EXTERIOR WALL COLUMN CALCULATIONS

Carefully follow these steps for finding the correct EXTERIOR WALL COLUMN:

Step 1 - Enter the following data from your "Structural Layout" or "Truss & Beam Calculations Sheets":

TOTAL ROOF LOAD = _____ lbs./sq.ft. SPAN (Length of truss) _____ feet

SPACING (between trusses) _____ feet LENGTH of Beam (between Columns) _____ feet

WEIGHT of End Truss _____ lbs./lin.ft. WEIGHT of Interior Truss _____ lbs./lin.ft.

No. of Trusses on EXTERIOR BEAM _____ (Do not count trusses sitting on columns)

No. of Trusses on INTERIOR BEAM _____ (Do not count trusses sitting on columns)

WEIGHT of Exterior Beam _____ lbs./lin.ft. WEIGHT of Interior Beam _____ lbs./lin.ft

COLUMN LENGTH (Height) _____ feet SPACING (between columns) _____ feet

Step 2 - Find the amount of roof supported by a EXTERIOR WALL COLUMN:

(Half of the length of the Beam to the LEFT of the column + Half of the length of the Beam to the RIGHT of the column) x Half of the length of the Truss = AREA of Roof supported by the COLUMN

Step 3 - Find the weight of this ROOF AREA :

Total Roof Load in lbs./sq.ft. x Area of Roof in sq.ft. = Weight of Roof in lbs.

Step 4 - Find the weight of the TRUSSES:

(Half of the length of an Int. Truss x Weight of Truss x the Number of Trusses) = Total Weight of Trusses

Step 5 - Find the weight of an EXTERIOR BEAM:

(Half the length of an Ext. Beam to the LEFT of the column x "Weight of Beam") + (Half the length of an Ext. Beam to the RIGHT of the column x "Weight of Beam" in lbs/lin.ft.) = TOTAL Weight of Beams in lbs.

Step 6 - Find the total weight on a EXTERIOR WALL COLUMN:

Add "Weight of Roof" + "Weight of Trusses" + "Weight of Beams" = TOTAL WEIGHT on Column in lbs.

Step 7 - Consult the "Structural Steel Tables" to find the correct size:

Convert the total weight to KIPS (1 KIP = 1,000 lbs.)

Start with the "Height of the Beam" and look down the table for the "Load" that is equal to or slightly larger than the TOTAL WEIGHT.

Step 8 - Make note of the following:

Column Designation _____ Column Size _____ inches

Weight or Thickness of Column _____ Max. Allow. Wt. _____ lbs.

Step 9 - Assign a CODE LETTER to this COLUMN: _____ Examples: AAA or C1 or CC