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**PF0010PE – PRIMARY & ENDWALL FRAMING COLUMN LAYOUT INFORMATION**

This page is intended to show basic terminology and standard column locations to assist you in communicating specific needs for quotes and orders. Knowing this information can save both time and cost by allowing us to serve you in the most effective way.

LEW = LEFT ENDWALL REW  
=RIGHT ENDWALL  
FSW = FRONT SIDEWALL  
BSW = BACK SIDEWALL

A = Girt offset as defined on the order documents.

\*Standard post & beam corner column orientation is shown. However, based on building requirements, this column will sometimes be rotated 90°.

**NOTE:** "STEEL LINE = THE OUTSIDE FACE OF THE GIRTS.

The diagram illustrates the column layout for a building with a width of 80'-0" and a length of 80'-0". It shows four bays (Bay 1 to Bay 4) with 20'-0" spacing. The layout includes interior columns, sidewall columns, and endwall columns. Key features include:

- Dimensions:** Bay spacing is 20'-0" (Bay 1 to Bay 4). Total width is 80'-0" and total length is 80'-0".
- Column Types:** Interior Column, Sidewall Column, Endwall Wind Column, and Rigid Frame Endwall Column.
- Bracing:** "X"-BRACING is shown in the interior and endwall sections.
- Girt Offsets:** Girt offset 'A' is indicated at various column locations.
- Labels:** (BSW) for Back Side Wall, (FSW) for Front Side Wall, (LEW) for Left End Wall, and (REW) for Right End Wall.
- Notes:** "NOTE: LIST COLUMN SPACING IN THIS DIRECTION" is repeated on the left and right sides of the diagram.



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## PRODUCT & ENGINEERING MANUAL

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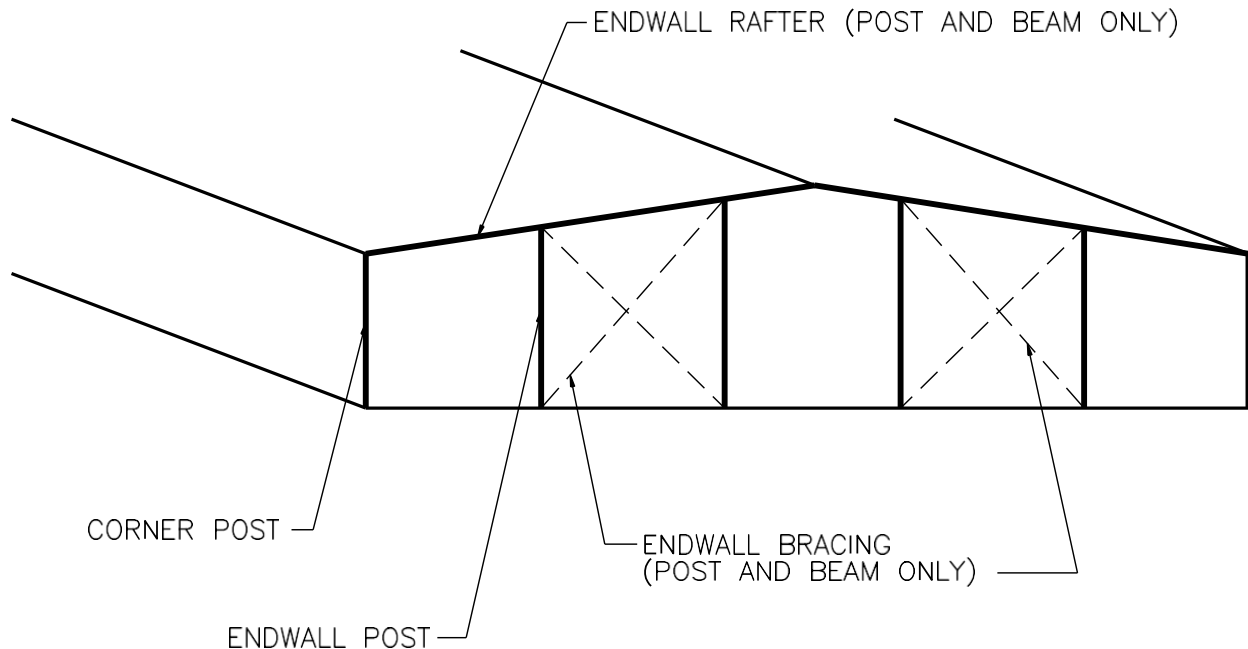


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**EF0020PE – ENDWALL FRAMING**



1. Standard Endwall Framing is “Post and Beam”, which utilizes straight-section columns and continuous rafters. Cold-formed material is standard when applicable. Built-up material can be specified at additional cost. Cold-formed columns have welded base and cap plates.
2. Bypass girt condition is standard at a post and beam endwall with 25’-0” column spacing. Inset and Flush girt condition is standard with 20’-0” column spacing. If you have questions about the most efficient layout, please contact the Valley Steel Estimating Department. “Bypass” is recommended at masonry conditions.
3. Using the Valley Steel standard endwall column spacing for both standard and non-standard building widths is typically the most economical solution.
4. Optional endwall systems are “Half-Load” rigid frames, and “Expandable” full load rigid frames.
5. See “Standard Bypass Endwall Column Spacing Chart” and “Standard Inset and Flush Endwall Column Spacing Chart” for additional information.
6. For defined bracing locations refer to “Standard Endwall Bracing”. Please be sure to show available locations on the sketch page of the order documents. Doing so will help eliminate possible delays in the quote and order process.
7. For buildings that are less than or equal to 30’-0” wide, it can be more cost effective to make the end frames either half-load or full-load rigid frames, in lieu of post & beam frames. This

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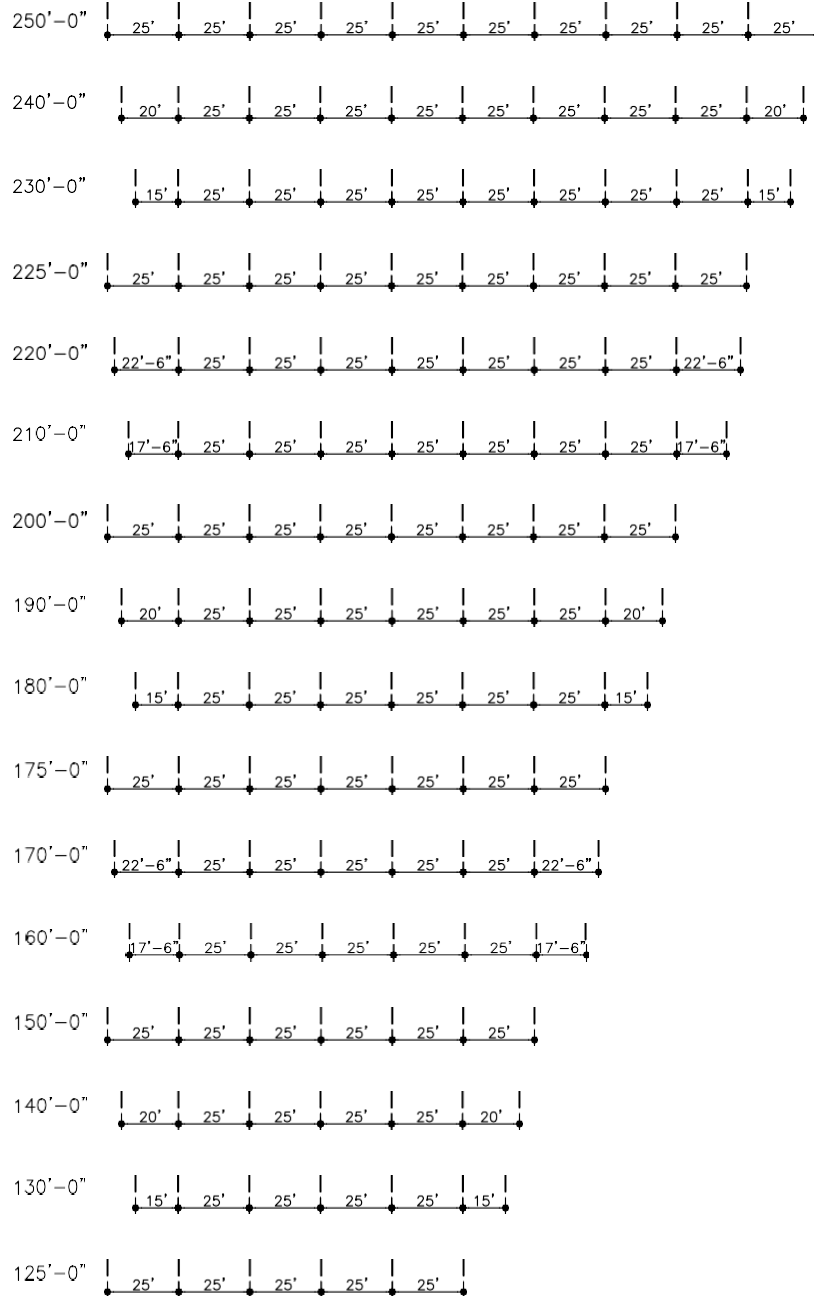
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eliminates the need for "X"- bracing in the endwall, and makes building erection easier due to the decreased number of different parts. This also works well for buildings that are only one or two bays long.

**EF0045PE – STANDARD BYPASS ENDWALL COLUMN SPACING CHART**



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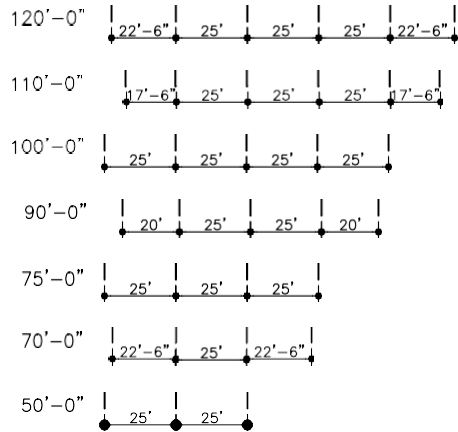
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NOTES:  
THESE STANDARD SPACINGS ARE INTENDED FOR BUILDINGS WITH "BYPASS" ENDWALL GIRTS. IF "INSET" OR "FLUSH" GIRTS ARE UTILIZED, THE STANDARD COLUMN SPACING IS 20'-0".

SEE THE CHART ON THE NEXT PAGE FOR STANDARD "INSET" AND "FLUSH" ENDWALL COLUMN SPACING.

IF YOU HAVE QUESTIONS ABOUT THE MOST EFFICIENT LAYOUT, PLEASE CONTACT THE NUCOR ESTIMATING DEPARTMENT.

NO ENDWALL COLUMNS ARE REQUIRED FOR BUILDING WIDTHS LESS THAN 30'-0".

EF0045PE

**EF0050PE – STANDARD INSET AND FLUSH ENDWALL COLUMN SPACING CHART**



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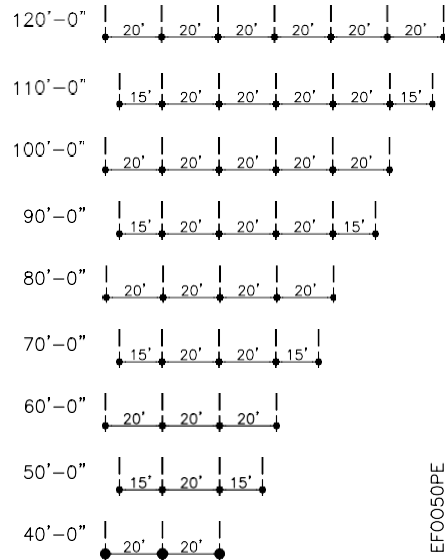
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EF0050PE

**NOTES:**

THESE STANDARD SPACINGS ARE INTENDED FOR BUILDINGS WITH "INSET" OR "FLUSH" ENDWALL GIRTS. IF "BYPASS" GIRTS ARE UTILIZED, LARGER COLUMN SPACING CAN SOMETIMES BE MORE COST EFFECTIVE, DUE TO THE NEED OF LESS PIERS AND COLUMNS. FOR EXAMPLE, A 200'-0" WIDE BUILDING WITH 50'-0" INTERIOR COLUMN SPACING MAY BE BETTER SERVED WITH 25'-0" ENDWALL COLUMN SPACING.

IF YOU HAVE QUESTIONS ABOUT THE MOST EFFICIENT LAYOUT, PLEASE CONTACT THE NUCOR ESTIMATING DEPARTMENT.

SEE THE CHART ON THE PREVIOUS PAGE FOR STANDARD "BYPASS" ENDWALL COLUMN SPACING.

NO ENDWALL COLUMNS ARE REQUIRED FOR BUILDING WIDTHS LESS THAN 30'-0".

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## PRODUCT & ENGINEERING MANUAL

### STANDARD ENDWALL BRACING

The following is for standard endwall bracing on the post and beam condition:

1. Endwall X-bracing is required to maintain frame stability.
2. The standard location is between the first and second interior endwall columns. The standard X-bracing system is made with rod braces and/or cable braces.
3. The chart below defines the number of endwall brace locations required.
4. Bracing is full height as a standard. At mezzanine systems or at very tall buildings, bracing is tiered.
5. "T"-plates can be used to avoid interference of bracing with walkdoors adjacent to columns. "T"-plates are 8"x8" and utilize (4) 1" anchor bolts.
6. Refer to the "Bracing Systems" section, page 4.4.19 for standard endwall bracing requirements.

BUILDING WIDTH	BUILDING HEIGHT	NUMBER OF BRACE LOCATIONS
< 100'-0"	< 30'-0"	1
> 100'-0" < 240'-0"	< 30'-0"	2

Consult Valley Steel for requirements, for buildings above 30'-0" high or wider than 240'-0".

As an alternative, when no endwall bracing can occur, Valley Steel can investigate having

roof bracing tied back to interior rigid frames. **(VALLEY STEEL MUST BE CONSULTED FOR DESIGN IMPACTS WHEN THIS PRODUCT CONDITION OCCURS.)**

#### 4.2.7



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