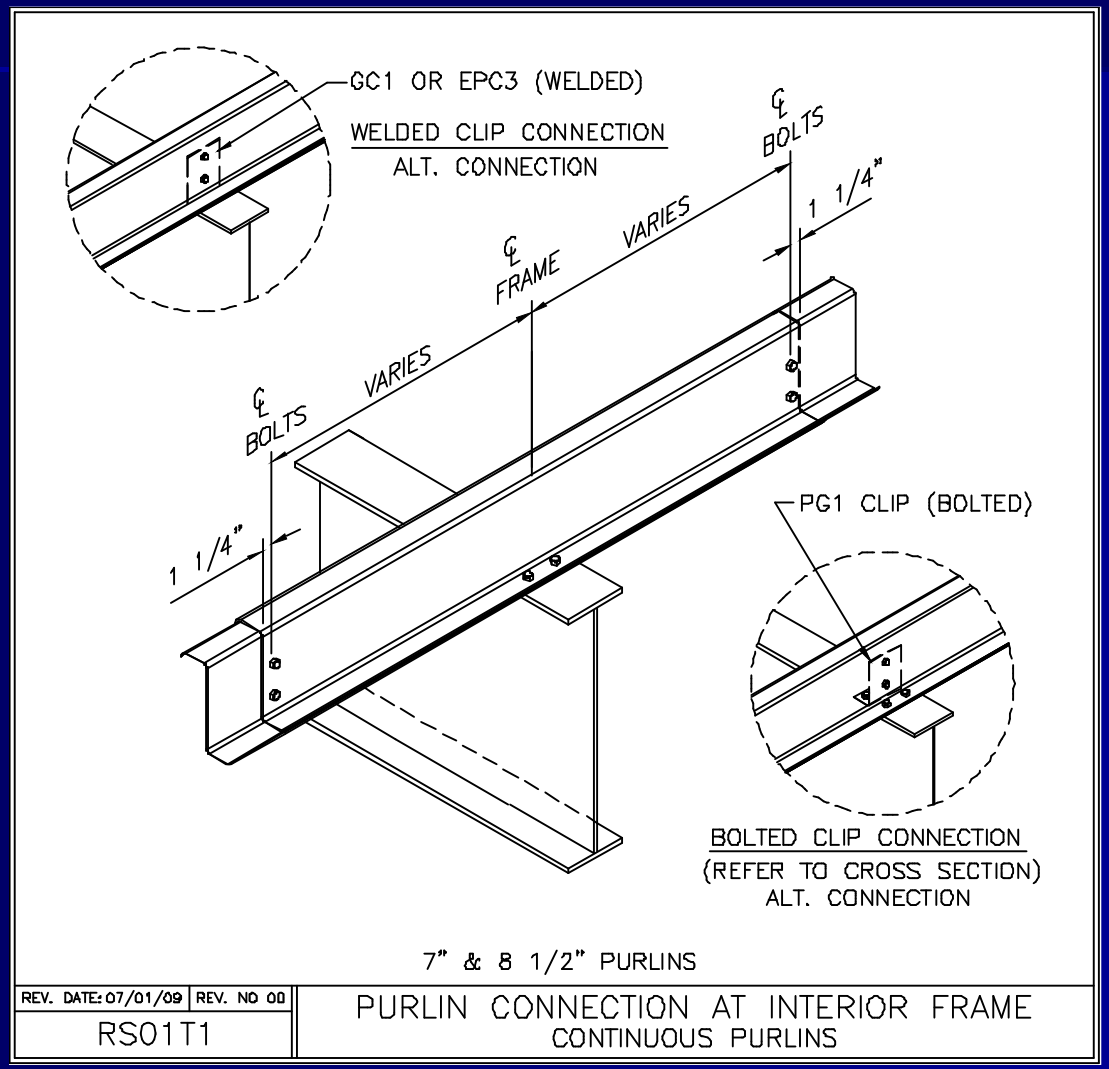
Roof Secondary Framing

Continuous Purlins

- Lap adjacent purlins



Roof Secondary Framing



Roof Secondary Framing

Design Laps (CL of frame to CL of Bolts):

- 10 1/2"
- 1'-4 1/2"
- 1'-10 1/2"
- 2'-10 1/2"
- 3'-10 1/2"

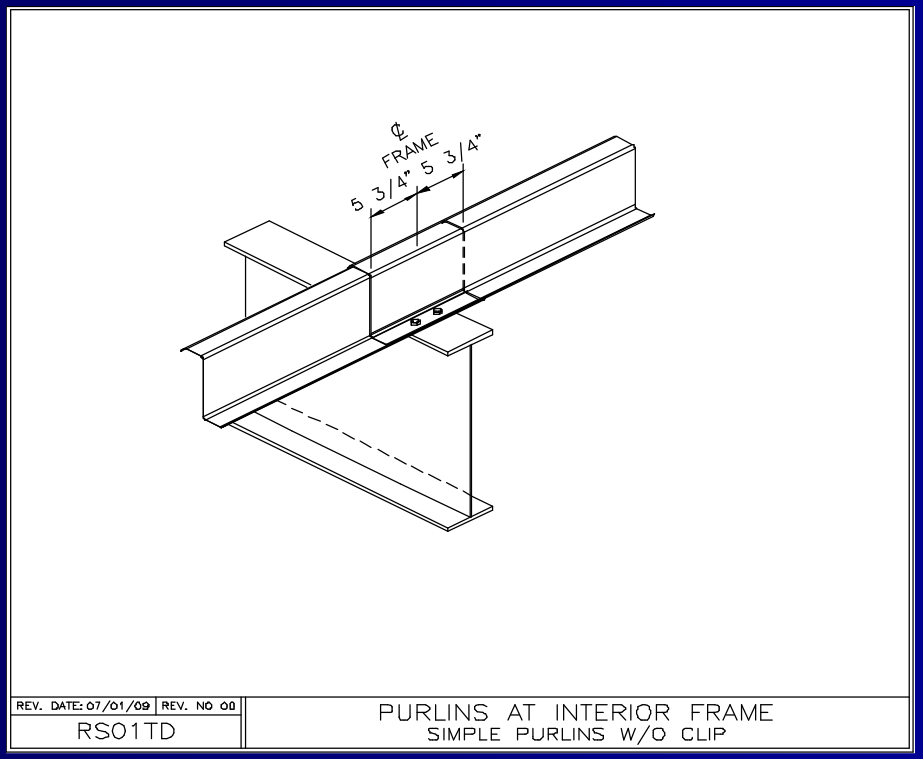
Detailing Lap:

- Design lap + 1 ¼"

Roof Secondary Framing

Simple Span Purlins

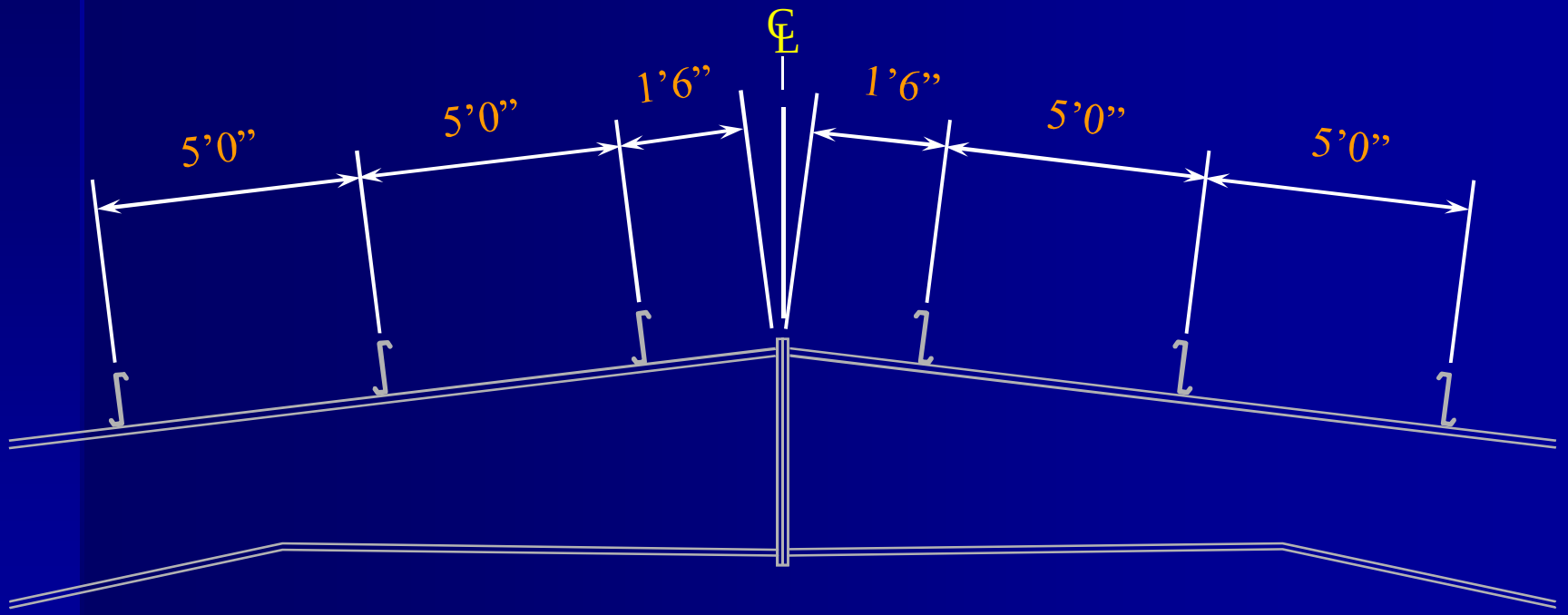
- Not a Structural Lap



Roof Secondary Framing

Default Purlin spacings are 5’-0

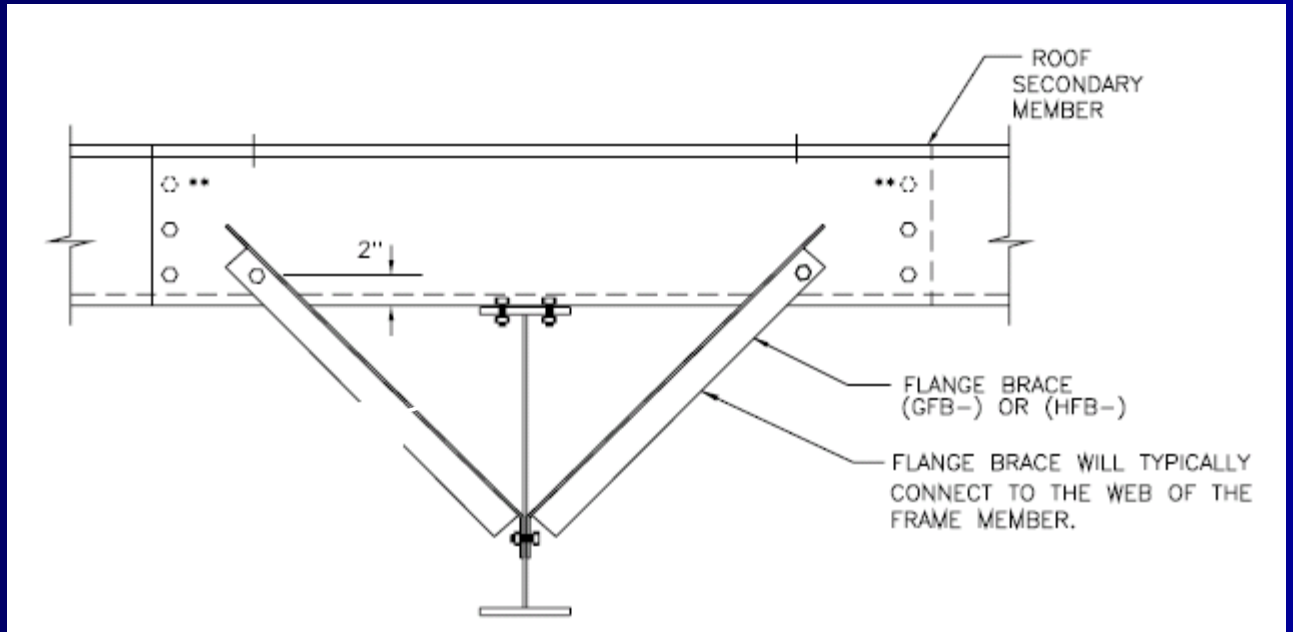
Other spacings may be used



Roof Secondary Framing

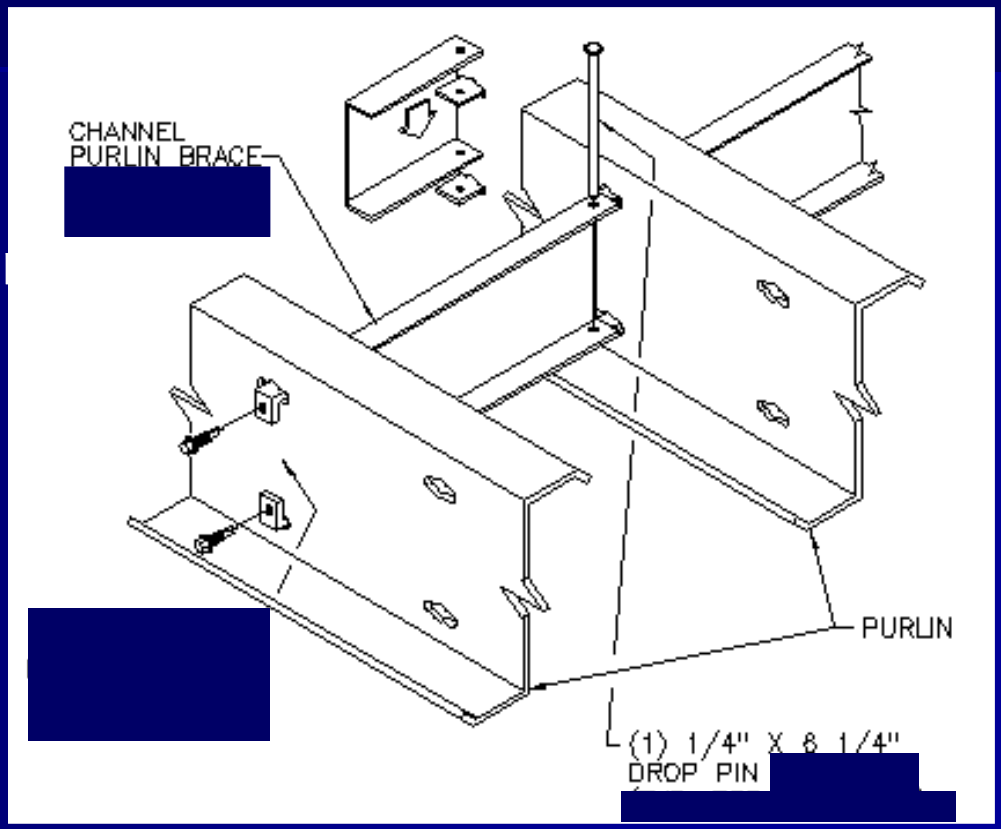
Flange Braces

- Bolts to purlin and frame
- Prevents frame from twisting
- Frame benefits, *not* the purlin



Secondary

- New Channel Purlin Brace
- Consolidated G30 purlin brace channel will be used for Erectio and Purlin Bracing.
- Sag angles will be discontinued.
- Used as “discrete” bracing, for untested panels, or fixed clip locations.
- Not allowed with 7” purlins

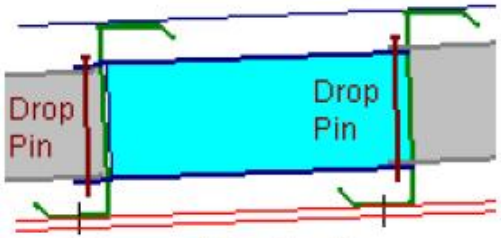


Secondary

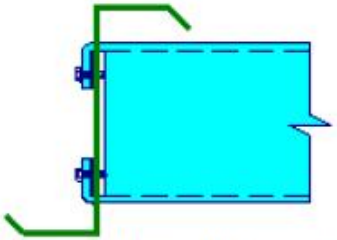
Channel Purlin Bracing (Sag Angle replacement)

NOTE: Sag Angles may be supplied depending on manufacturing location for a short period of time

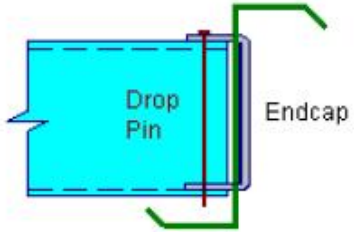
New method for Purlin Support when required by Design for the Panels, and for Erection Bracing.



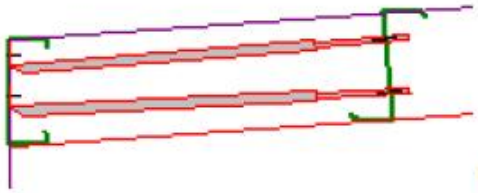
Channel Purlin Brace Continuous



Channel Purlin Brace Terminating Low Side

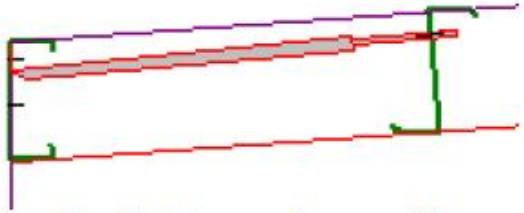


Channel Purlin Brace Terminating High Side

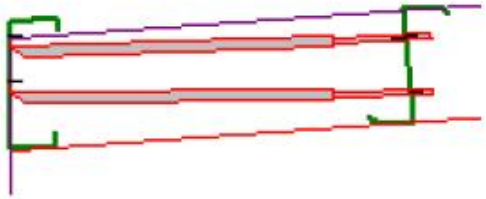


Purlin

Brace Assembly Not at a Frame

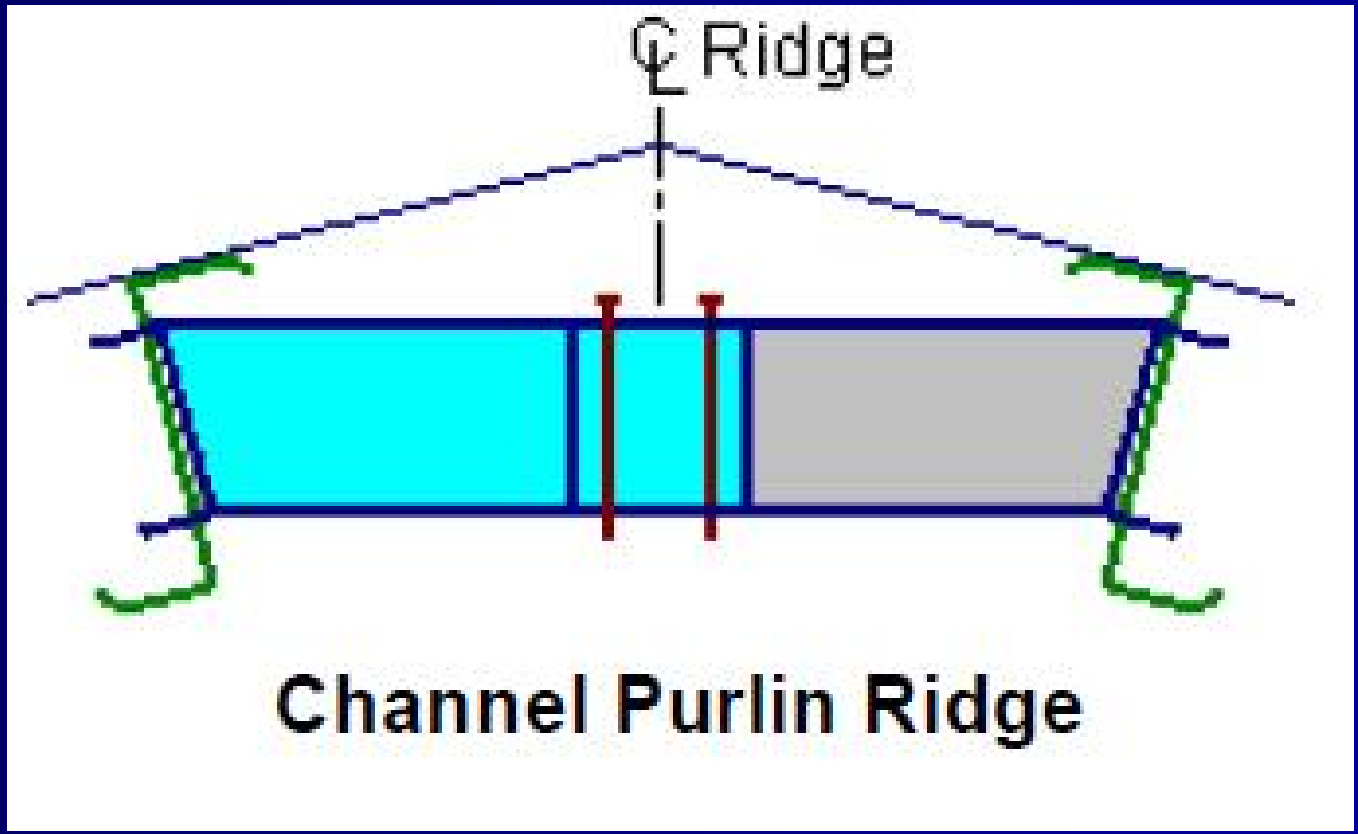


Purlin Brace Assembly At a Frame



Insulated Roof Panel Not at a Frame

Secondary



Roof Secondary Framing

Larger Bays

(30 feet +)

Roof Secondary Larger Bays

11 1/2” Purlins

Features:

- Spans in excess of 30’
- May be used with Panel Rib roof system
- Cost may be greater than Transbay

Purlins at Hip / Valley

Truss Purlin

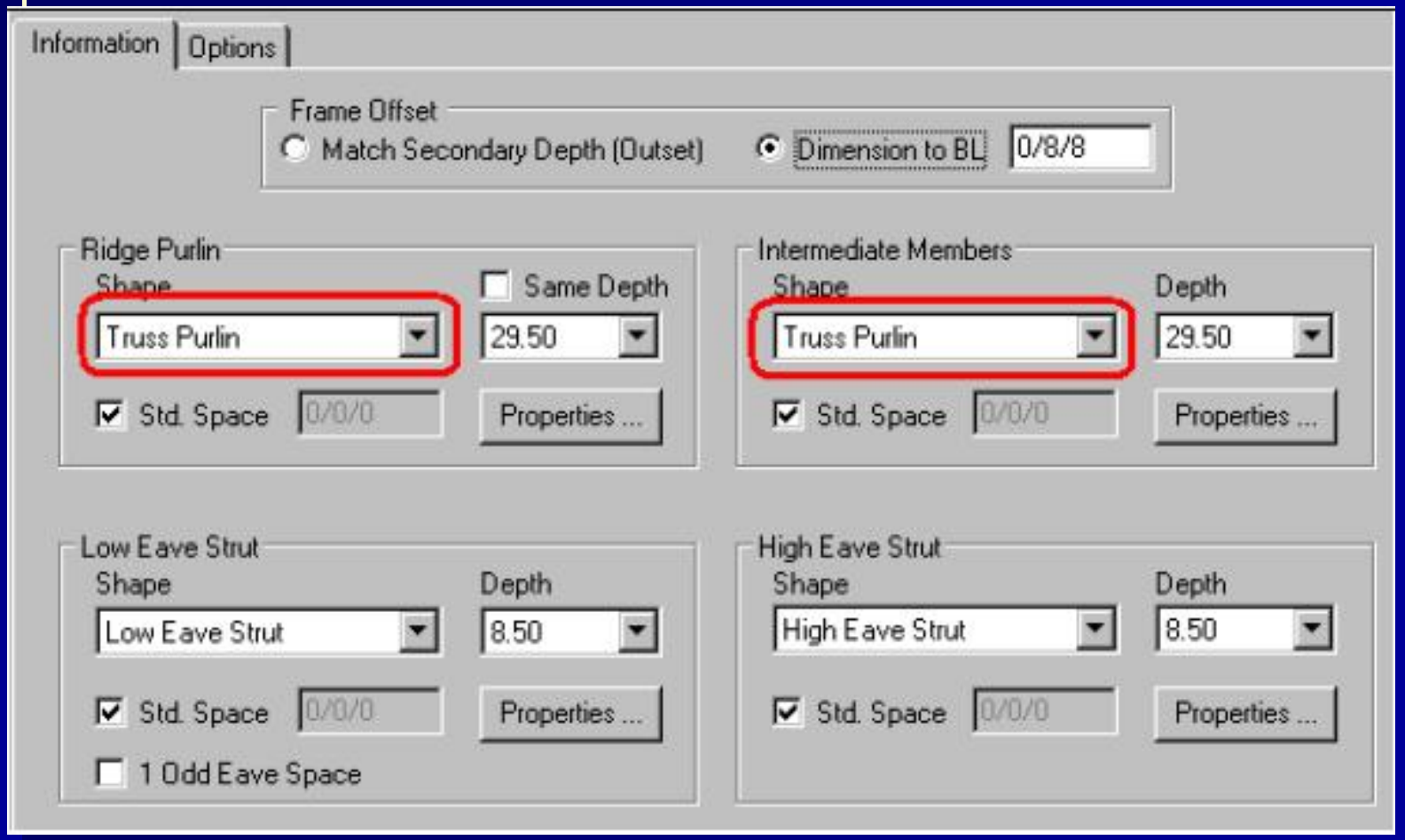
Secondary

Truss Purlin

- A new long span solution utilizing a truss purlin will be available.
- VP Wide Bay will still be offered, for a limited time.
- End seat depth of 8½” with an optional 2½”
- Two truss purlin depths available – 20½” and 29½” (default being 29½”)
- Bottom chord building bracing system only
- Rake beam and primary frames will be designed with depths to accommodate bottom chord bracing.
- Available from BlueScope Buildings Manufacturing in Monterrey, Mexico or Laurinburg, NC.

Secondary

Truss Purlin – VPCommand Screen



Secondary

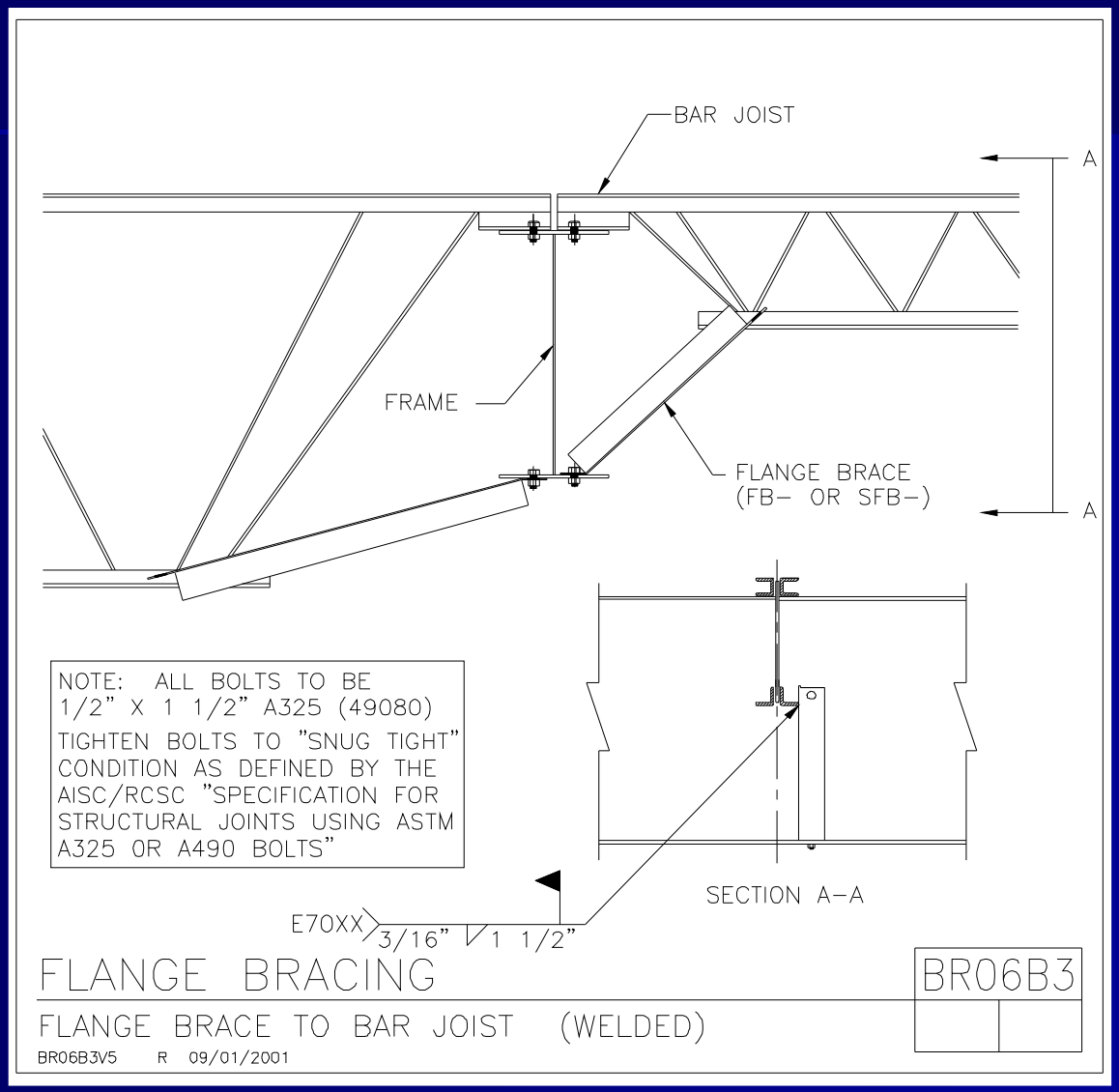
Trussed Purlin

Truss Purlins.

- 2.5" and 8.5" seat depth options
- 20.5" and 29.5" overall depth options
- Must be bottom cord braced, no top chord bracing allowed.
- Minimum rafter depths are enforced for bottom chord bracing, and the system will automatically adjust the rafter depths as required.
- Minimum 12" sidewall column depth to support BC brace details.
- Wrap around details are generated to prevent bottom chord interference with interior column or endpost locations
- Max. 4' roof overhangs allowed

Bar Joist

Flange Brace at Bar Joist

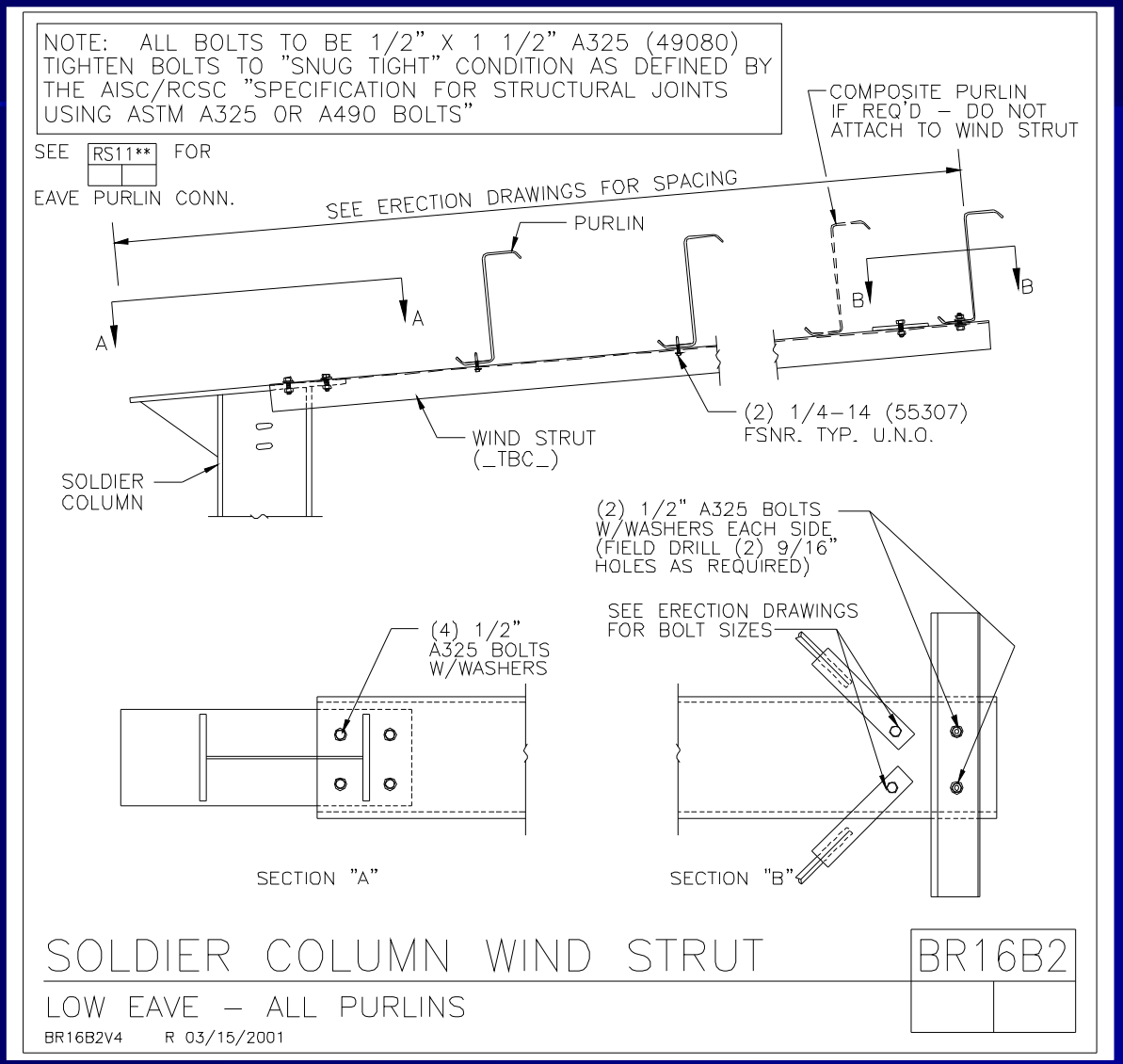


Wall Secondary / Larger Bays

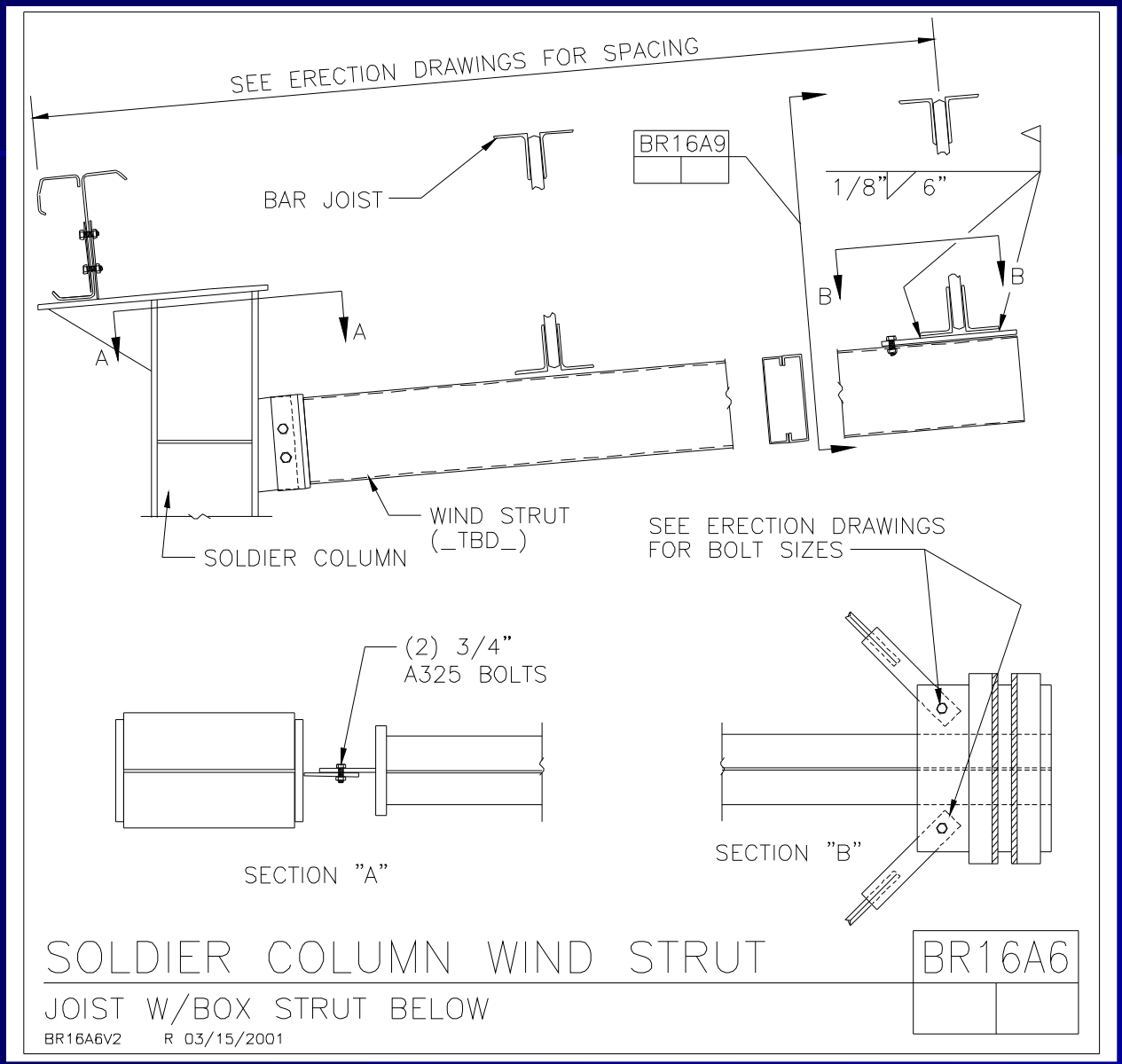
A Soldier Column is used to reduce the span of the sidewall girts with larger bays (30’-0” +).

Wall Secondary Soldier Column

Soldier Column with Purlins



Soldier Column with Bar Joist

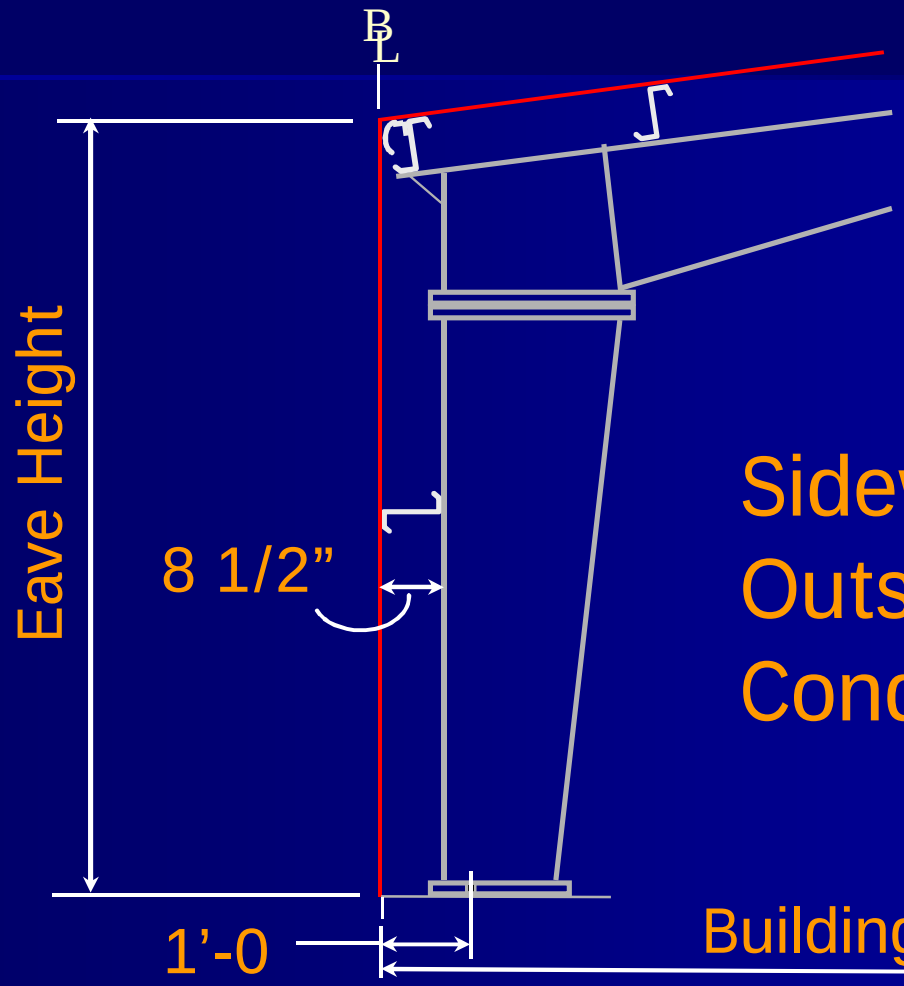


Soldier Column with WBTP

Secondary Framing

Wall

Wall Secondary Framing

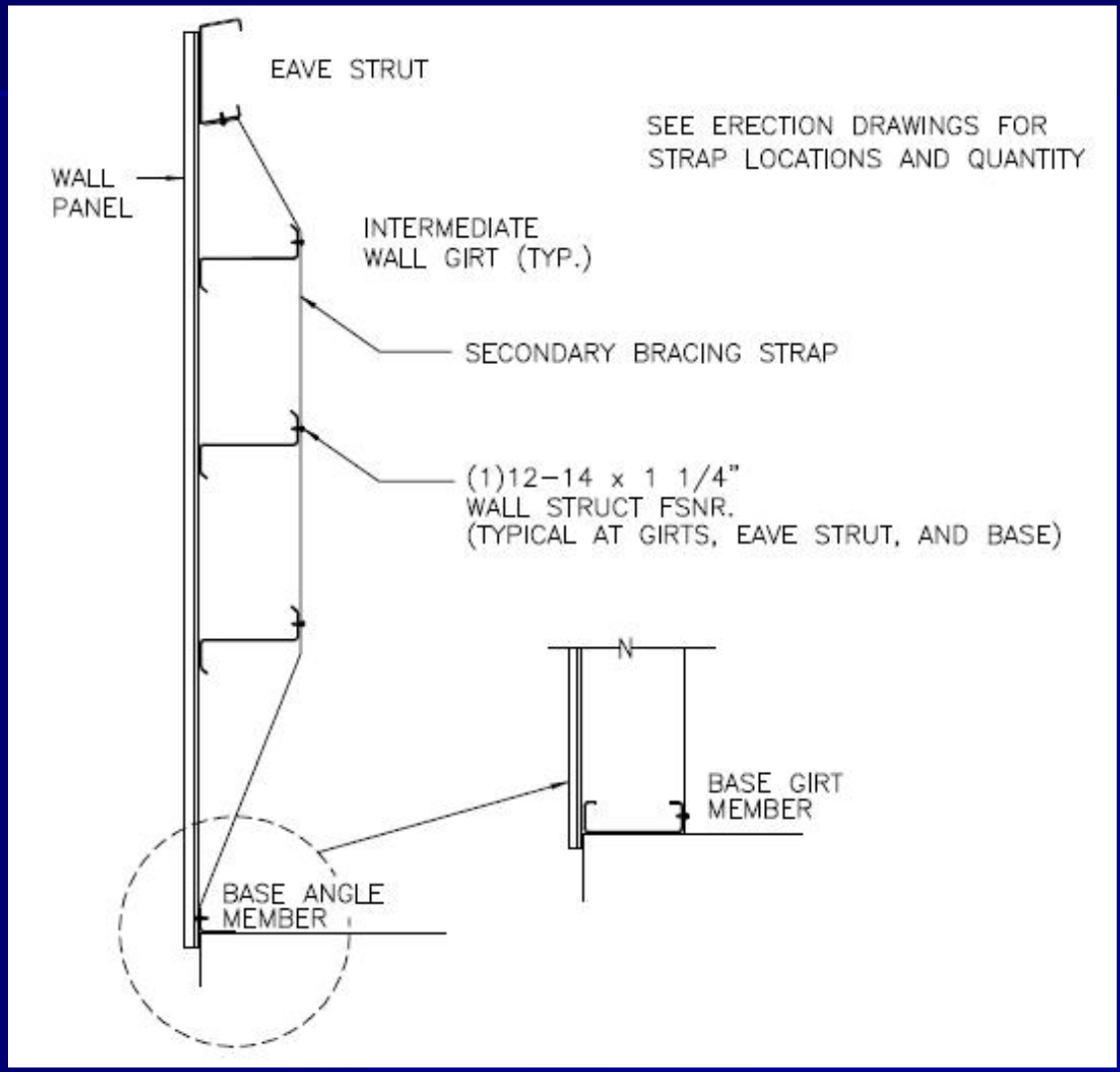


Sidewall
Outset Girt
Condition

Secondary

Girt Bracing Straps

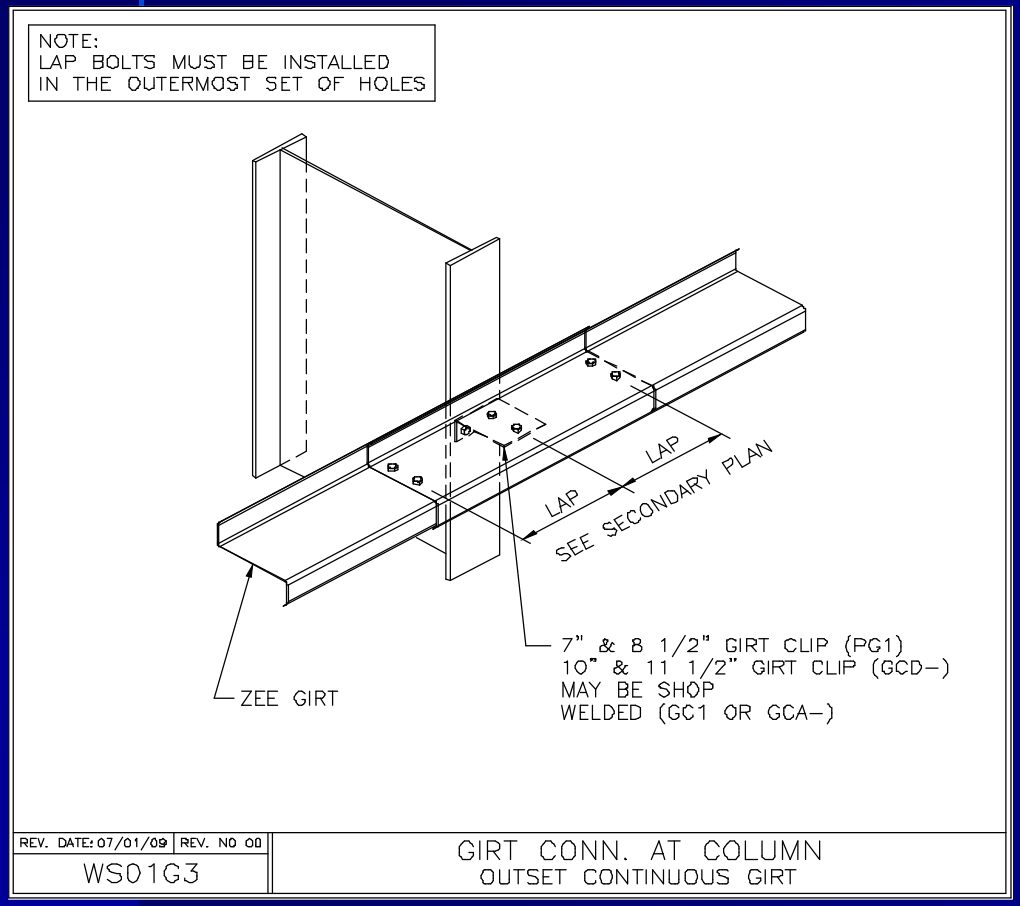
- For discrete bracing of wall secondary in long bays or when wall material is not furnished by VP girt strapping will be used.



49

Wall Secondary Framing

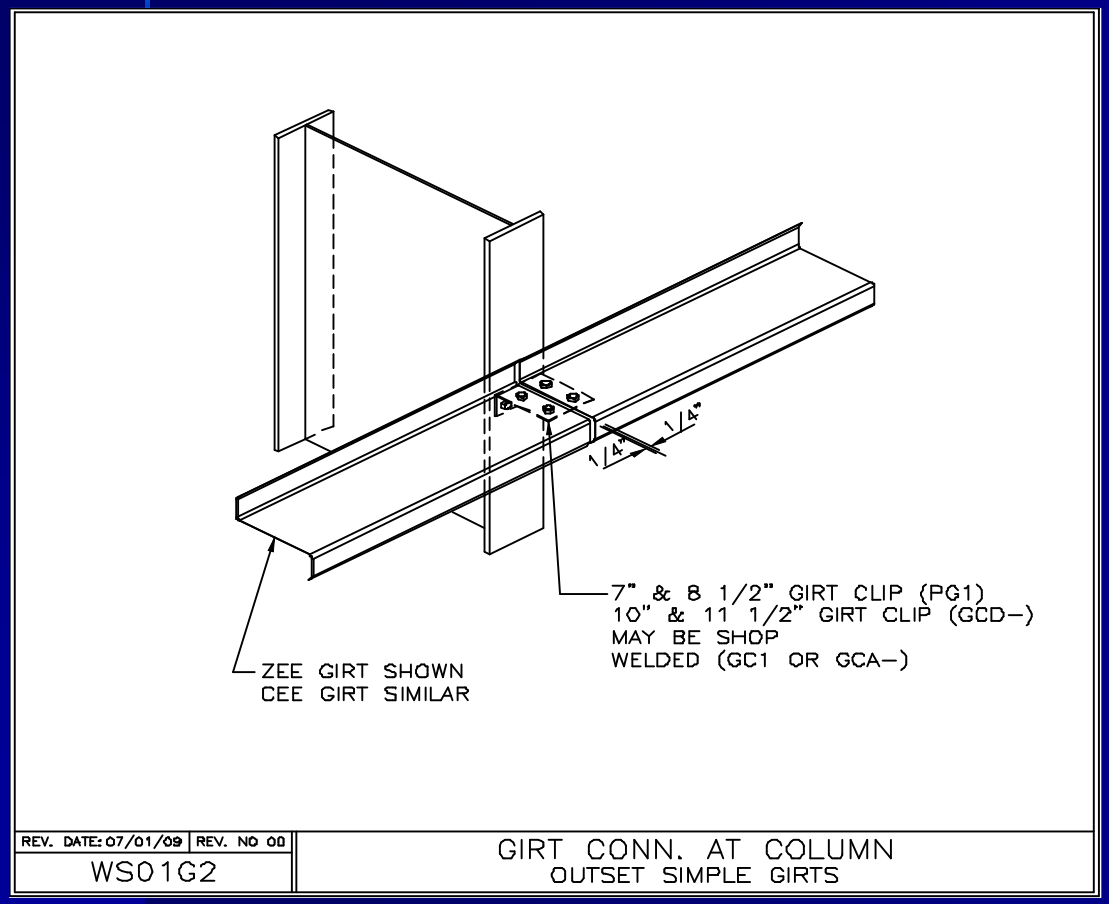
Continuous Span Outset Girts



- Girts lap at frame connections
- Stronger, may decrease cost

Secondary

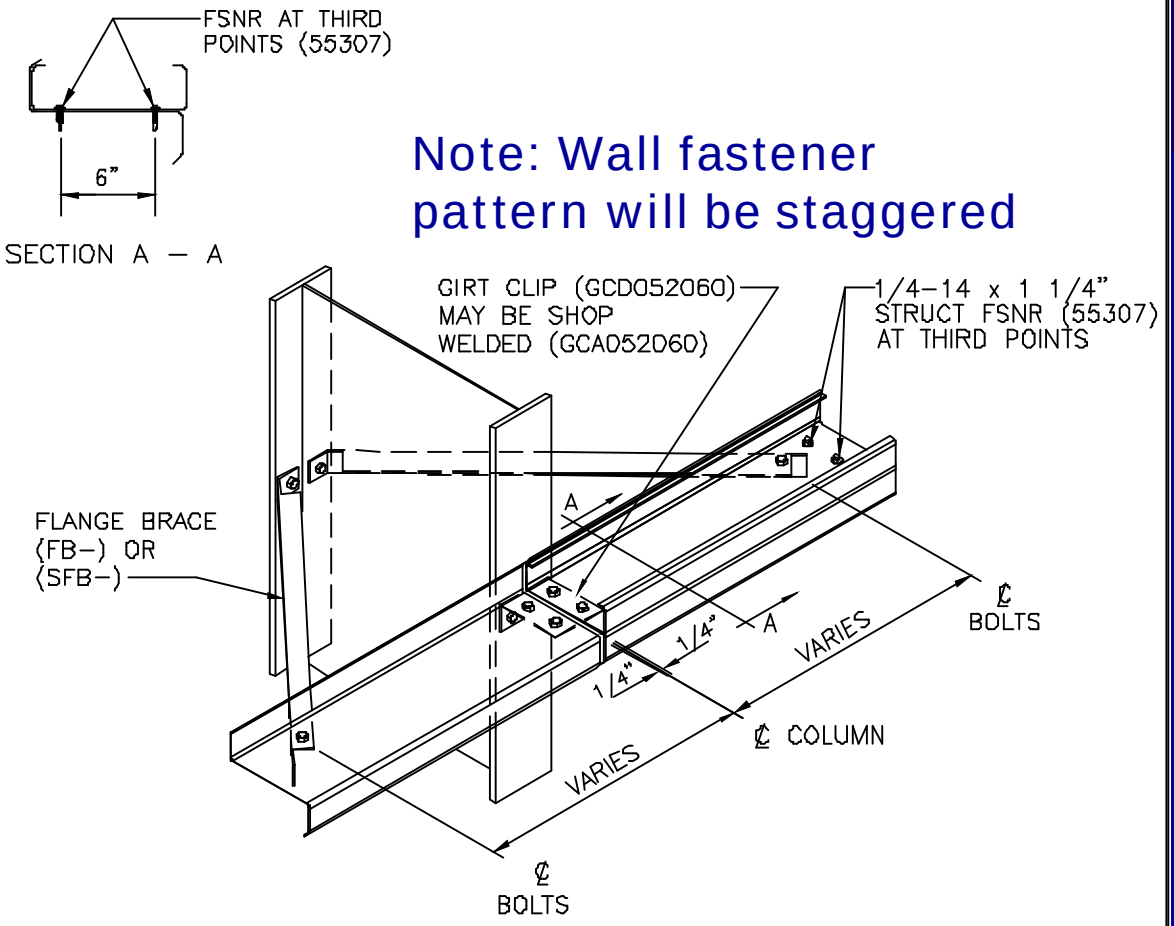
Simple Span Outset Girts

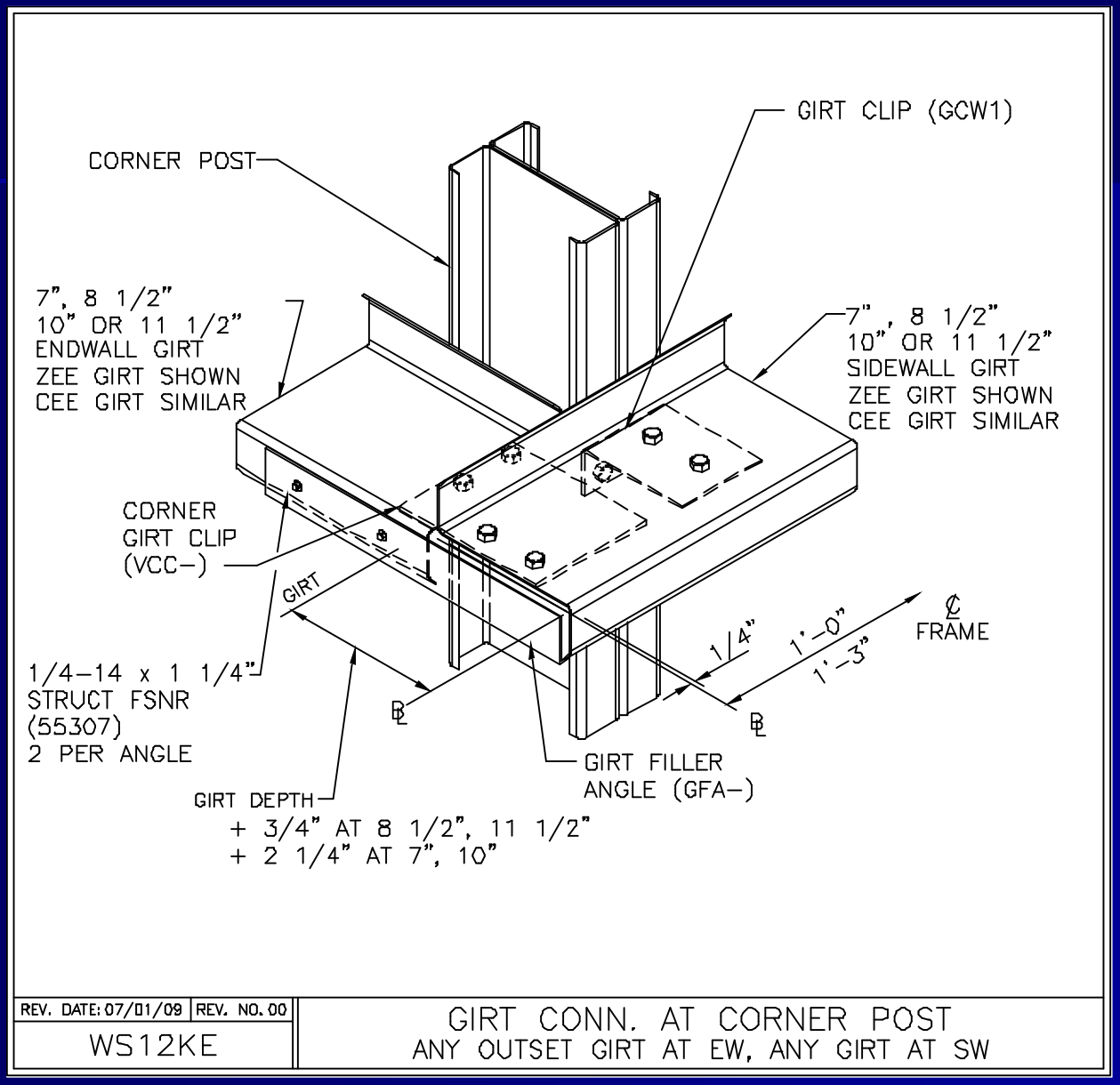


- Do not lap adjacent girts

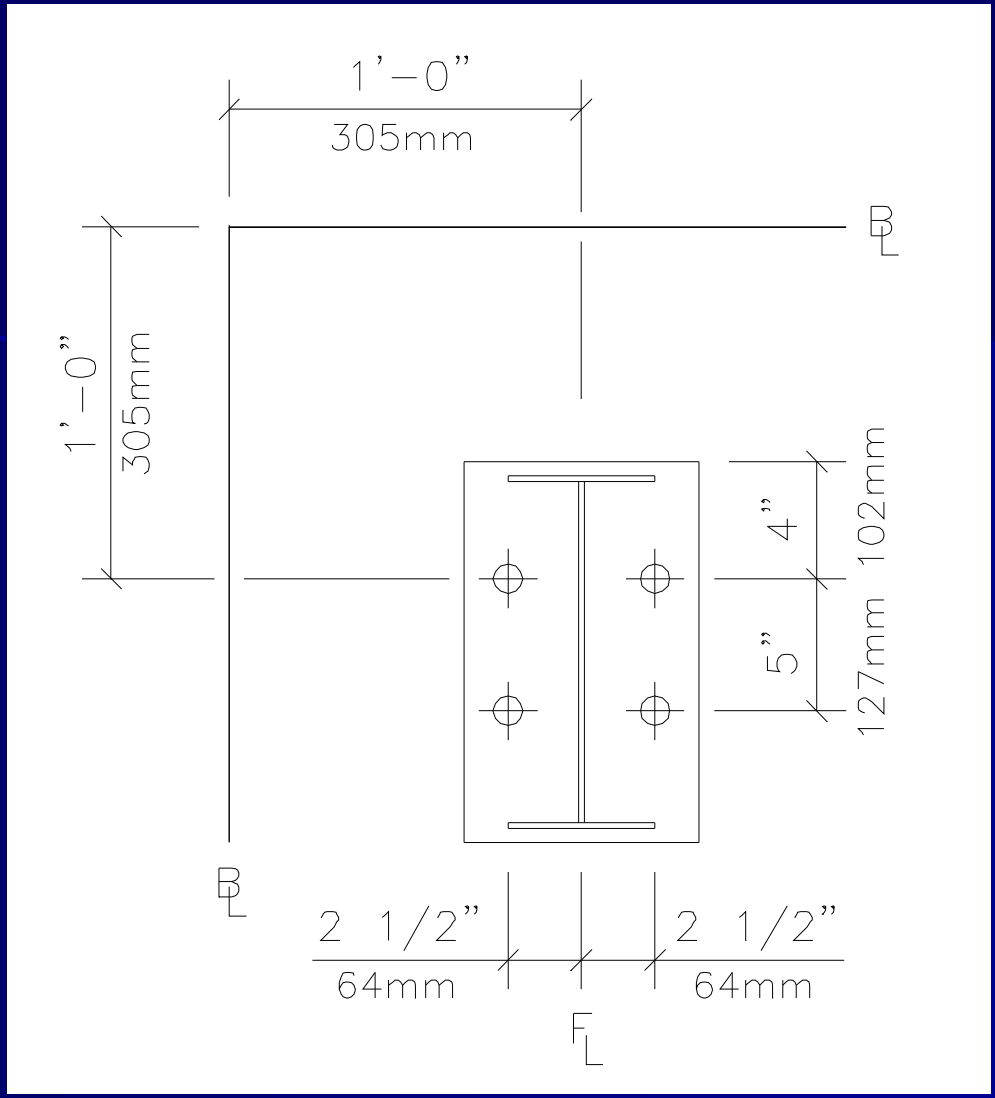
Secondary

Simple Span Outset Girts-Nested





REV. DATE: 07/01/09	REV. NO. 00
WS12KE	GIRT CONN. AT CORNER POST ANY OUTSET GIRT AT EW, ANY GIRT AT SW

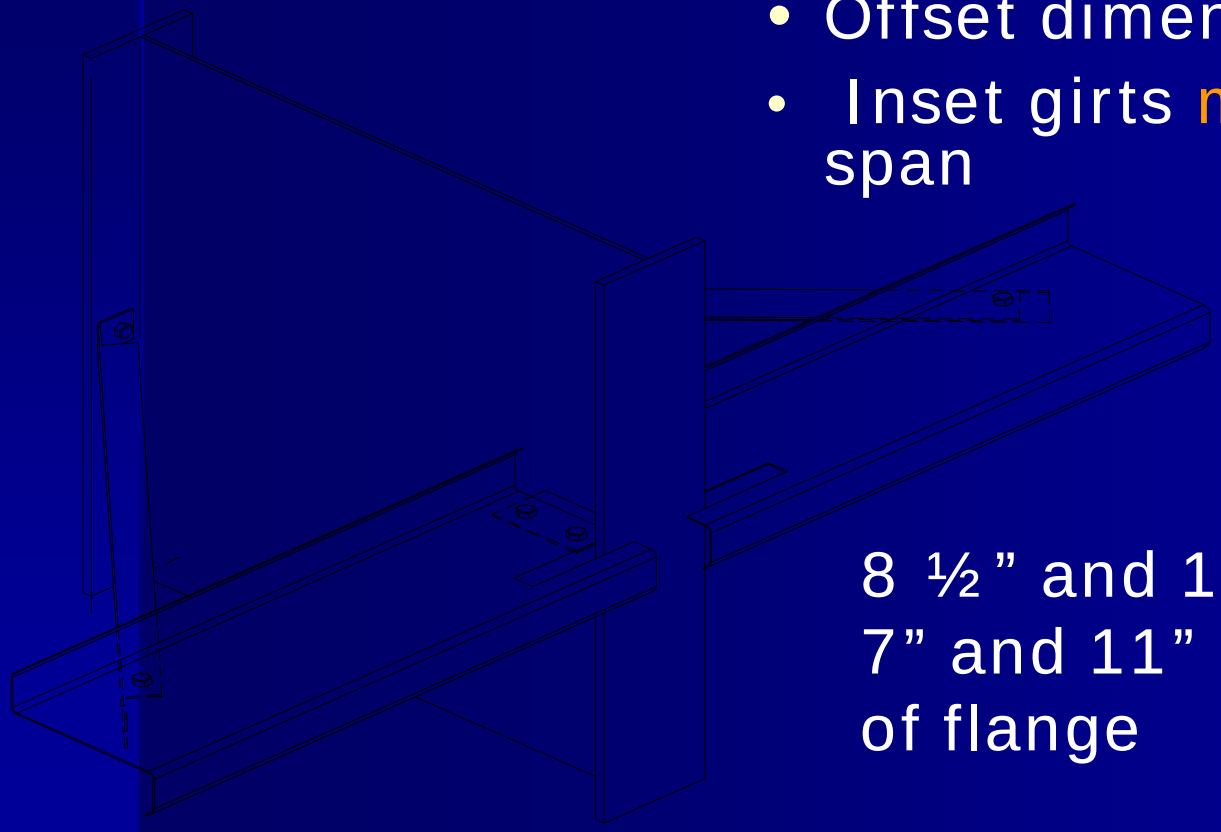


AB Layout at Corner (Outset/Outset 7" & 8 ½")

Wall Secondary Framing

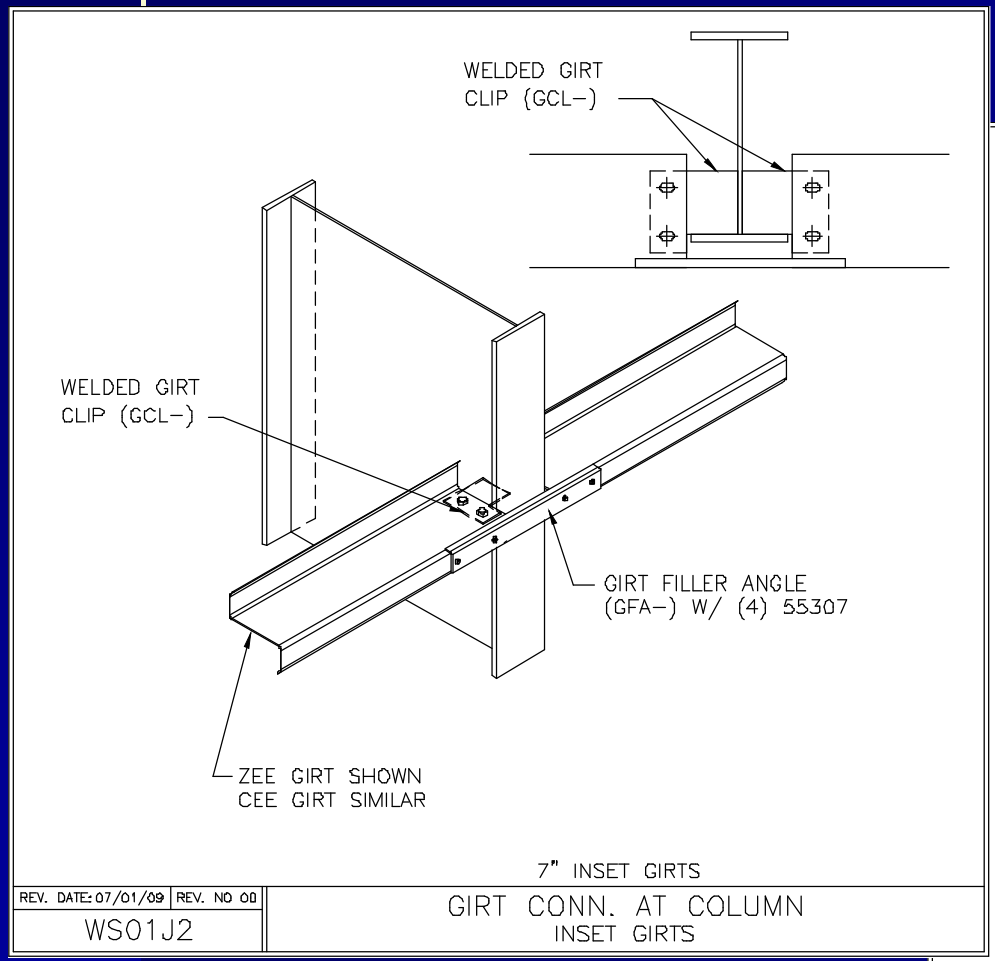
Simple Span Inset Girts

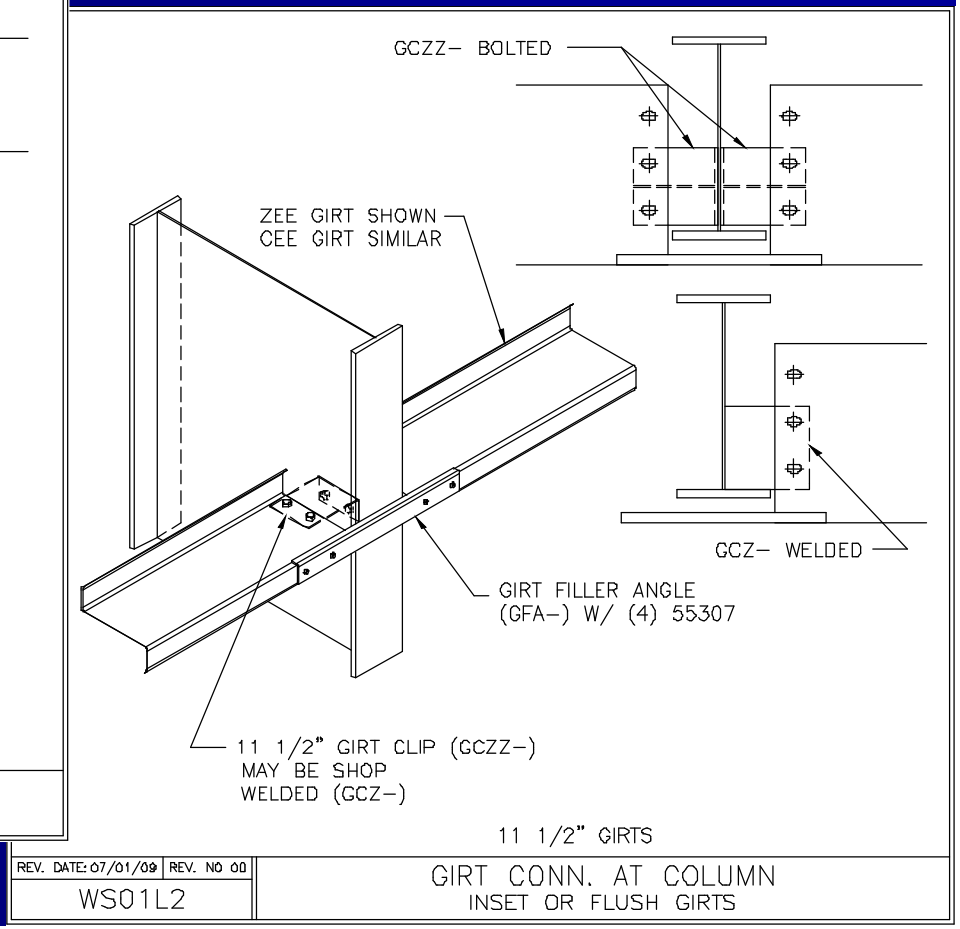
- 1 5/8” standard Inset (shown)
- Offset dimension may vary
- Inset girts must be simple span



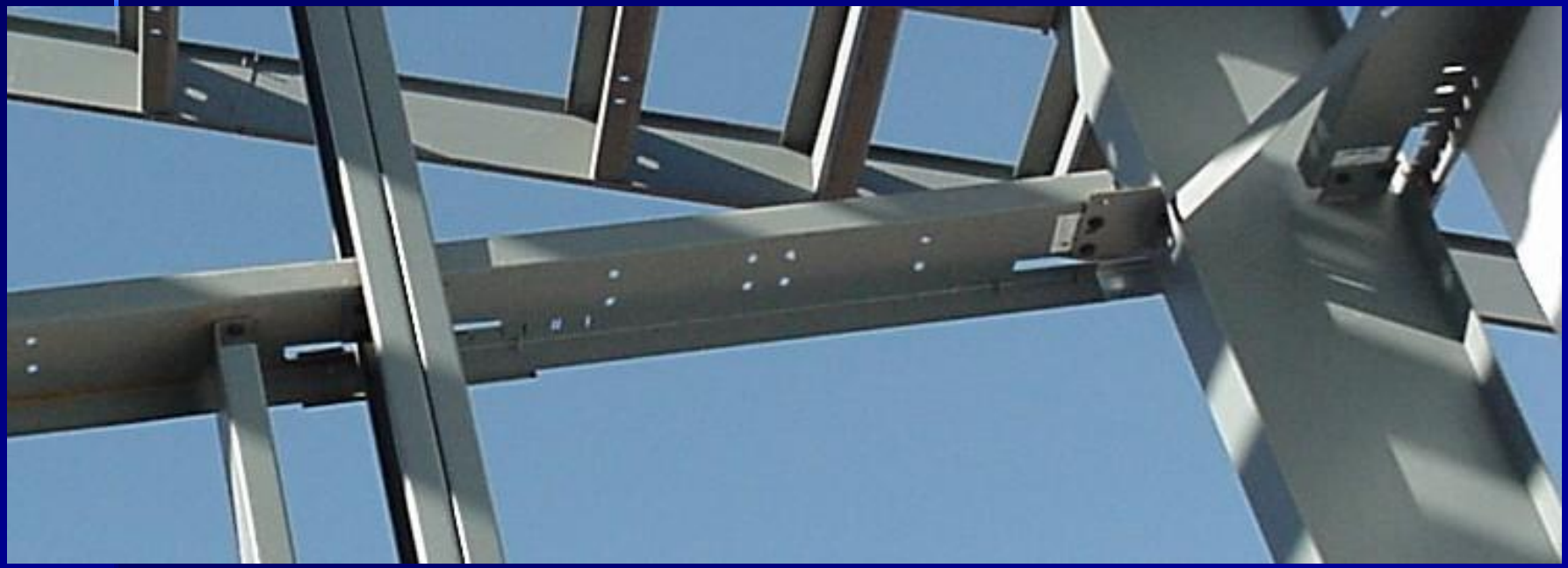
8 ½” and 10” are notched; 7” and 11” are stopped short of flange

Secondary – 7” & 11 ½” Inset

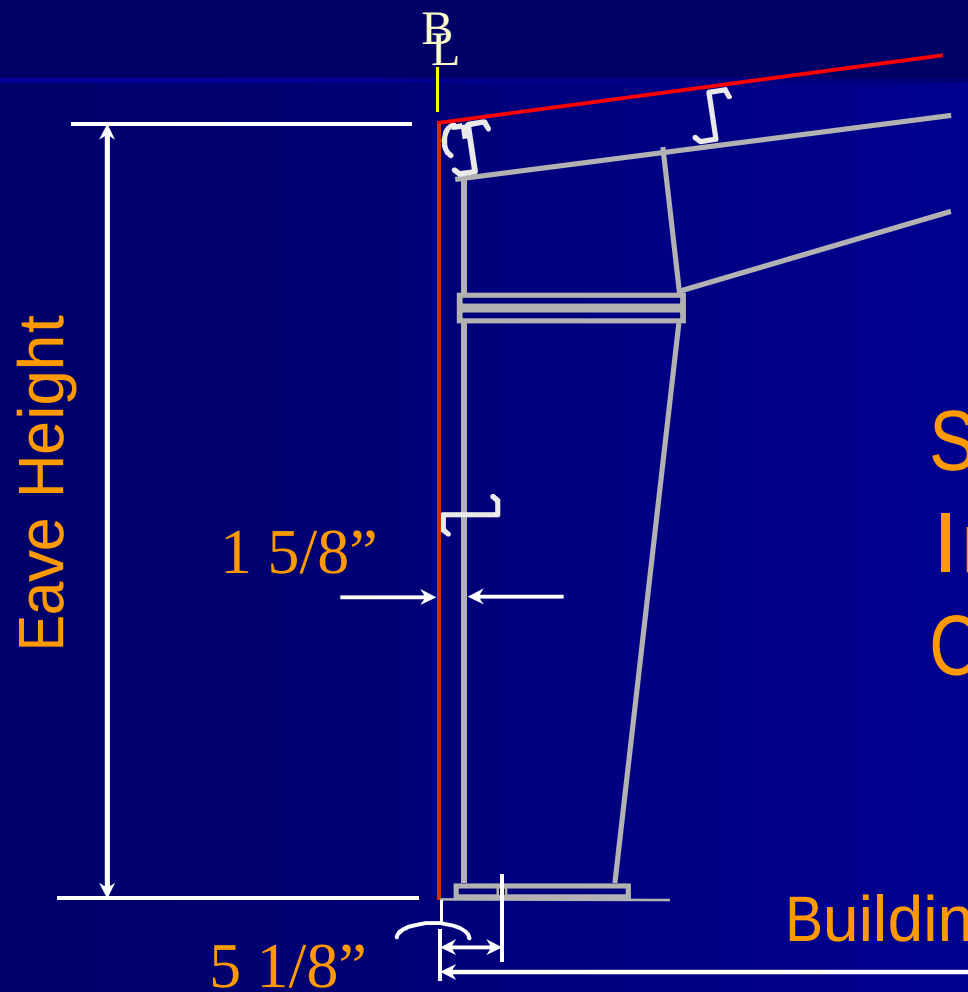




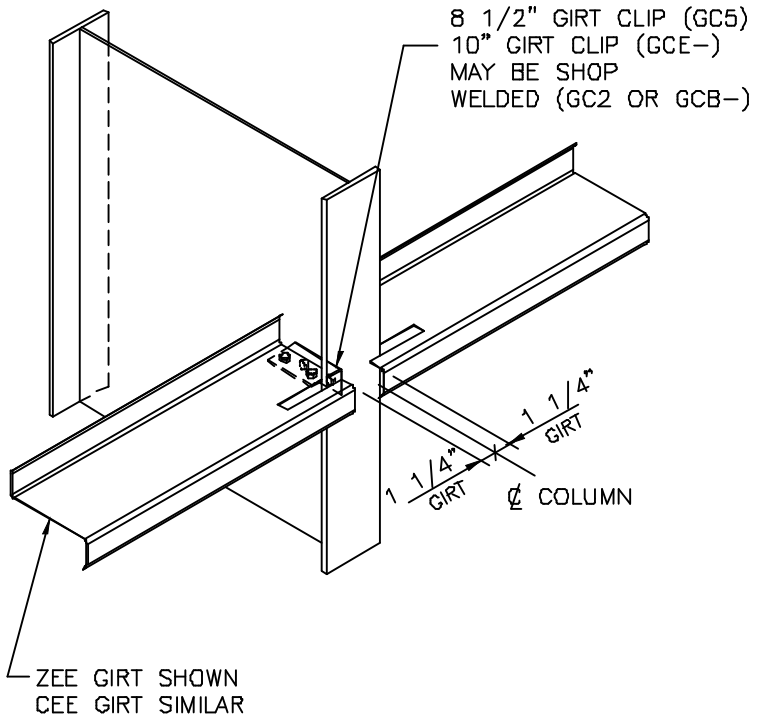
Inset Girts



Wall Secondary Framing



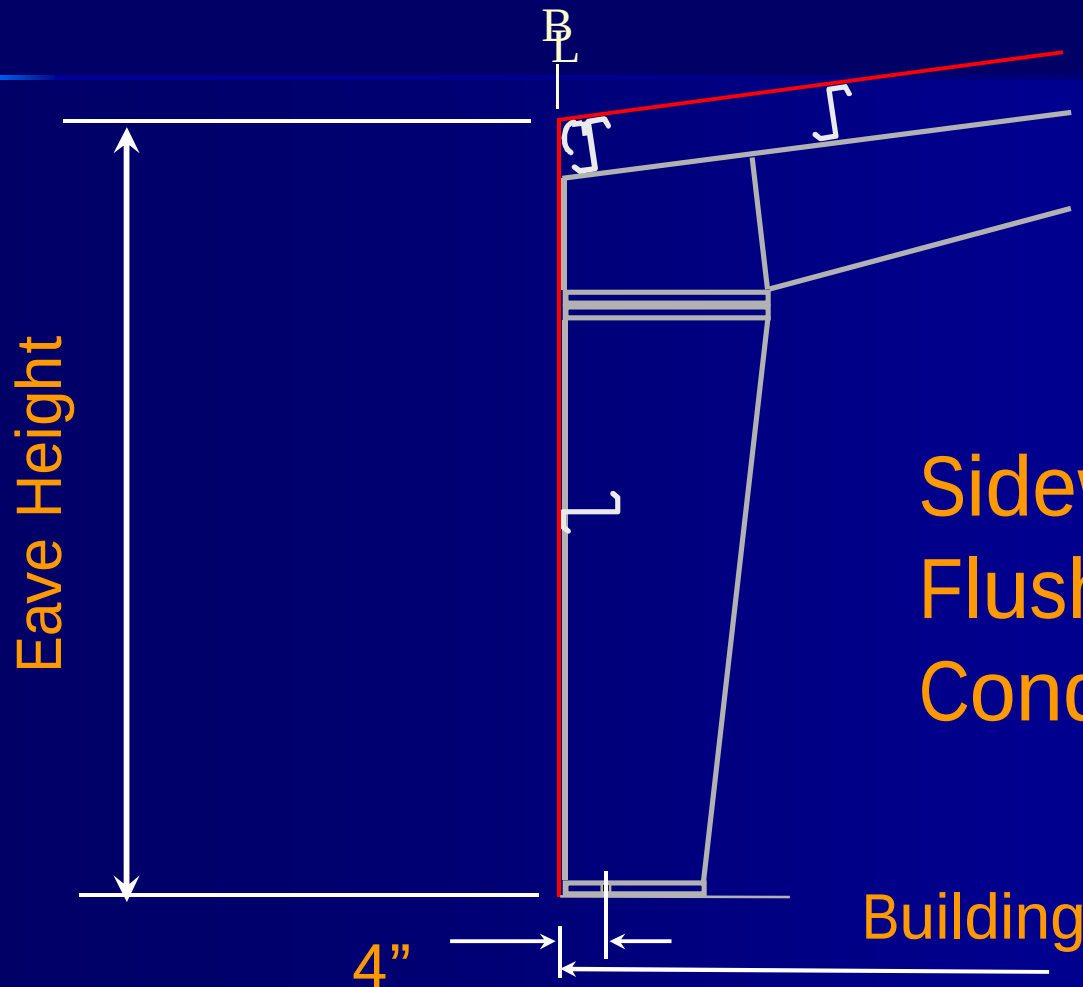
Sidewall
Inset Girt
Condition



8 1/2" & 10" INSET GIRT

REV. DATE: 07/01/09	REV. NO 00
WS01H2	GIRT CONN. AT COLUMN INSET GIRTS

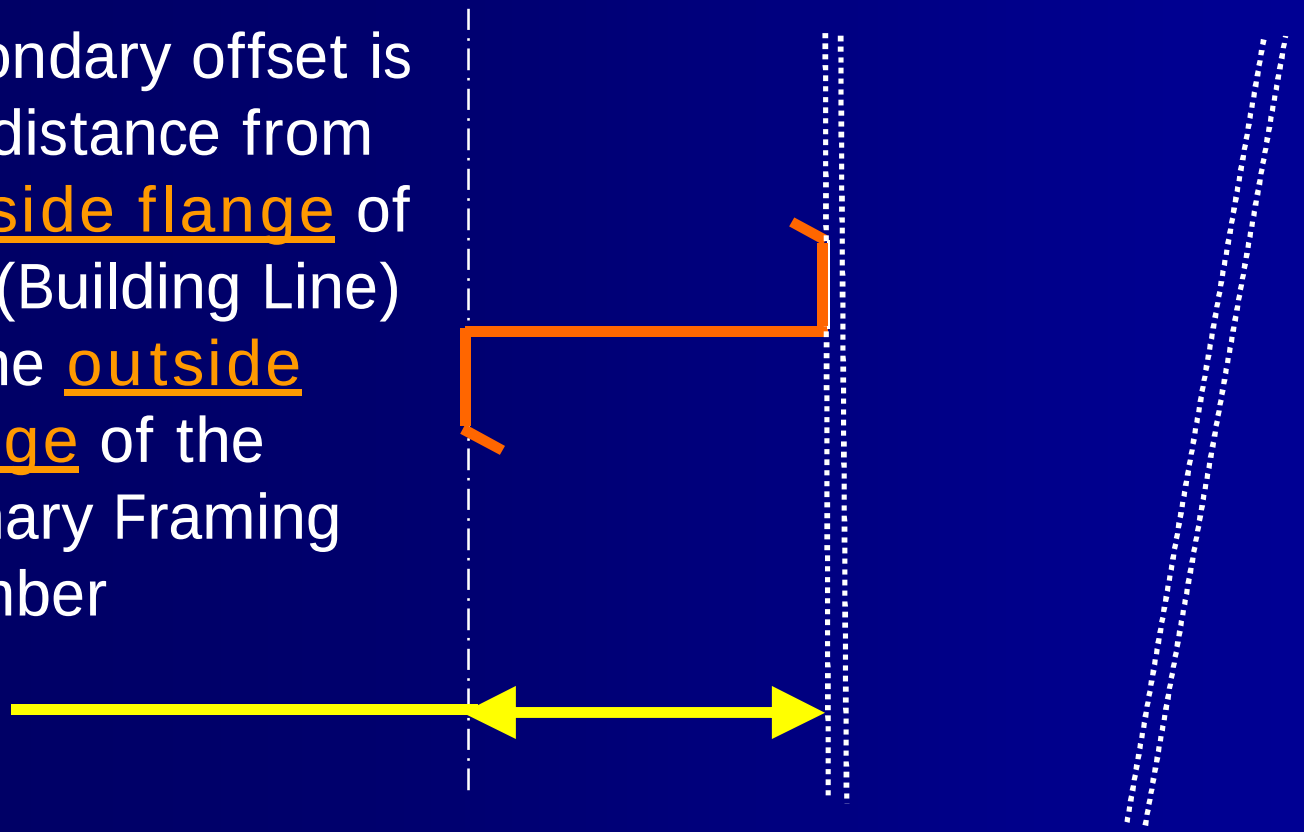
Wall Secondary Framing



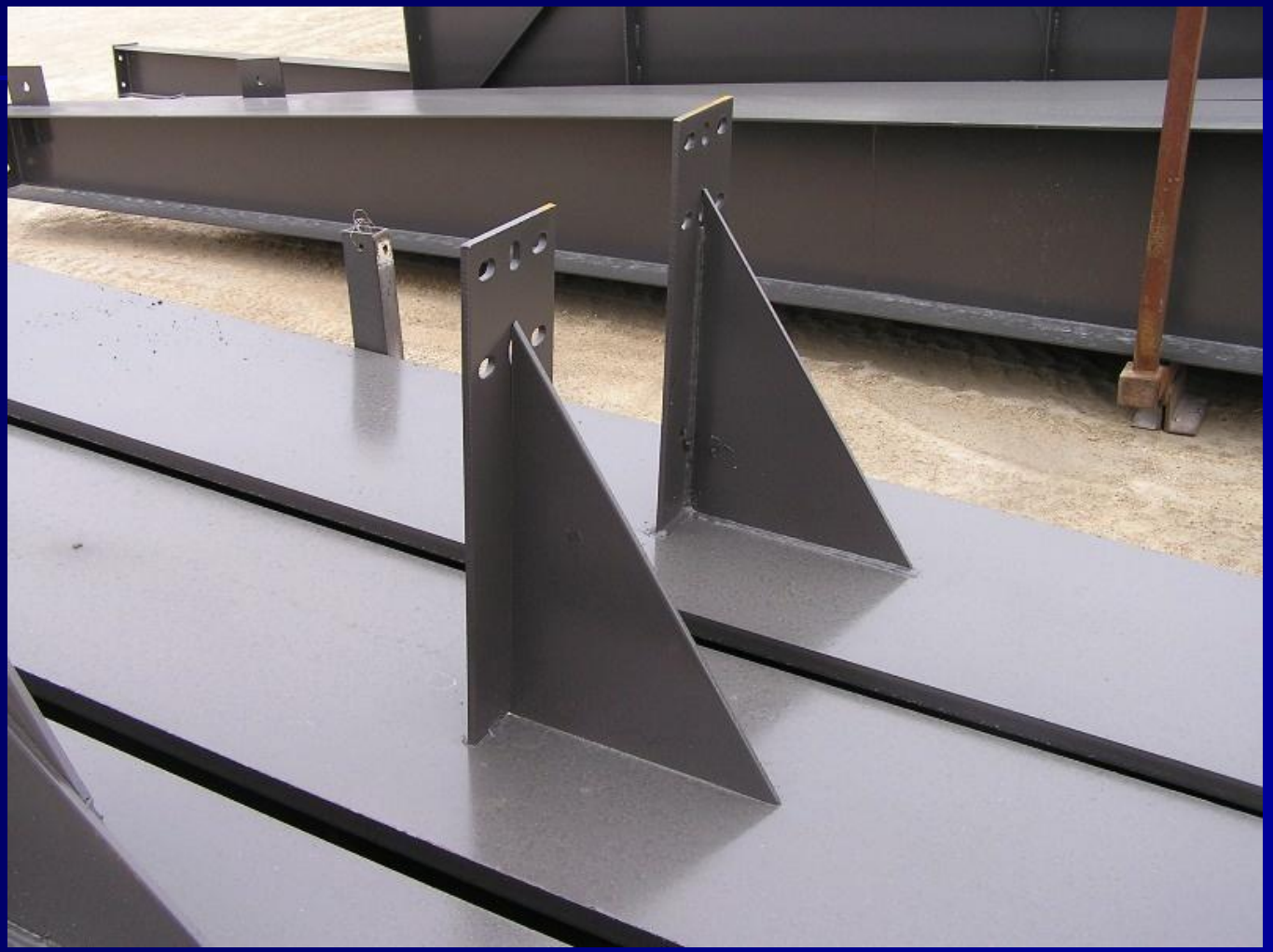
Sidewall
Flush Girt
Condition

Wall Secondary Framing

Secondary offset is the distance from outside flange of girt (Building Line) to the outside flange of the Primary Framing Member



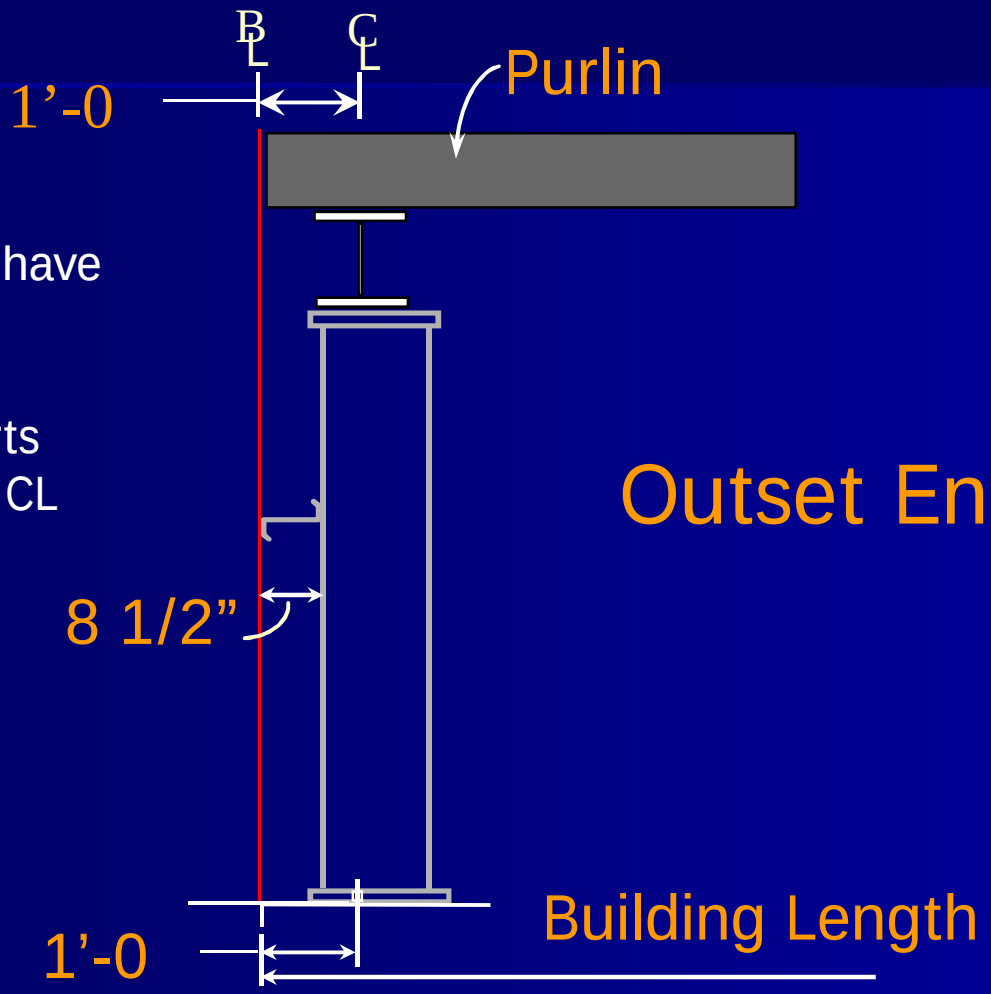
Extended Secondary Clips



Wall Secondary Framing

7” and 8 ½” Girts have 1’ – 0” BL to CL

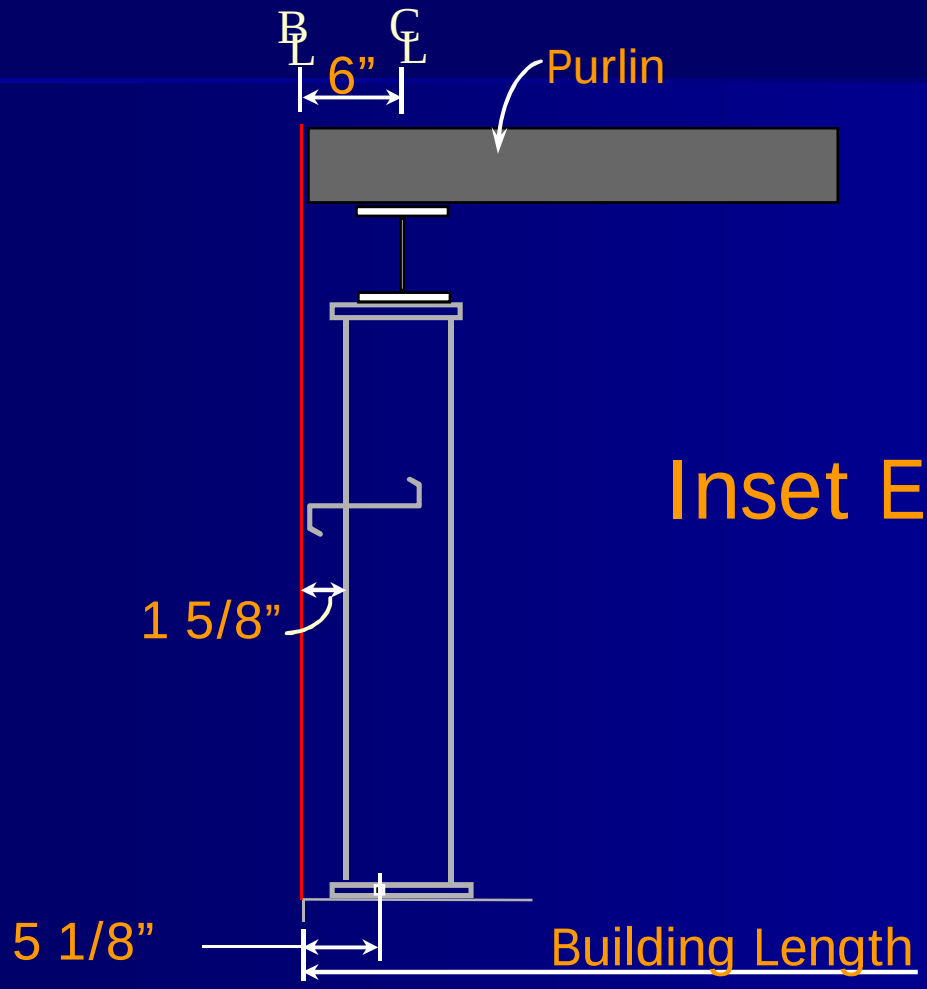
10” and 11 ½” Girts have 1’ – 3” BL to CL



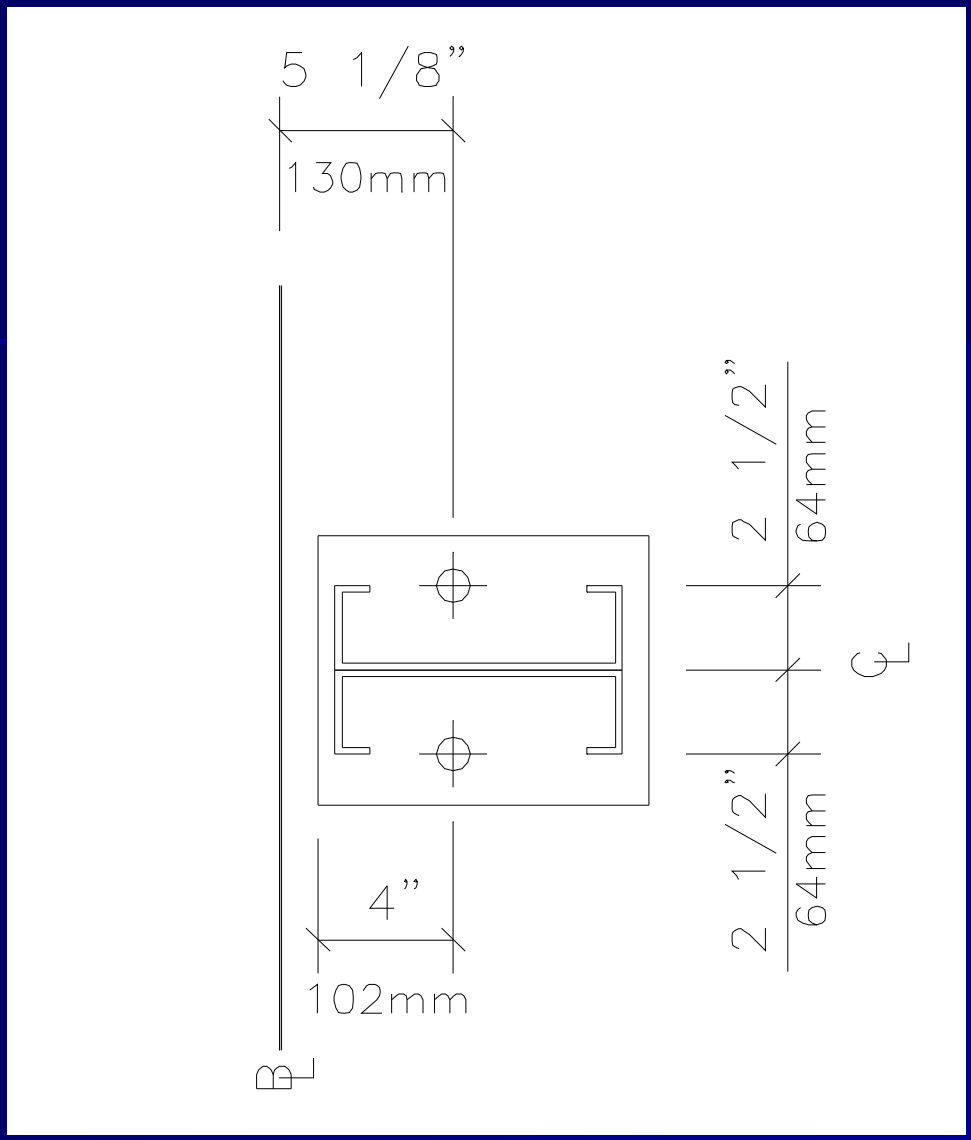
Outset Endwall

Outset Endwall 1’-0” location

Wall Secondary Framing

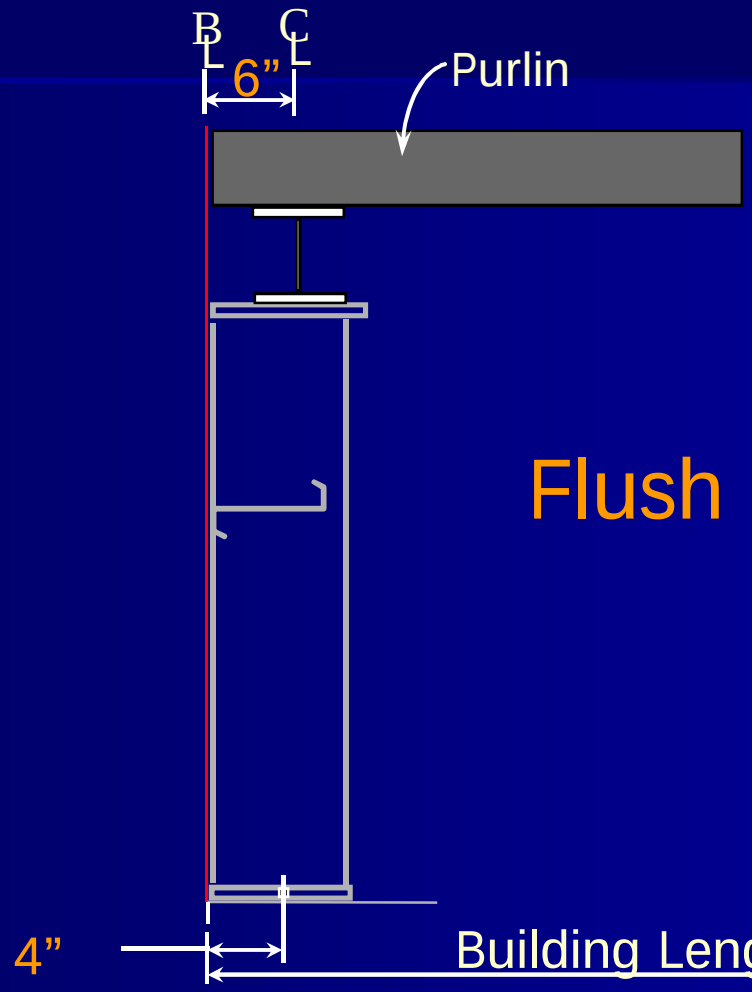


Inset Endwall



AB Layout at Endpost (Inset)

Wall Secondary Framing

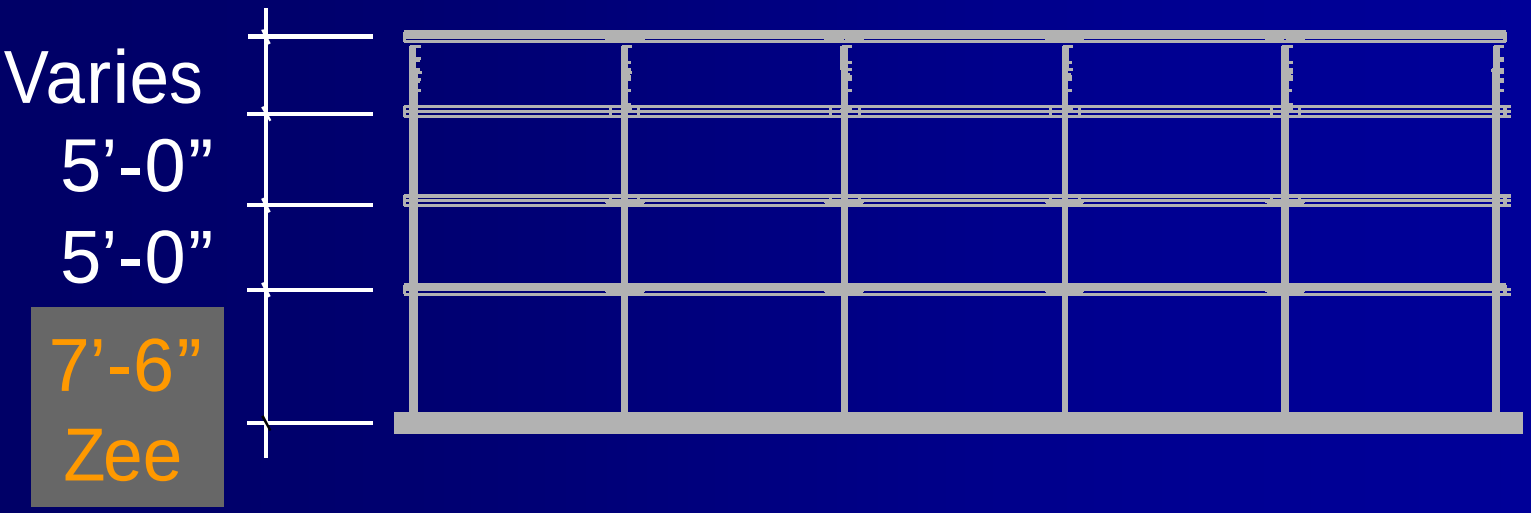


Flush Endwall

Wall Secondary Framing

Panel Rib & Vee Rib Girt Spacings

Standard Spacing

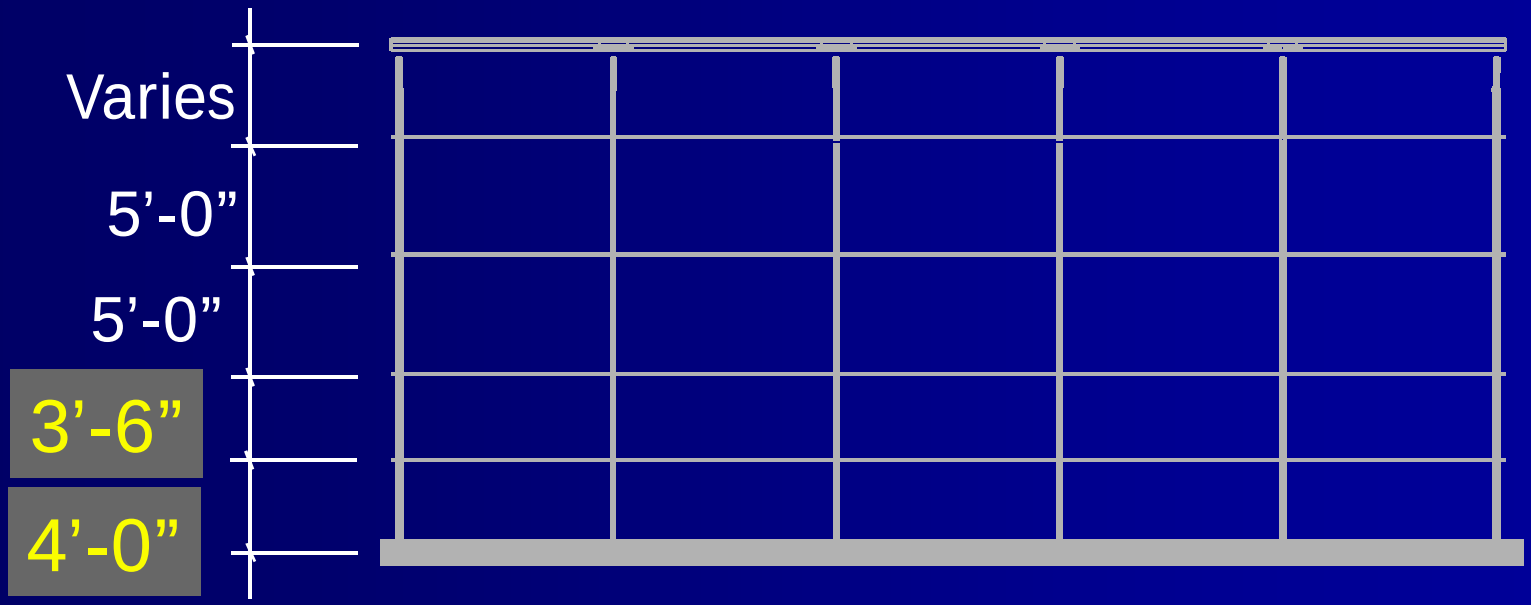


Typical Girt Spacings

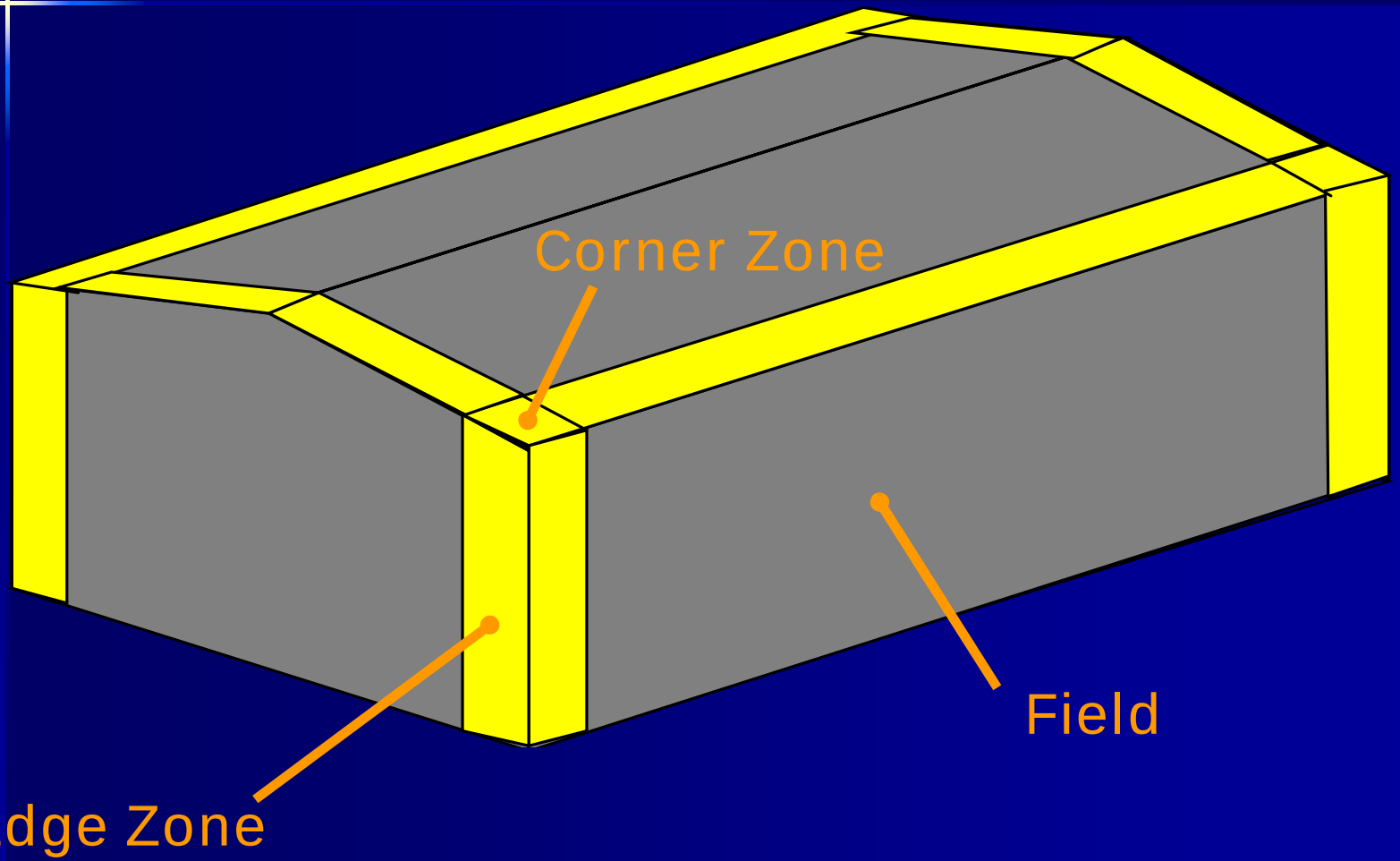
Wall Secondary Framing

Panel Rib & Vee Rib Girt Spacings

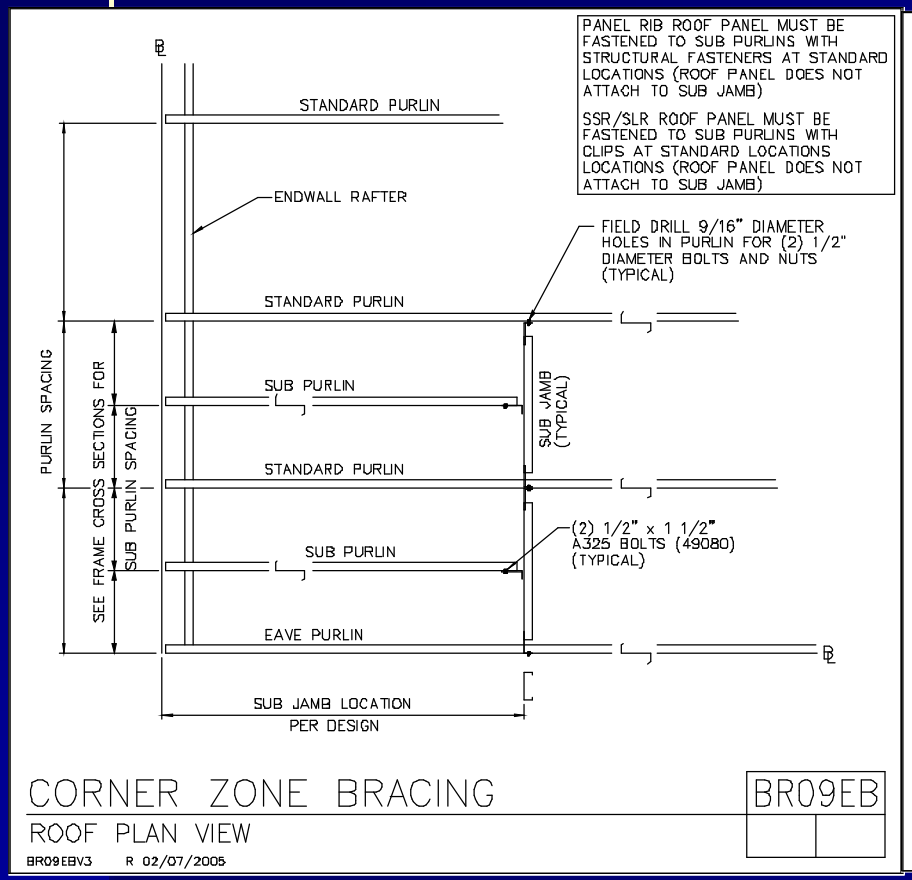
Additional girt may be required
due to wind load.

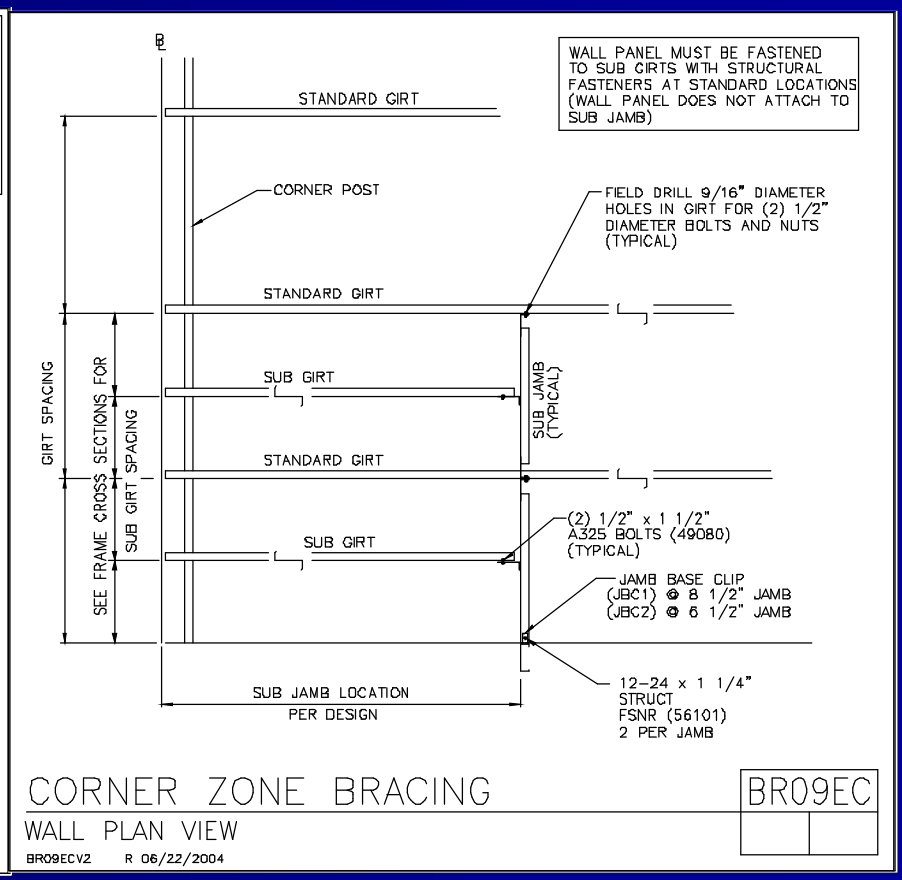


Additional Girt

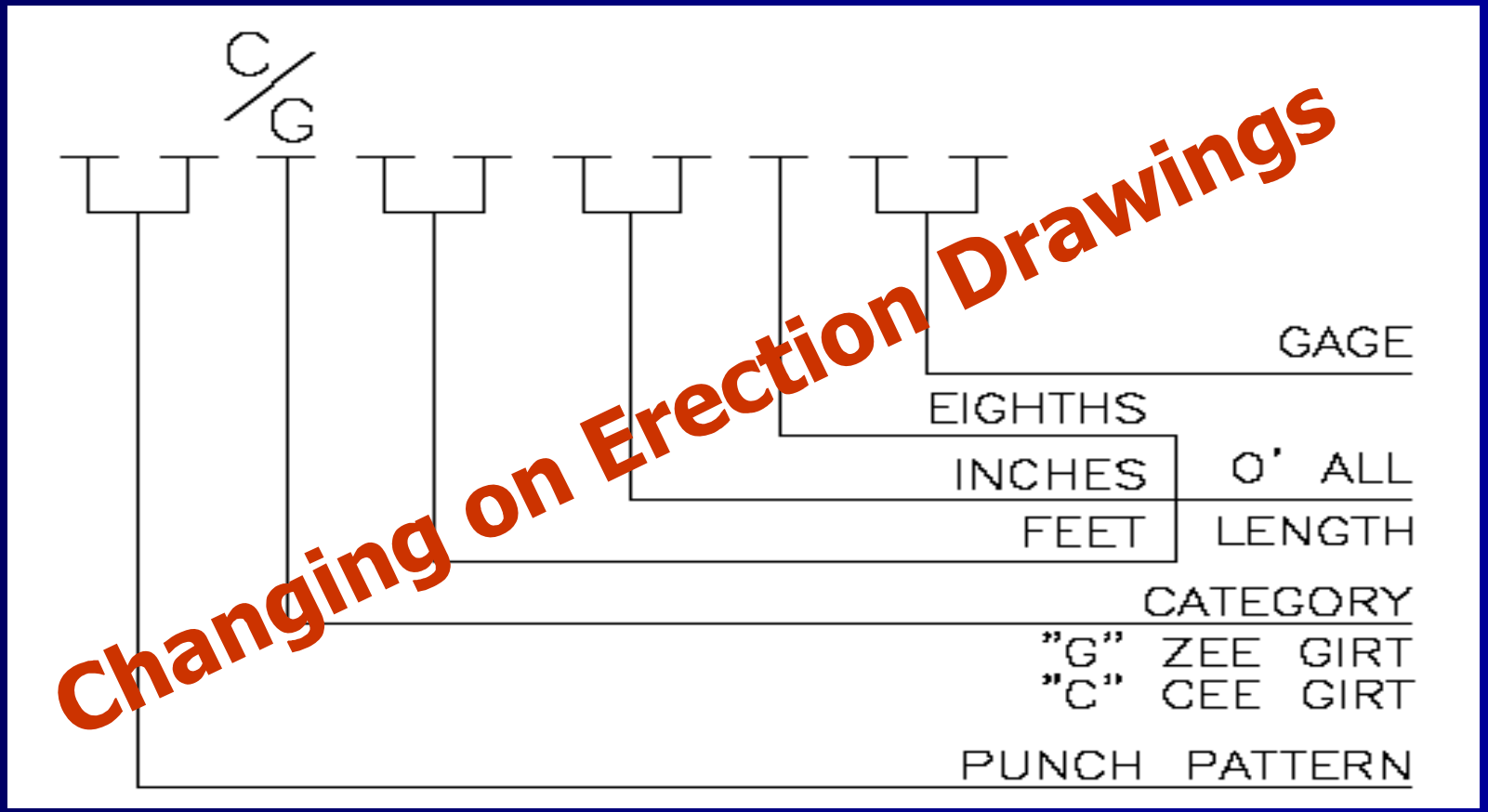


Corner Zone - Additional Secondary



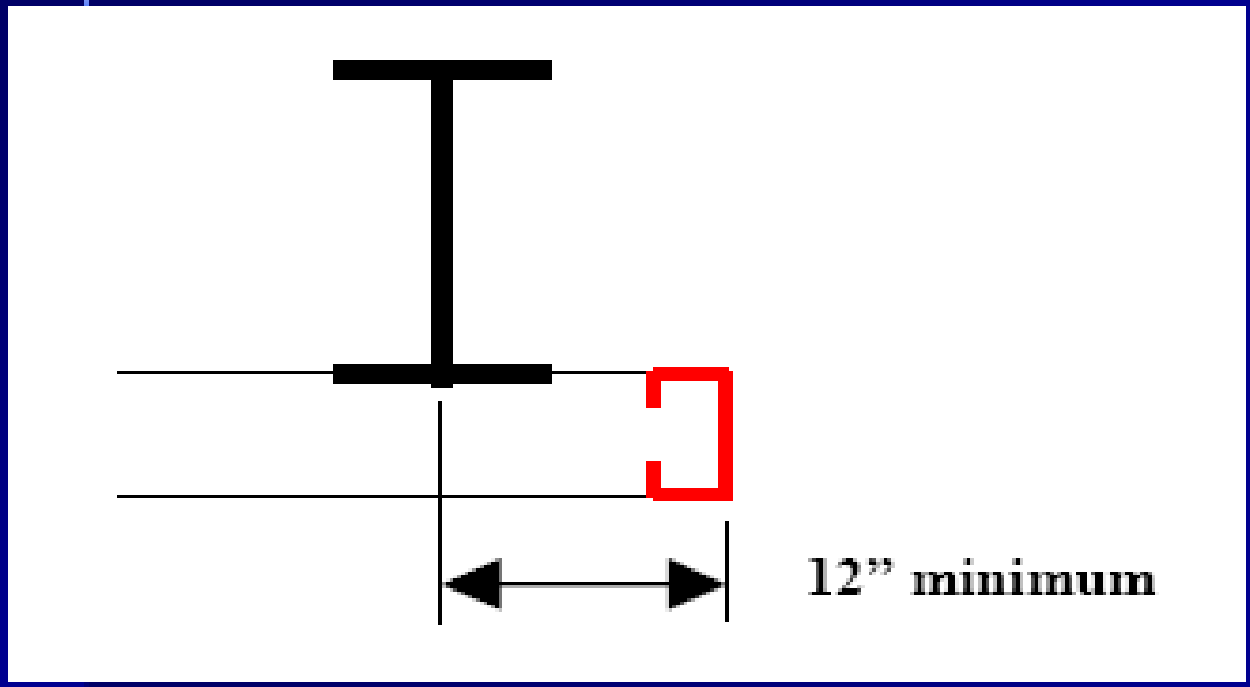


Secondary Mark Numbers



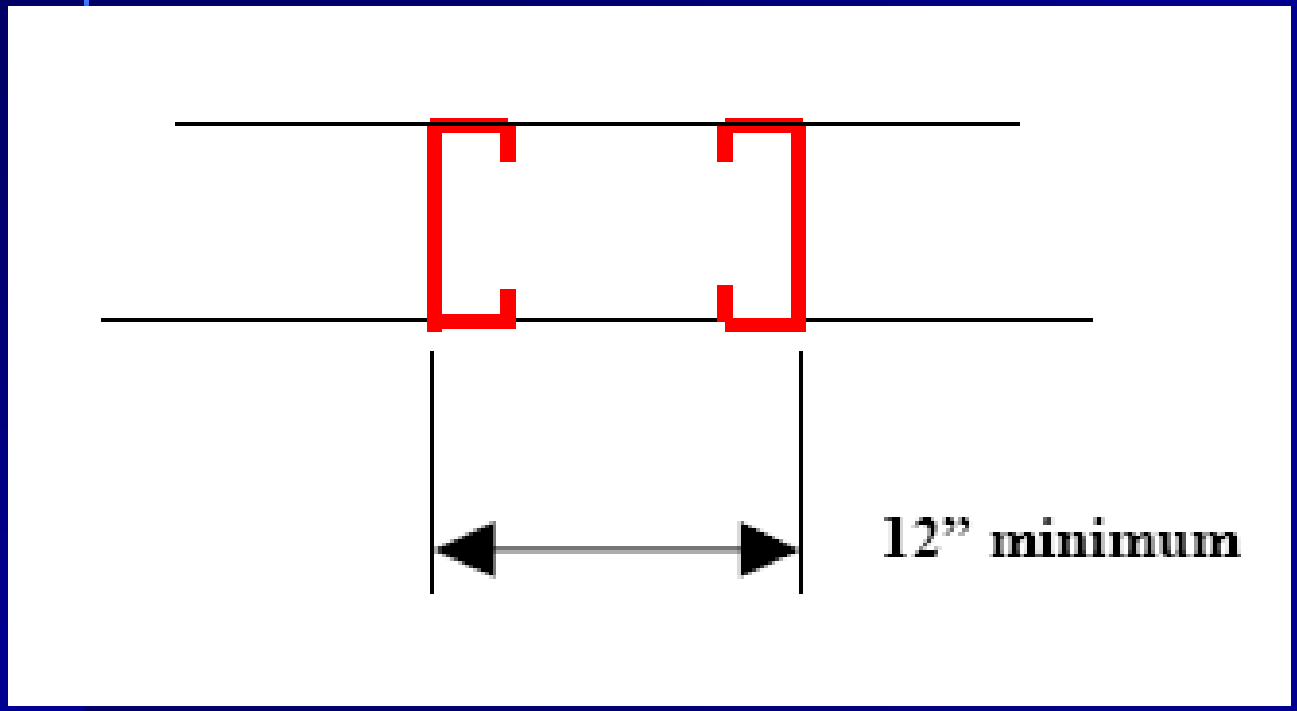
Changing on Erection Drawings

Framed Openings



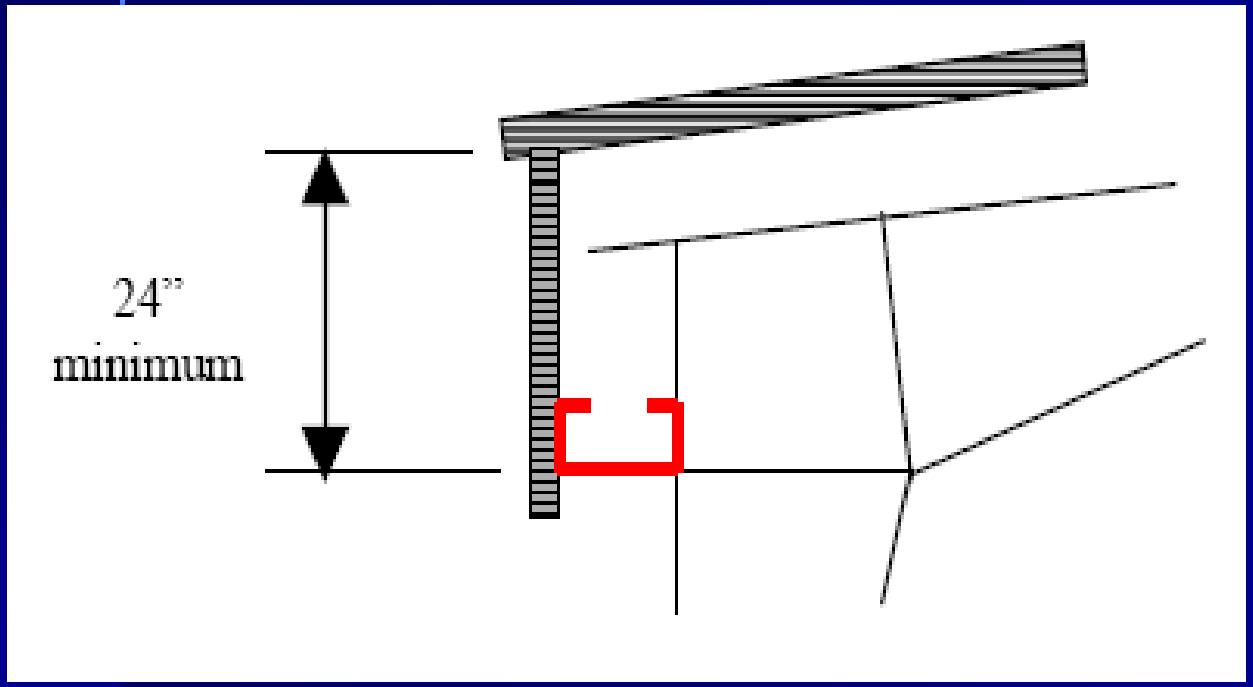
- 12” minimum from CL of column or endpost to inside face of framed opening

Framed Openings



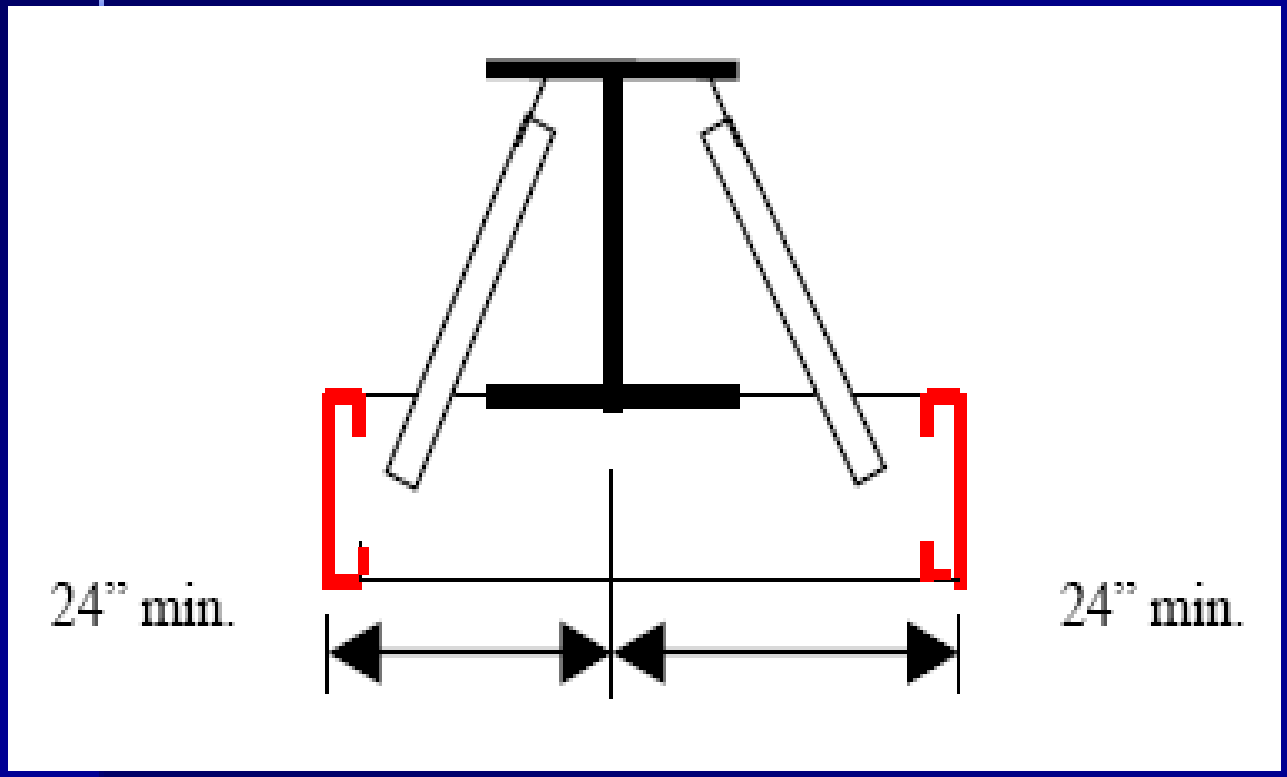
- 12" minimum between framed openings in the same bay

Framed Openings



- 24" minimum from header to eave

Framed Openings



- 28 1/2" clear on at least one side of a column for flange braces

Secondary Tips

- Continuous spanning members are usually most economical
- Panel Rib roof is not allowed on Wide Bay Trussed Purlins or Bar Joists

Secondary Tips

- Endbay dimension is most effective at approx. 85% of interior bay
- Verify if flange bracing allowed with liner panel

Secondary Tips

- 35’ - 40’ bays compare wide bay trussed purlins (WBTP) and 11 ½” purlins
- 40’ – 60’ bays compare WBTP and bar joists
- ≥60’ bays use bar joists
- Freight is a consideration with WBTP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