CORNER COLUMN CALCULATIONS

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 CORNER COLUMN:

Half of the LENGTH of the Beam x Half of the LENGTH of the Truss = AREA of Roof supported by the COLUMN in sq.ft.

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 End Truss x Weight of Truss/lin.ft.) + (Half of the LENGTH of an Interior Truss x Weight of Truss/lin.ft. x the Number of Trusses)
= Total Weight of Trusses in lbs.

Step 5 - Find the weight of an EXTERIOR BEAM:

Half the LENGTH of an Ext. Beam in ft. x "Weight of Beam" in lbs/sq.ft.
= TOTAL Weight of Beam in lbs.

Step 6 - Find the total weight on a Corner Column:

Add "Weight of Roof" + "Weight of Trusses" + "Weight of Beam"
= 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 KIPS = 1,000 lbs.)

Then 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