INTERIOR BEAM CALCULATIONS

Carefully follow these steps for finding the correct INTERIOR BEAM:

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

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

SPACING (between trusses) _____ feet SPAN (Length of truss B) _____ feet

WEIGHT of Interior Truss A _____ lbs./lin.ft. WEIGHT of Interior Truss B _____ lbs./lin.ft.

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

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

LENGTH of Beam (between Columns) _____ feet

Step 2 - Find the amount of roof supported by a INTERIOR BEAM:

(Half of the LENGTH of the Truss on one side + Half of the LENGTH of the Truss on other side) x LENGTH of the Beam = AREA of Roof supported by the Beam in sq.ft.

Step 3 - Find the weight of this ROOF AREA :

Total Roof Load x Area of Roof = Weight of Roof in lbs.

Step 4 - Find the weight of the TRUSSES:

(Half of the LENGTH of an Interior Truss to one side of the BEAM x Weight of Truss/lin.ft. x the Number of Trusses) plus (Half of the LENGTH of an Interior Truss to the other side of the BEAM x Weight of Truss/lin.ft. x the Number of Trusses) = Total Weight of Trusses in lbs.

Step 5 - Find the total weight on an INTERIOR BEAM:

Add the "Weight of the Roof" to "Weight of the Trusses" = TOTAL Weight on Beam

Step 6 - Consult the "Structural Steel Tables" to find the correct size:

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

Then start with the "Length 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:

Beam Designation _____ Beam Height _____ inches

Thickness of Beam _____ lbs./lin.ft. Allow. Wt. _____ lbs.

Step 8 - Assign a CODE LETTER to this BEAM: _____ Examples: AA or B1

Place this letter next to the corresponding columns on your Structural Plan.