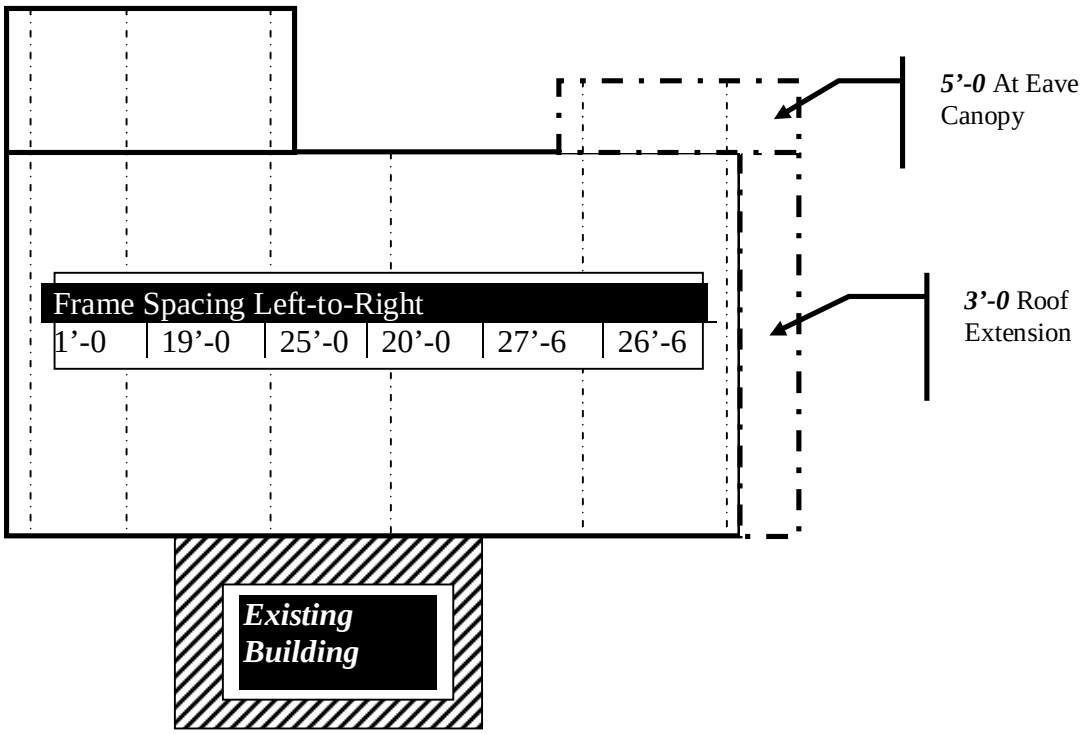
The Focus of this Lesson is:

- *Input a Single Slope Building with Mixed Bays*
- *Add an at Eave Sidewall Lean-to*
- *Add Sidewall Eave Height Canopy*
- *Add Rake Extension*
- *Add Wall to Roof Trim and Girt along High side for Existing Building*

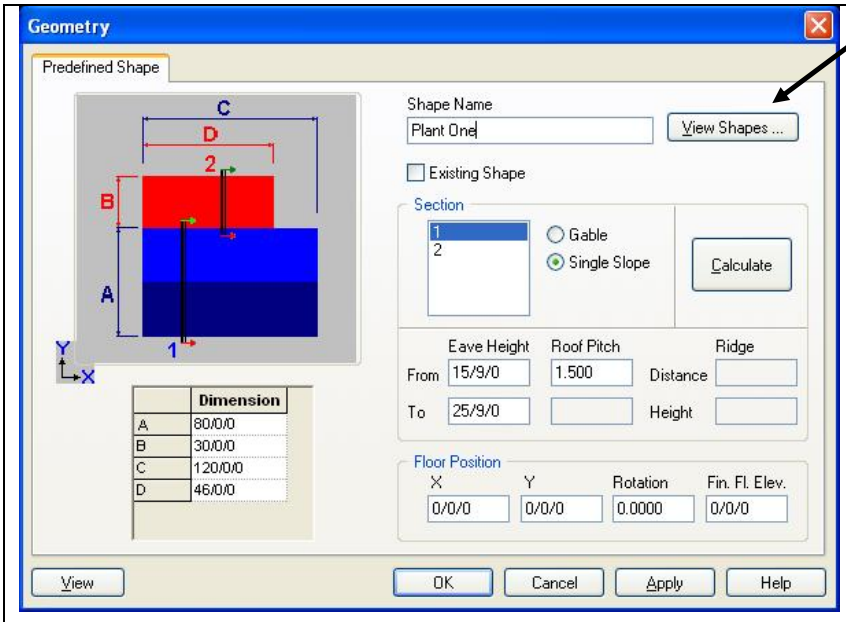
Lesson Comments:

In this lesson you will create a Building Shape using the given parameters in the "Building Description" box. This lesson will have you work in numerous portions of VPCommand to show you how to use certain features. Many of the features you will be using can be default information. For future projects, applying the proper default information in your projects will save you time and make input easier.

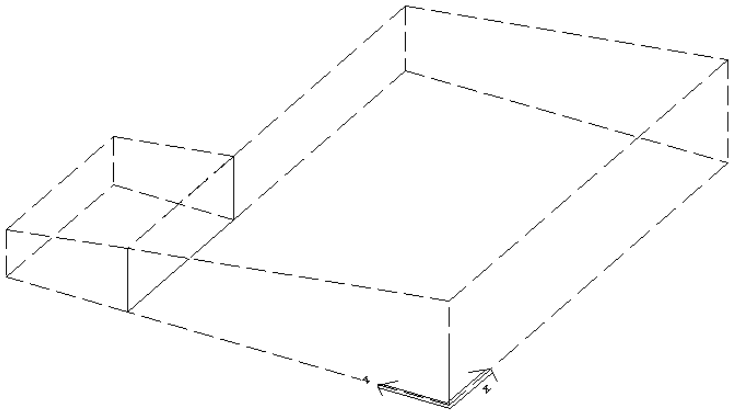


Building Description	
Main Building	***Lean-To***
Width = 80'-0	Width = 30'-0
Length = 120'-0	Length = 46'-0
Low Eave Height (Back Wall) = 15'-9	Low Eave Height = 12'-0
Roof Pitch = 1.5:12	Roof Pitch = 1.5:12
5'-0 At Eave Canopy	
3'-0 Roof Extension at Right Endwall	

	1. **Access VPCommand Building Editor:** 2. Click Building Editor Icon on your desk.
	3. **Start a New File:** This will generate a Tree and Blank Graphics pane to allow for creating your new shape
	4. **Select A Default File:** From the **Select a Default File** screen you can select one of the defaults you have created.
	5. **Complete General Information as required.**
	6. **Inserting a New Shape:** From the Tree, Double-click "***Insert a new shape***" file and select Pre-defined as the input option. The predefined Shape option offers you a large range of common shapes to select from for fast and simple geometry input. The Custom Shape option is intended for complex floor shapes for which there are no pre-defined shapes. Lesson 9 will discuss how to combine shapes to create your final result.
	7. **Input Geometry for your Shape:** Input Floor and Section Geometry as defined on page one. For this example use **Plant One** as the Shape Name.



- Select **View Shapes** and find this Predefined shape.
- Use **Dimension** box along with **Predefined Shape** to enter Floor information for *the main building* and *lean-to.*
- **Section 1** is the **Main Building**
- Click **Single Slope.** ***From*** Eave Height is the **Low Eave** if a ***positive*** roof pitch is entered. It will be the ***High Eave*** if a ***negative*** roof pitch is entered.
- Enter all information for **Section 2** which is the Lean-to.
- Click **OK**



You have now defined Width, Length, Eave Height, and Roof Pitch for your Plant One Shape. The basic Geometry Input is complete and your screen should look like this.

	Location	Space	Description	Angle	Group	Trib Override
1	1/0/0	1/0/0	Post & Beam	90.000		
2	27/6/0	26/6/0	Rigid Frame	90.000		
3	55/0/0	27/6/0	Rigid Frame	90.000		
4	75/0/0	20/0/0	Rigid Frame	90.000		
5	100/0/0	25/0/0	Rigid Frame	90.000		
6	119/0/0	19/0/0	Post & Beam	90.000		

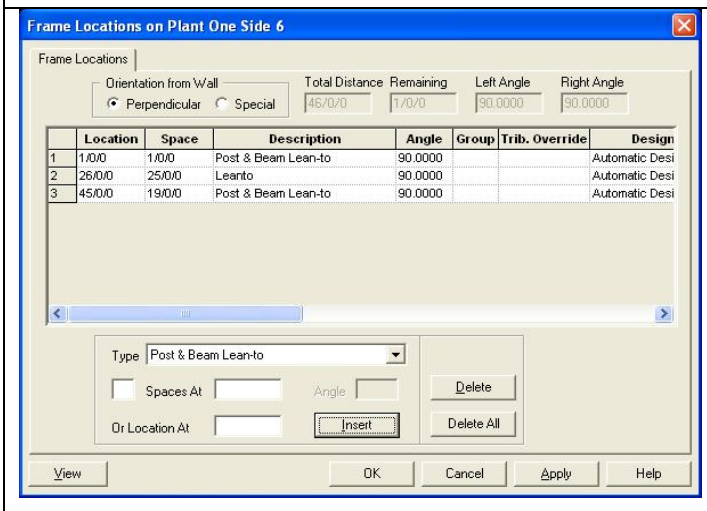
Note: If you have selected Wall 4 as your "along" wall to locate the frames perpendicular to, you should use the dimensions shown on page one.

8. Locate Frames for Main Building first in this example.

- **Frames/Location/Plant One/Wall 2/Revise**: Note that ***Wall 2*** has been specified to be selected. For this shape and frame types, you may choose Wall 2 or Wall 4 (see Note at left if you chose Wall 4). In the attached building with Lean-To frames, it is important that you select the wall the lean-to column will be on as your ***along*** wall. This will place the low-side column at your along wall and extend the rafter to the opposite wall of your shape.
- **Notice**: You are facing Wall 2 and dimensioning from left to right.
- (See How to… **Locating Frames** for assistance.)

In this lesson we will work with standard **Rigid Frames and Post and Beams.**

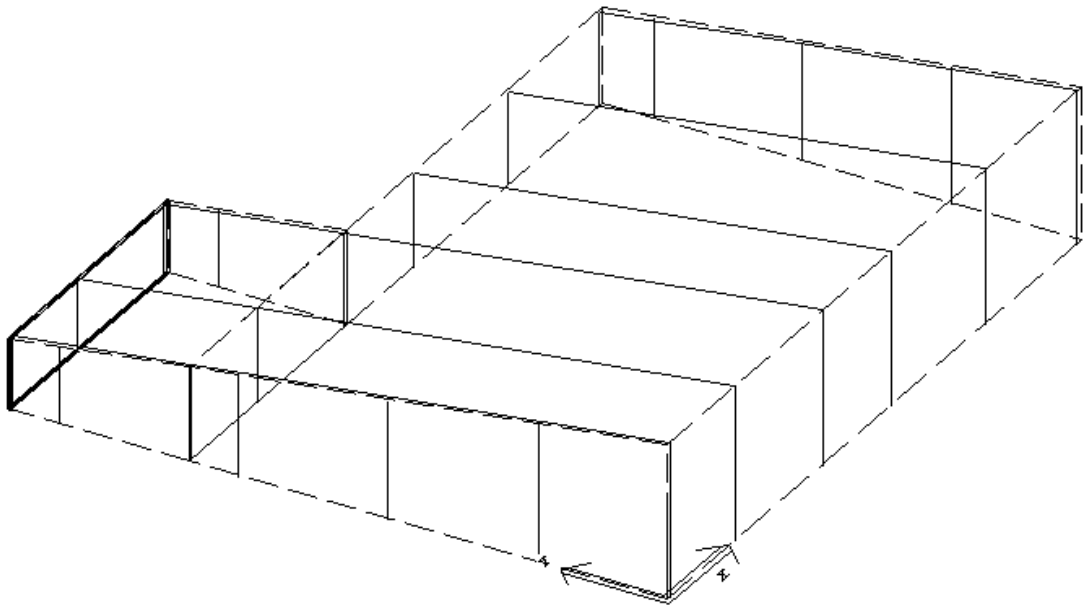
After entering all frames your frame list should look like the following. If correct select **OK**.
Note that these dimensions are located ALONG wall 2!

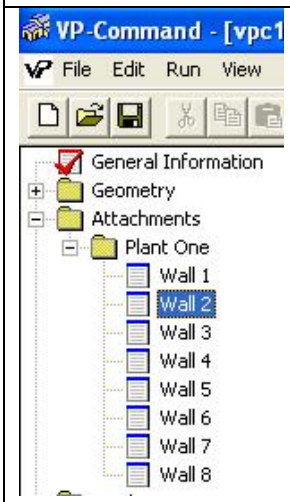


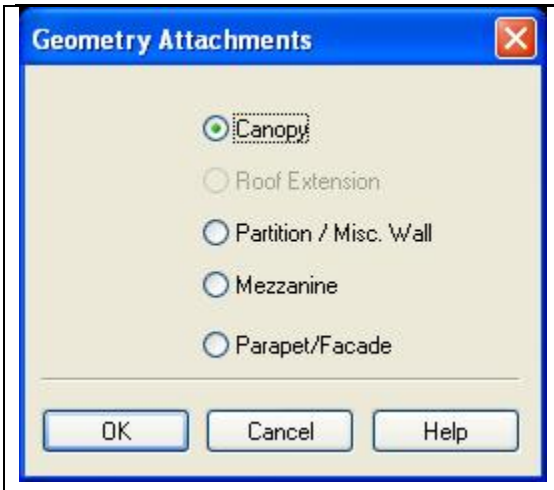
9. Enter Frame locations for the Lean-To.

- **Frames/Location/Plant One/Wall 6/Revise**
- **Notice**: You are facing Wall 6 and dimensioning from left to right.
- (See How to… **Locating Frames** for assistance.)

After Entering all frames your screen should look like the following. If correct select **OK**.

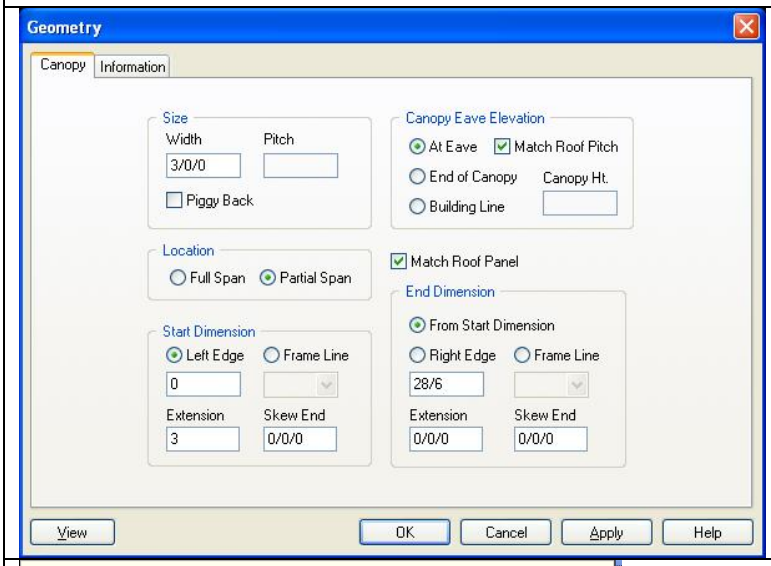


	10. Locating Canopy: **Canopy is along Low-Sidewall (wall 2) of Main Building**
	• Select ***Attachments*** • ***Plant One*** • ***Double-click*** file for ***Wall 2*** **Note:** Canopy & Roof Extension Soffit Panel will be input under the **Liner** Folder**.**



Geometry Attachments screen appears.

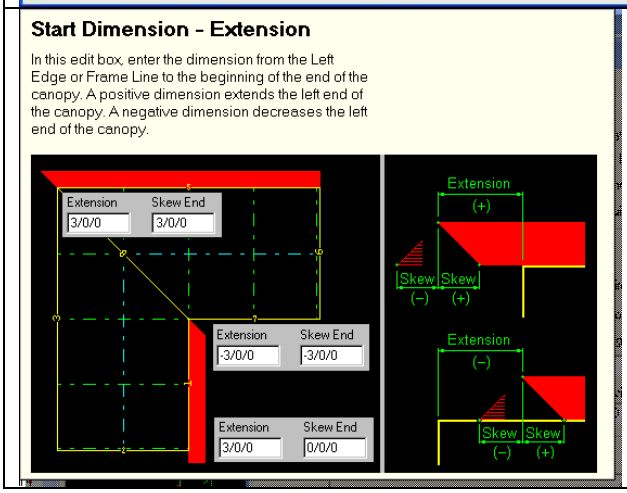
- **Canopy is already selected.**
- Click ***OK.***
- **Note:** For all canopies **Start** and **End** dimensions are referenced from left to right as you're looking at the wall from outside the building
- See **Help** for definition of Extention & Skew End dimensions.

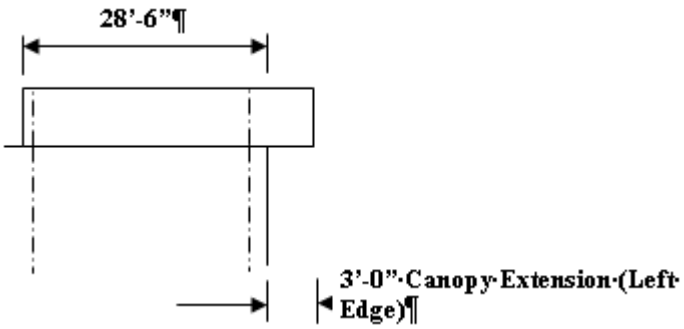


- Enter Canopy ***Width***
- Select ***Partial Span***

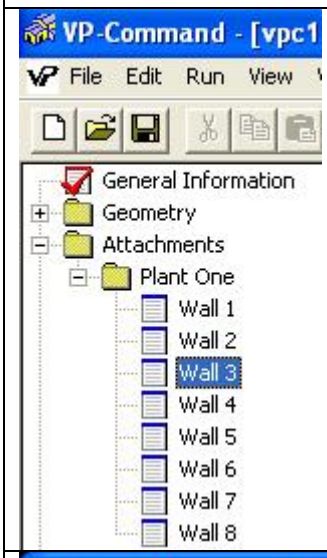
Notice on floor plan that the canopy is in one bay only.

- **End Dimension**: From start dimension (Building Line) enter length of Canopy



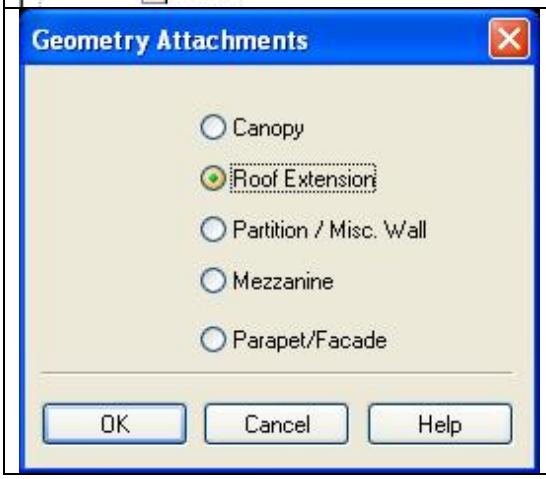


- **Start Dimension / Extension:** Looking at wall from outside building, Canopy extends 3' to the left

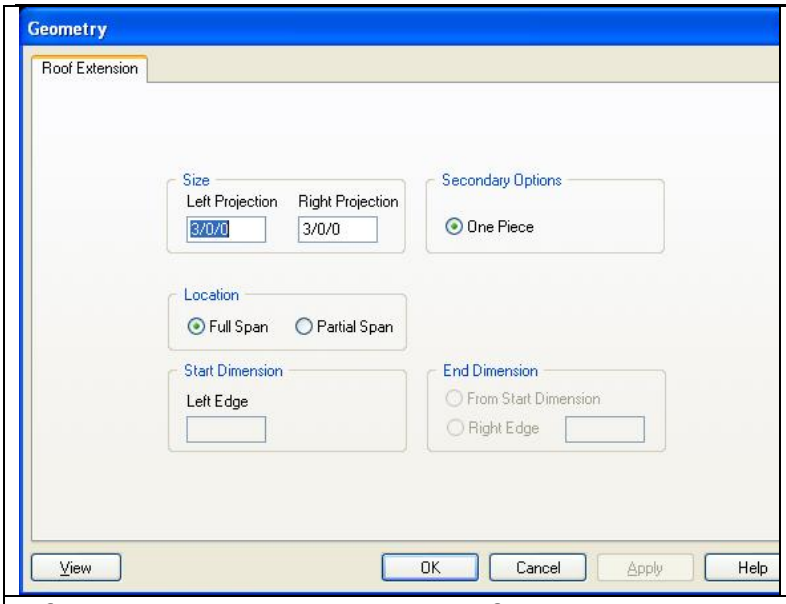


11. Locating a Roof Extension across wall 3.

- Select ***Attachments***
- ***Plant One***
- ***Double-click*** **Wall 3**



- Select ***Roof Extension***
- Click on ***OK***



- Enter Roof Extension size
- Click ***OK***
- Note that you have the option of "*left*" and "*right*" projections if you require a skewed rake extension.
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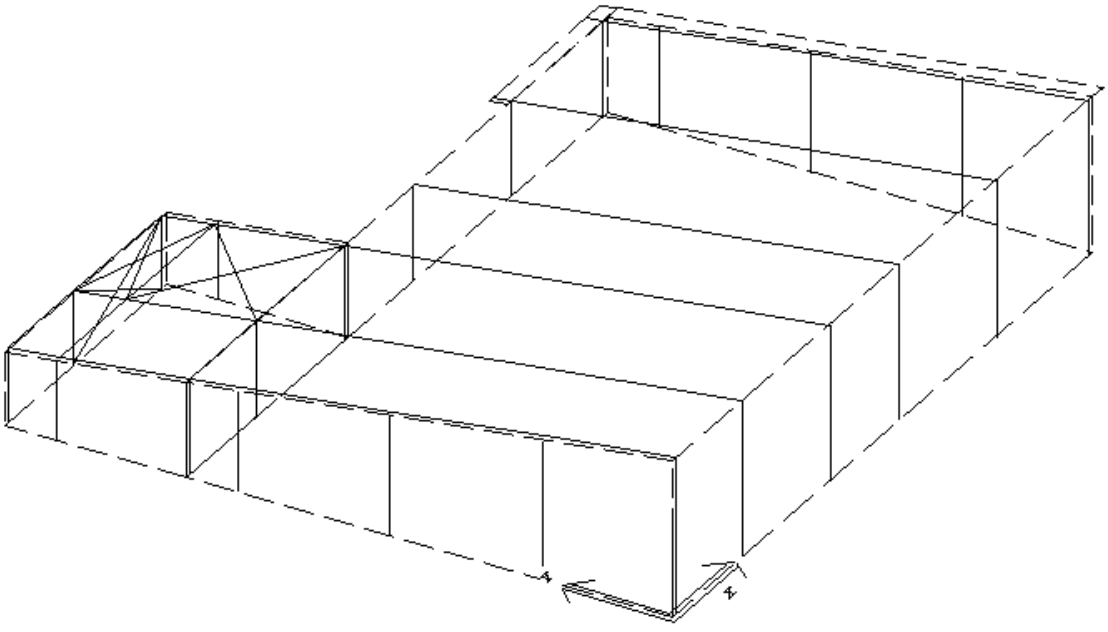
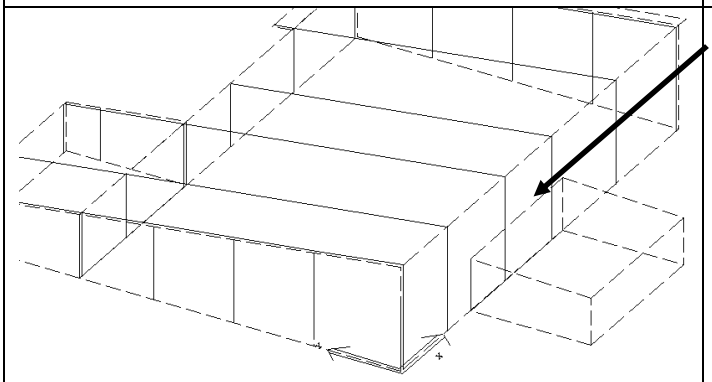
After completing Canopy and Roof Extension your graphics pane should look like the following.

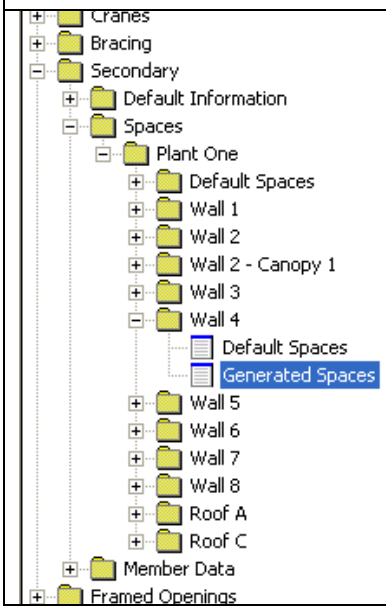


Note: Your instructor may choose to show you how to input a shape to represent the existing building. If so, steps 12 and 13 are not required.

12. **Adding Secondary at the Existing Building:** This procedure will show you how to add individual secondary members for the Wall to Roof condition created by the existing building. Note that there are numerous ways to handle existing building conditions. This step is simply to familiarize you with the procedure to add secondary.



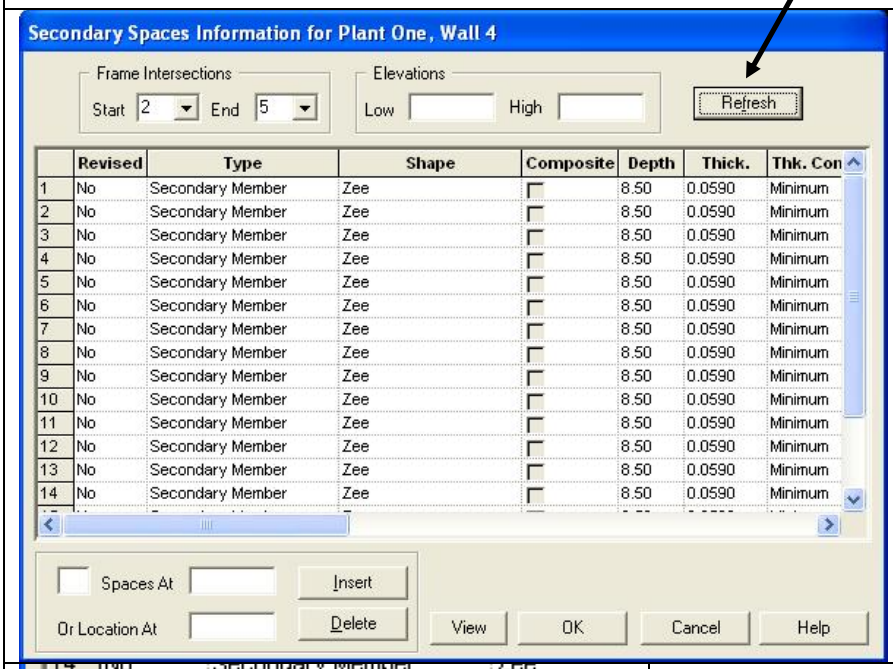
You will add girts to accept the wall-to-roof condition created by the existing building. We will then define the high side existing eave height as 13'-0" for our example.

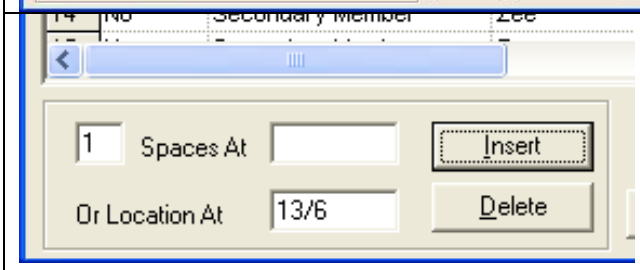


- From the Tree, open the ***Secondary / Spaces / Shape (Plant One) / Wall 4*** folders.
- Double click the ***Generated Spaces*** file to access the ***Secondary Spaces Information*** window.

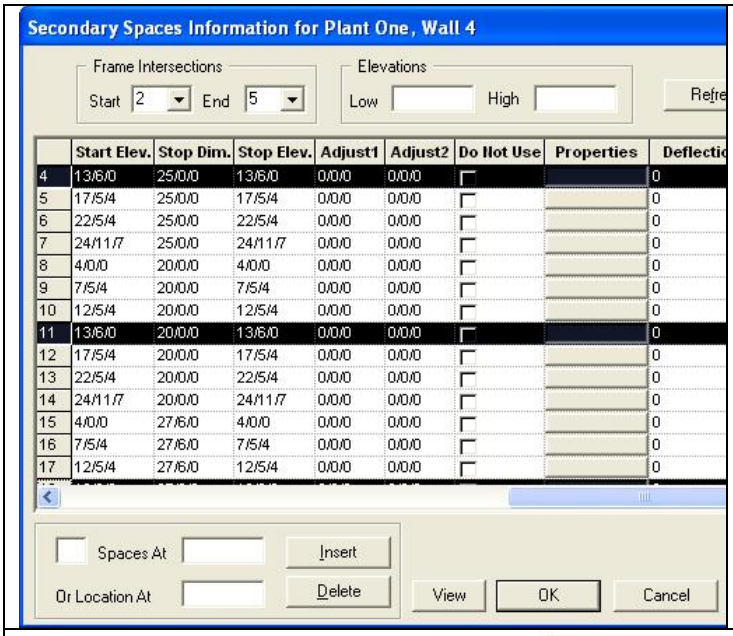
The existing building condition only requires girts to be from frame lines 2 through 5. Therefore we need to "Refresh" the secondary spaces list to display only the locations we wish to make changes.

- At the ***Frame Intersections*** pull down list, select ***Start – 2***, and ***End – 5***.
- Click on the ***Refresh*** button to display all of the secondary members between frame 2 through frame 5. Remember that frame numbers are counted from left-to-right as you face that wall surface.

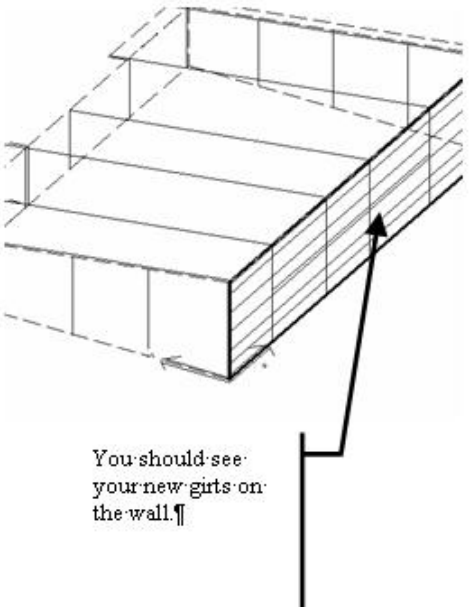


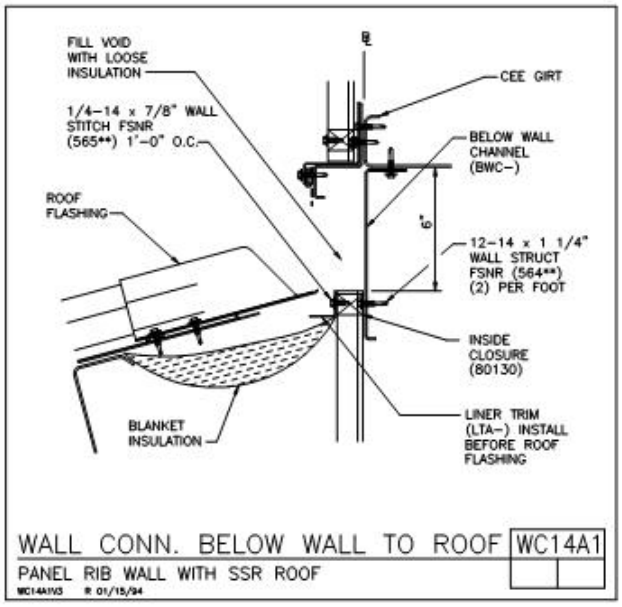


- Input ***1*** "***location at***" ***13/6***.
- Click on ***Insert*** to add a girt to the list at your location.



- You can look in your list to verify that you have added "Zee" girts at 13'-6"
- Click on ***OK*** to close the window and accept your input.

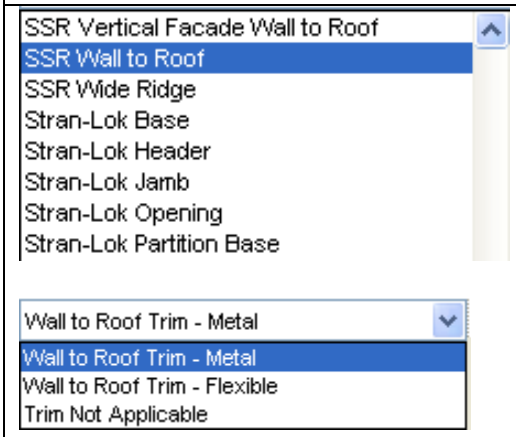




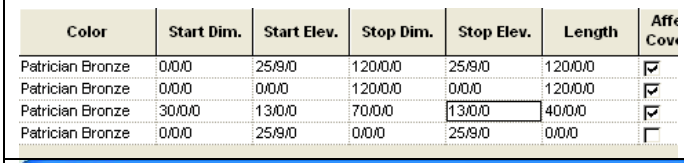
13. **Add Wall to Roof Trim.** There is a "Below eave existing building" located ***30'-0*** from left corner running ***40'-0*** along wall 4 (high sidewall). Add wall to roof trim at 13' elevation

This procedure will expand on the concept of "***Partial***" you learned in adding a "partial" length canopy. As noted, to complete this condition you added a girt for the trim, and you may need some inside corner flashing as well.

Note that there may be many ways to approach "existing buildings". One would be to add an additional shape to represent the existing building and using the "Parts Status" folder(s) to "turn off and on" the items you desire. This approach will be discussed in Lesson 16.

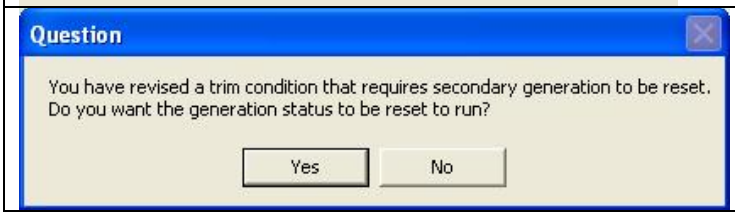


- **Trim/Plant One/ Wall 4/Conditions.** Click on the **Insert** button at the **Trim Conditions** window
- Select **Condition** on line you just inserted an from drop down list Select ***SSR Wall to Roof***
- Select type ***Wall to Roof Trim-Metal***
- Select color to ***Match Roof Color***.
- Scroll to right to enter location of trim.



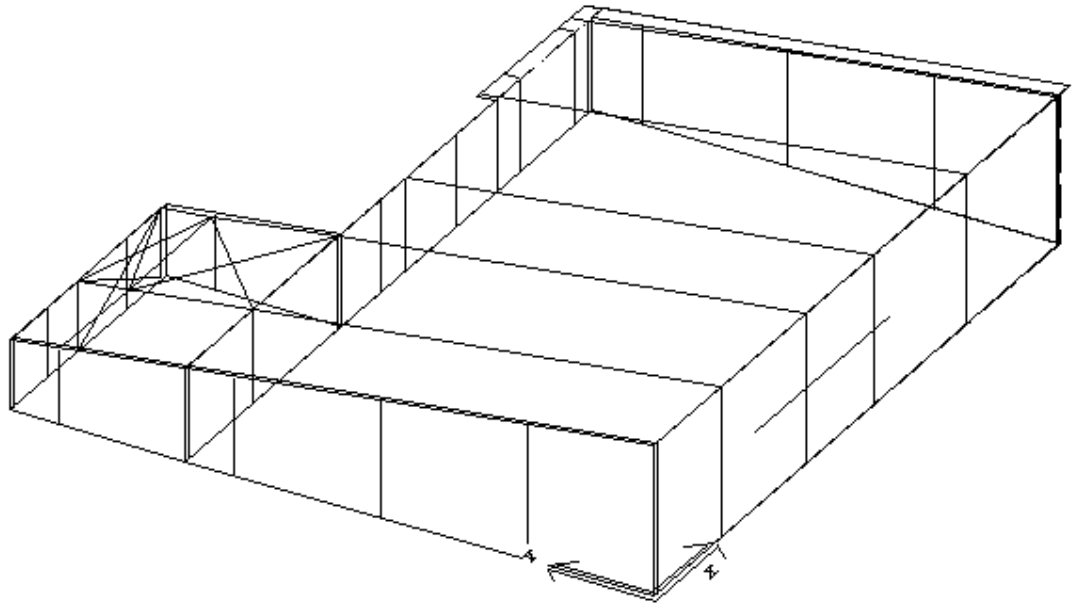
Color	Start Dim.	Start Elev.	Stop Dim.	Stop Elev.	Length	Affe Cove
Patrician Bronze	0/0/0	25/9/0	120/0/0	25/9/0	120/0/0	☑
Patrician Bronze	0/0/0	0/0/0	120/0/0	0/0/0	120/0/0	☑
Patrician Bronze	30/0/0	13/0/0	70/0/0	13/0/0	40/0/0	☑
Patrician Bronze	0/0/0	25/9/0	0/0/0	25/9/0	0/0/0	☐

- Enter Start Dim, Start Elev., Stop Dim., Stop Elev. And notice length to make sure it's what you needed.
- Click **OK**



- Click **yes**

	Your screen will appear as below, showing the trim you just added.



14. **Save your Project and Create any desired Reports and/or Drawings.**