Chief Architect®
Architectural Home Design Software

Creating a Solarium

Reference Number: **KB-00454**
Last Modified: **July 16, 2021**

The information in this article applies to:

PREMIER

QUESTION

I would like to design a solarium. How can I do this?

ANSWER

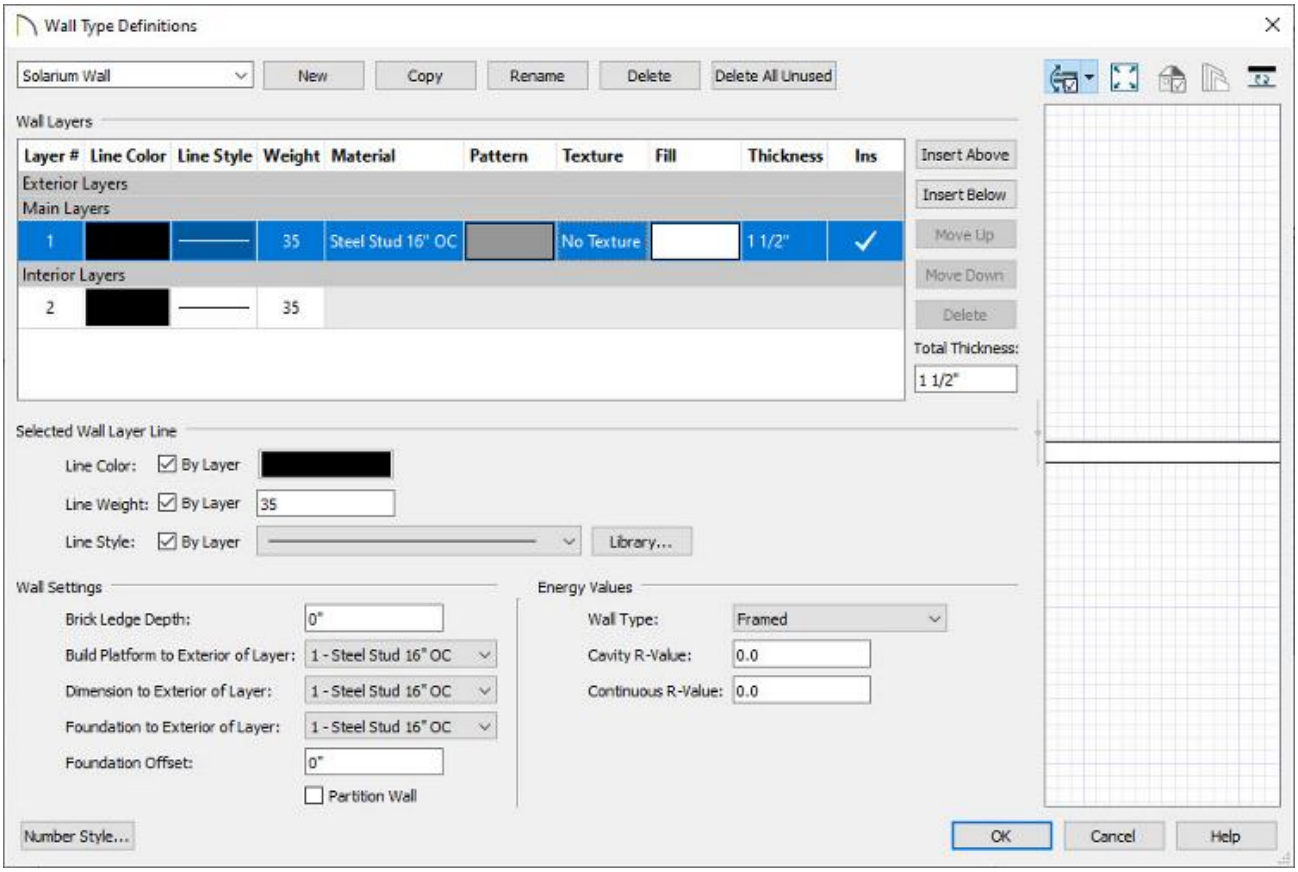
There are various approaches to designing a solarium, greenhouse, or sunroom. As this article explains, you can create a solarium using metal framing, windows, and skylights.

- Creating a solarium wall type
- Creating a solarium roof system
- Adding skylights to the roof
- Adding glass to solarium walls
- Creating a glass gable end

To create a solarium wall type

1. Select **Build> Wall> Define Wall Types** from the menu.

2. In the **Wall Type Definitions** dialog, click the **New** button to create a new wall type.



   - Give your new wall type a short, descriptive, unique name so that it can be easily identified later.

   - Specify the desired **Thickness** of your steel wall.

For the purposes of this example, a **Thickness** of 1 1/2" is specified.

- You may find it helpful to specify a line **Weight** that is less than the **By Layer** value.

  To do this, select the wall layer, then specify a **Line Weight** value.

- Click the **Material** column to the right of layer 1, browse to **Materials> Framing**, select a steel stud material for your walls, then click **OK**.

- Make any changes you would like to the **Line Style** or **Fill Style**, but bear in mind that your steel wall will be thin, so these changes may not be visible when you are zoomed out.

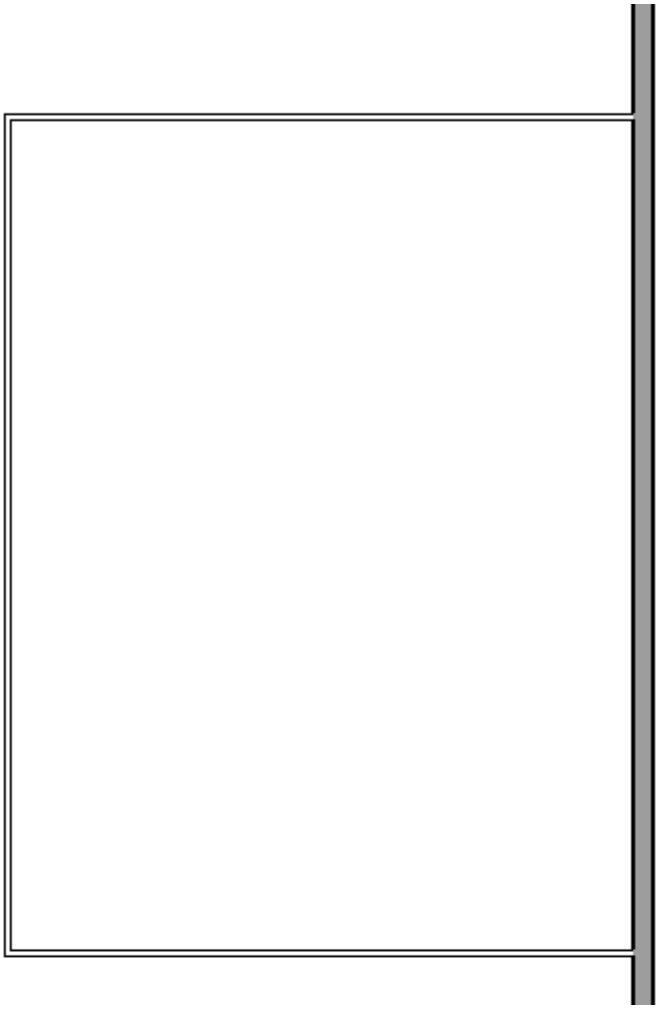
- Click **OK** to close the dialog and apply your changes.

3. The new steel wall type is now available to replace existing walls in your plan.

   - Click on a wall to select it, then click the **Open Object** edit button.

   - On the WALL TYPES panel, select the newly created type from the **Wall Type** drop-down list.

   - In this example, three exterior walls of the attached structure are changed to the newly created steel wall type. This solarium room has also been opened to specification and the flat ceiling has been removed by unchecking the **Flat Ceiling Over This Room** box on the STRUCTURE panel.



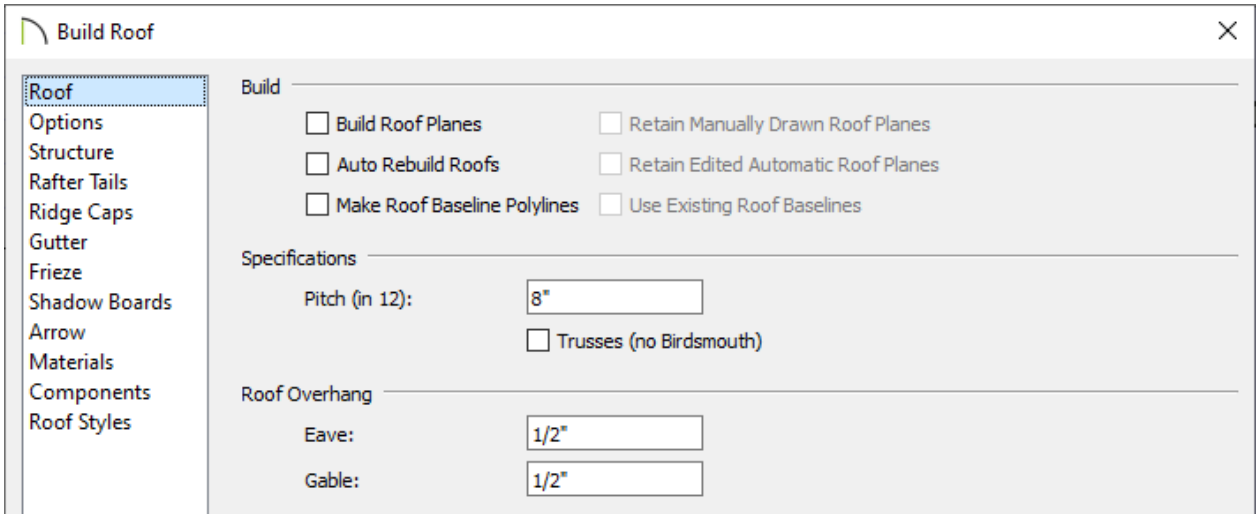
Note: After changing a wall's wall type, it is important to make sure the new wall type still connects to nearby walls correctly, especially if the new wall type is a different thickness than it was before. If there are any gaps between walls, make sure to extend wall sections as necessary to reconnect your walls and preserve room definition.

4. If you wish to draw new walls using this wall type, you can do so by specifying it as the default for your **Exterior Wall** or **Interior Wall** tool.
    - Select **Edit> Default Settings** from the menu, and in the **Default Settings** dialog, expand the **Walls** category, click on **Exterior Wall** or **Interior Wall** and click the **Edit** button.
    - In the **Exterior/Interior Wall Defaults** dialog, specify your steel wall type on the WALL TYPES panel, then click **OK**.

To create a solarium roof system

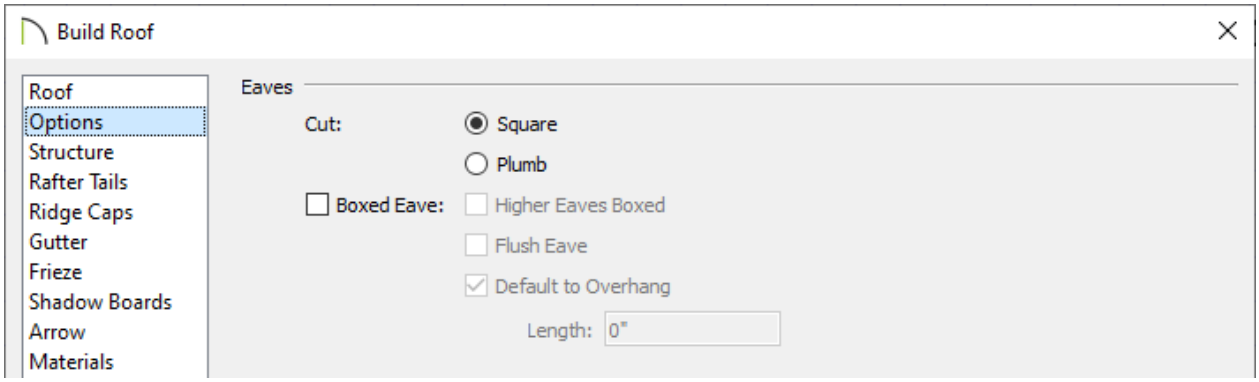
1. Before building the roof planes, we'll adjust our roof settings in the **Build Roof** dialog. For this example, the following settings will be used:

    - On the ROOF panel:



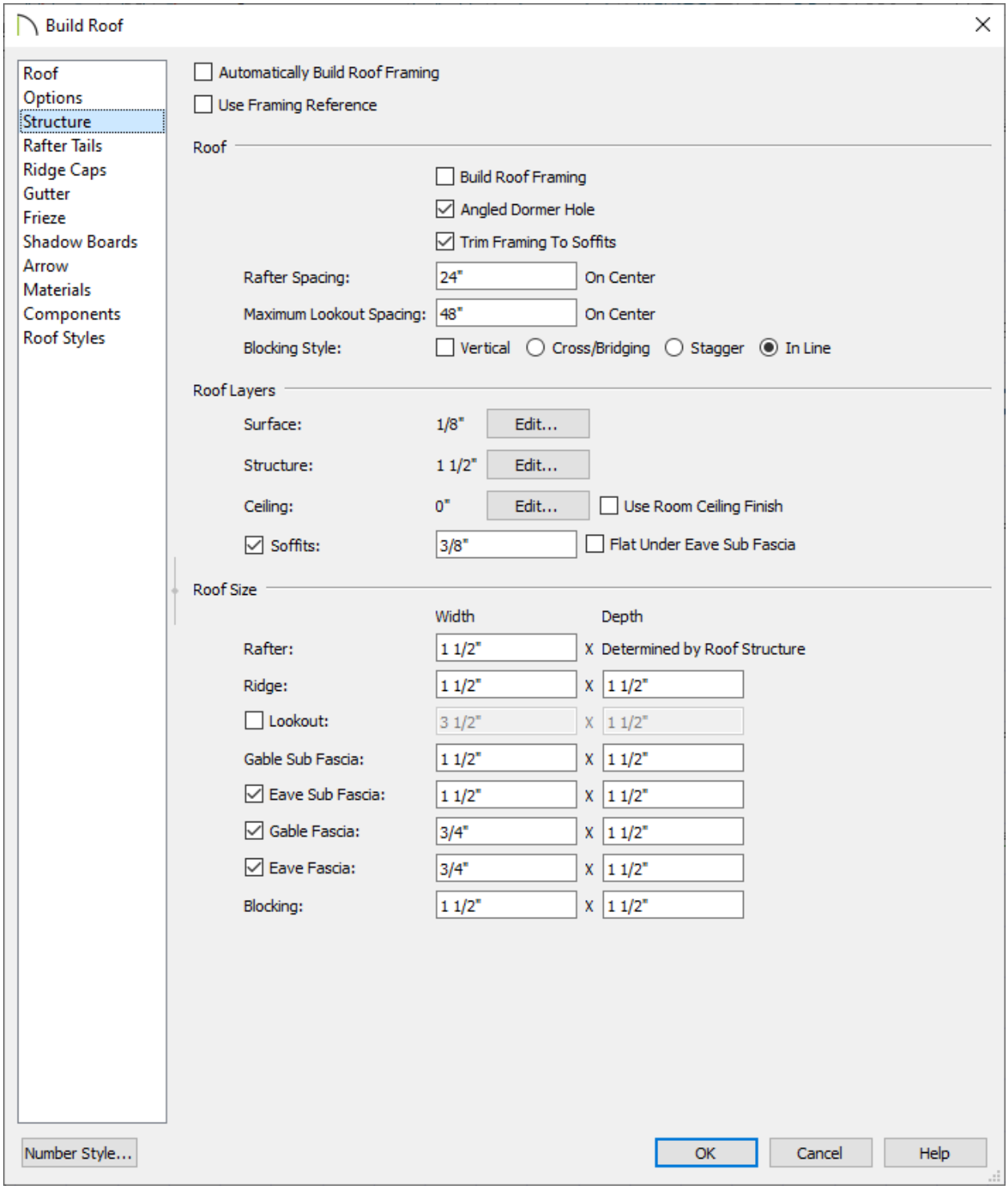
        - The **Pitch** is set to 8".
        - The **Eave** and **Roof** overhang are both set to 1/2".

    - On the OPTIONS panel:

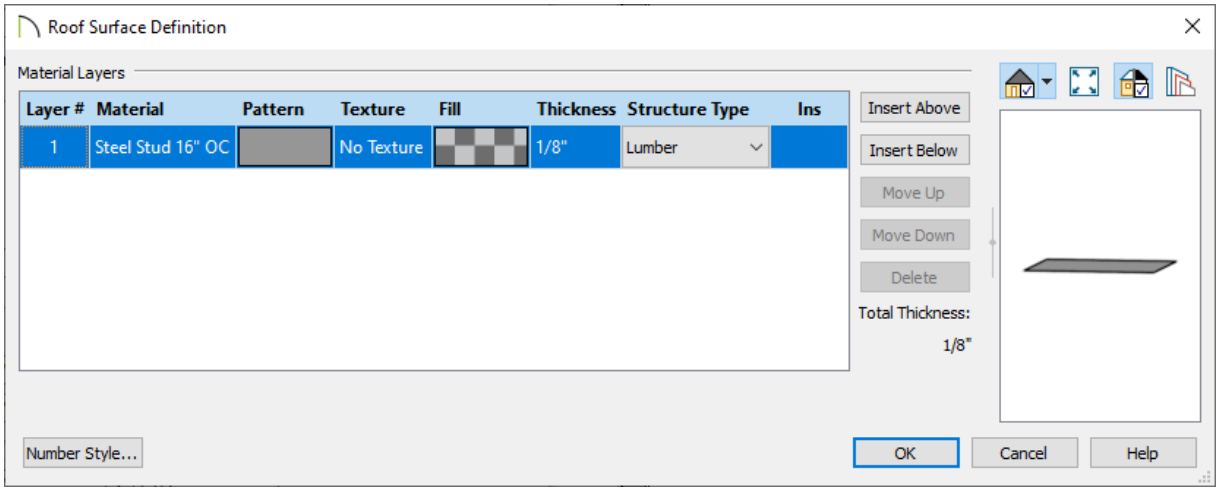


        - **Eaves** are set to be **Square** cut.

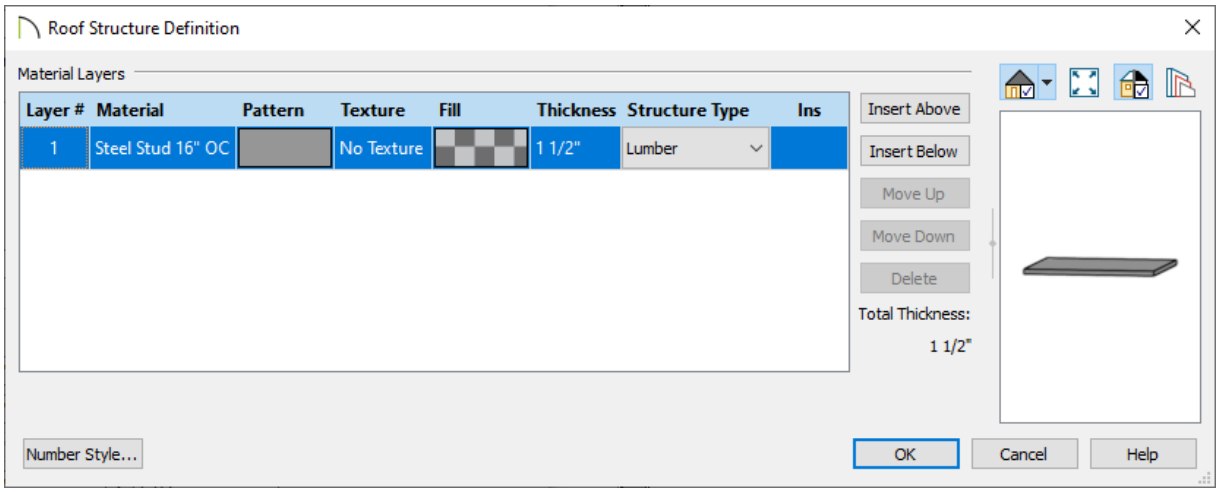
    - On the STRUCTURE panel:



- Remove the check mark from **Lookout**.
- Excluding the **Width** of the **Gable** and **Eave Fascias**, set all the **Roof Size** measurements to 1 1/2" to match the wall structure.
- Remove the checkmark from **Use Room Ceiling Finish** and click **Edit** to remove any finish layers.
- **Edit** the roof **Surface** to clear out existing materials and add a steel framing material. In this example, a **Thickness** of 1/8" is used.

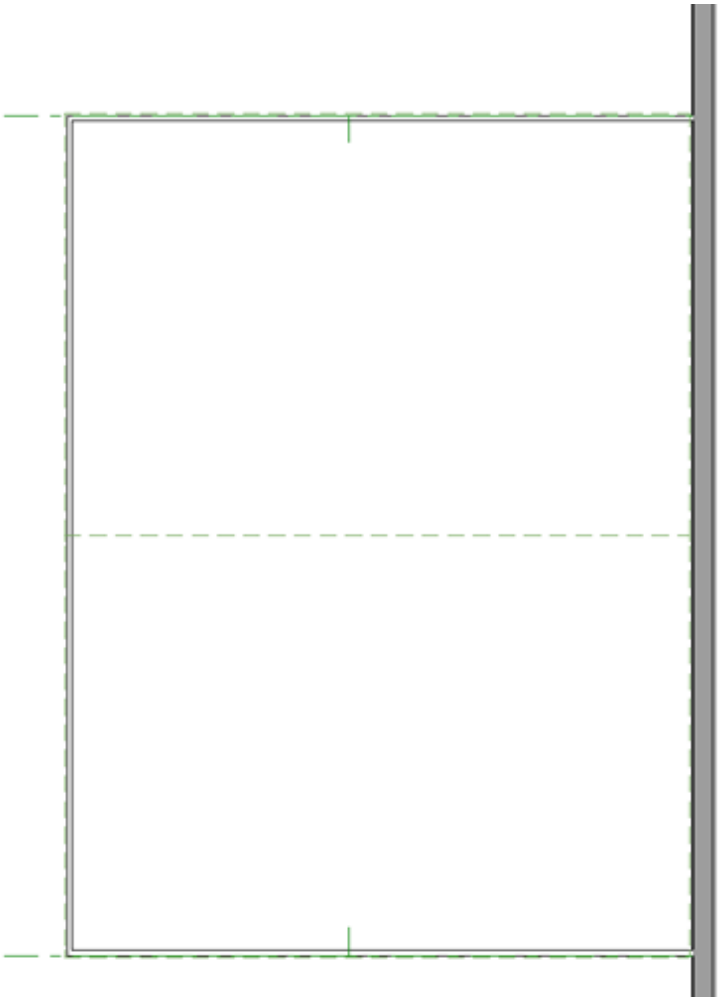


- **Edit** the roof **Structure** to clear out existing materials and add our steel framing material. In this example, a **Thickness** of 1 1/2" is used.



  - Make any other desired changes to the roof such as adding/removing Ridge Caps and Gutters.

2. Now that the roof settings are adjusted, the roof can be generated using the **Build Roof** dialog or by building it manually using the **Roof Plane** tool. In this example, a gable roof was generated by using the **Build Roof** dialog.

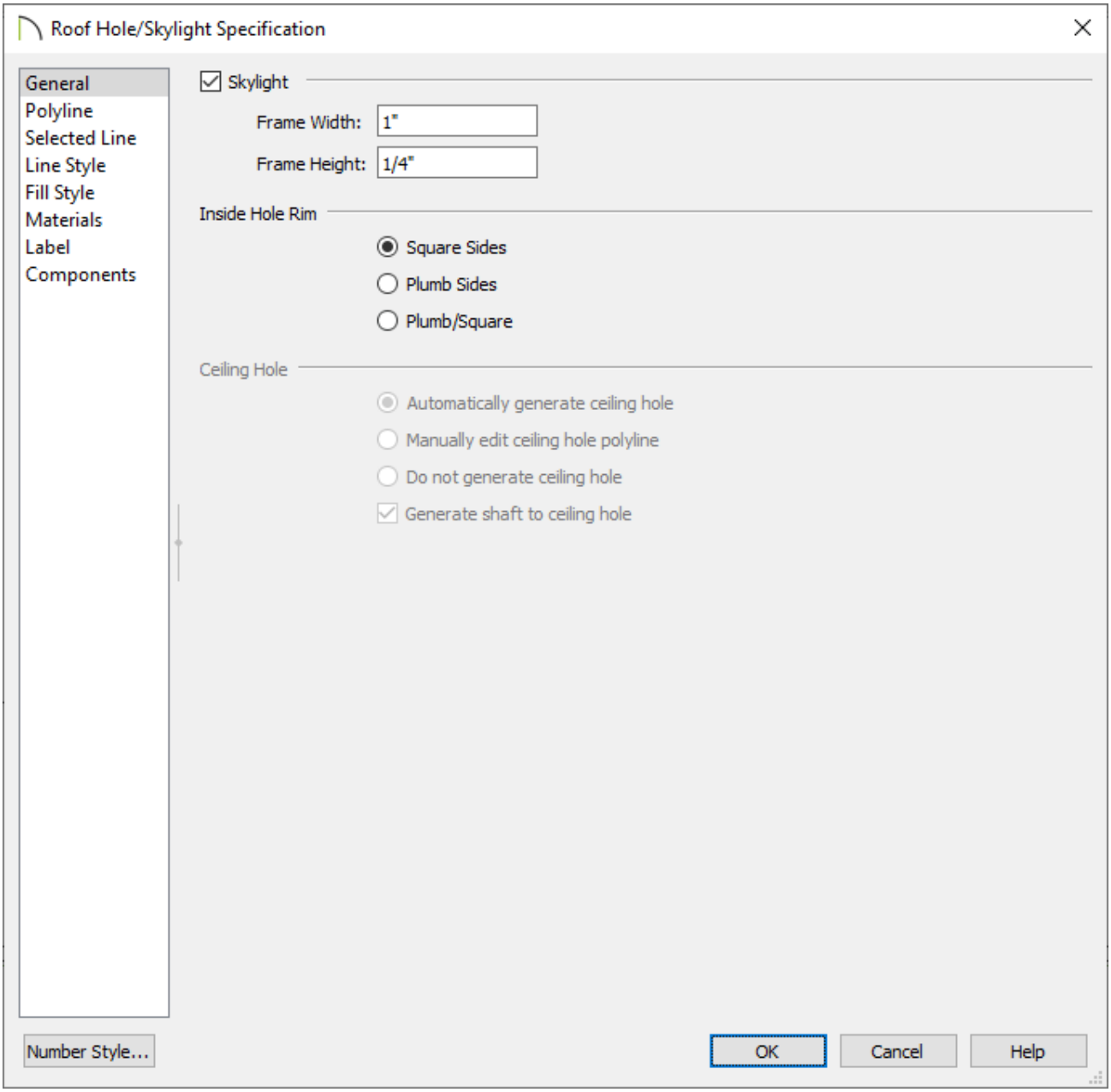


> For more information on creating different roof styles automatically, please see the Related Articles section below.

To add skylights to a solarium roof

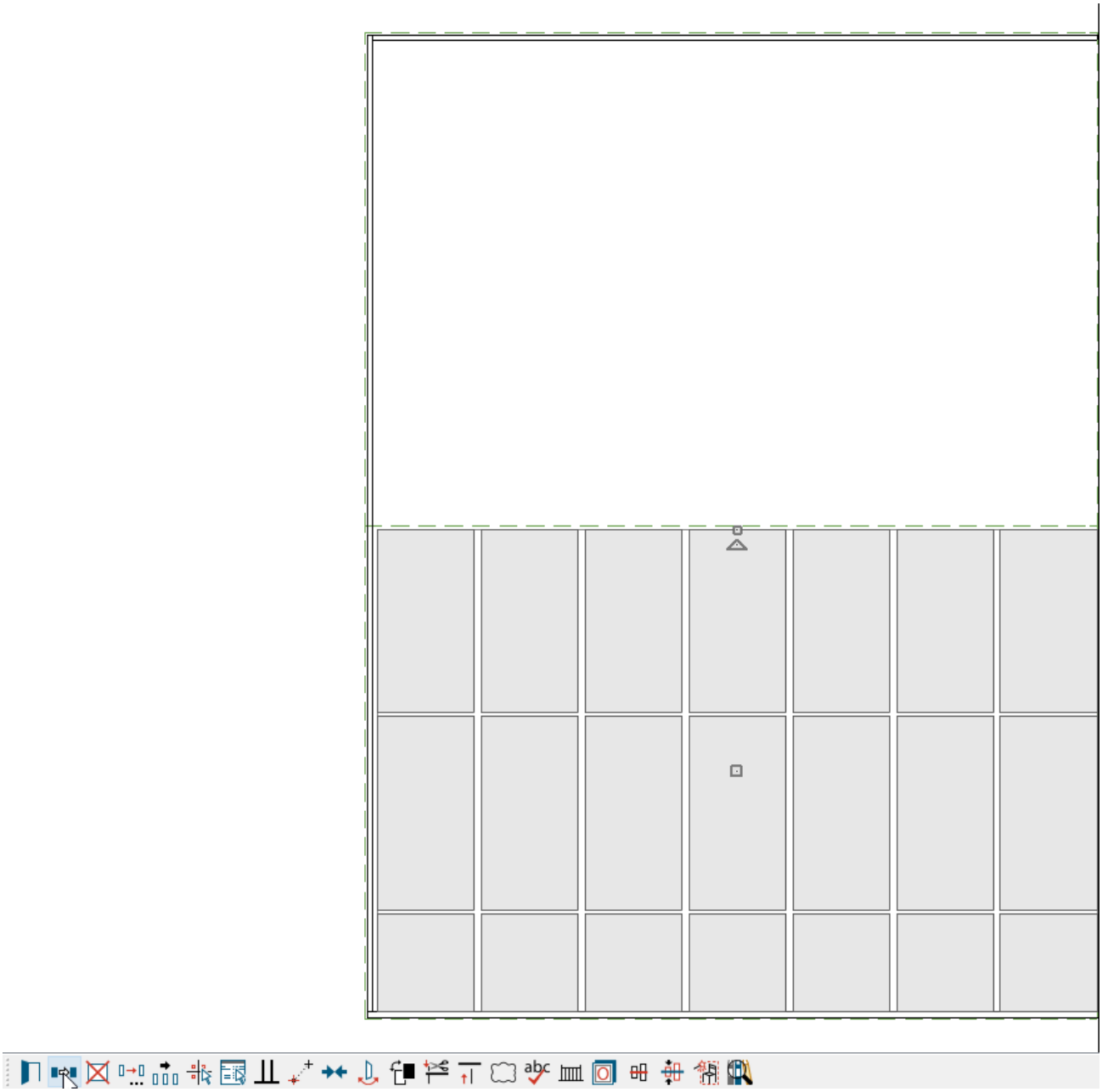
With the roof placed over the solarium room, skylights can now be added to create the finished glass solarium roof. We'll make use of Multiple Copy and the Reflect About Object edit tools option to replicate a skylight and duplicate them across the roof.

1. Select **Build> Roof> Skylight** from the menu and place a skylight. After placing the skylight, make any necessary adjustments to the size and the frame. In this example, the **Frame** has been adjusted to a **Width** of 1" and a **Height** of 1/4" on the GENERAL panel.



2. Select the skylight and use the **Multiple Copy** edit button located on your edit toolbar to create several copies of the skylight as shown below.

3. Select the skylights in the roof plane and use the **Copy/Paste** edit button with the secondary edit button, **Reflect About Object** , to copy the design over to the neighboring roof plane.



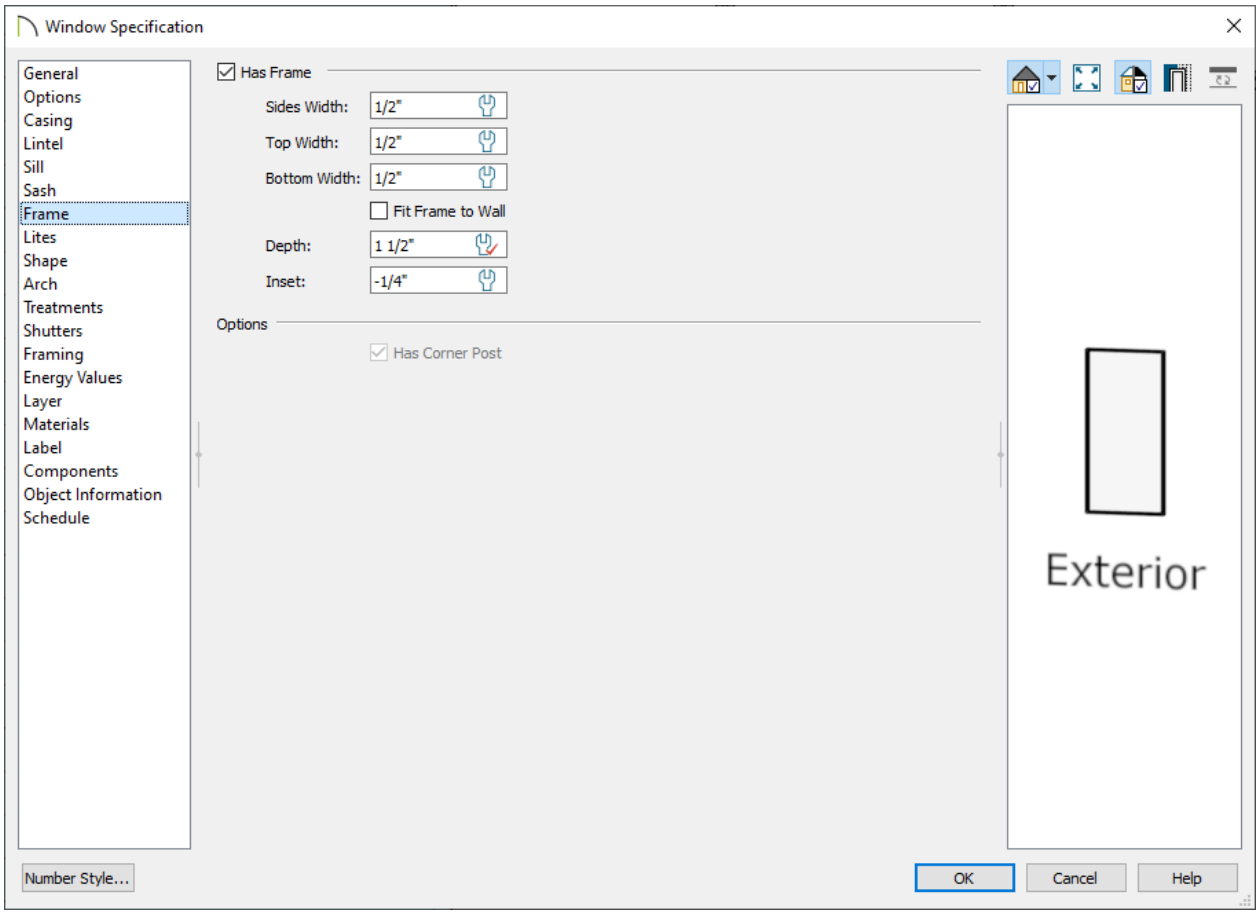
Objects can be group selected by holding the Ctrl or Command key and left clicking on objects us creating a selection marquee. For more information on group selecting objects, see the Related Articles section below.

To add glass to solarium walls

With the steel walls and roof in place, it's time to place windows in the steel walls to create our glass solarium walls. We'll follow a process similar to the previous steps replicating the skylights.

1. Select **3D> Create Orthographic View> Cross Section/Elevation** to create an exterior elevation of either the north or south wall of the solarium.

2. Select **Build> Window> Window** to place a window in the solarium wall and make any necessary modifications. For this example, the following settings are used:
    - On the CASING panel, the **Interior** and **Exterior Casing** are removed.
    - On the LINTEL panel, the **Interior** and **Exterior Lintel** are removed.
    - On the SILL panel, the **Interior** and **Exterior Sill** are removed.
    - On the SASH panel, the **Sash** is removed.
    - On the FRAME panel:



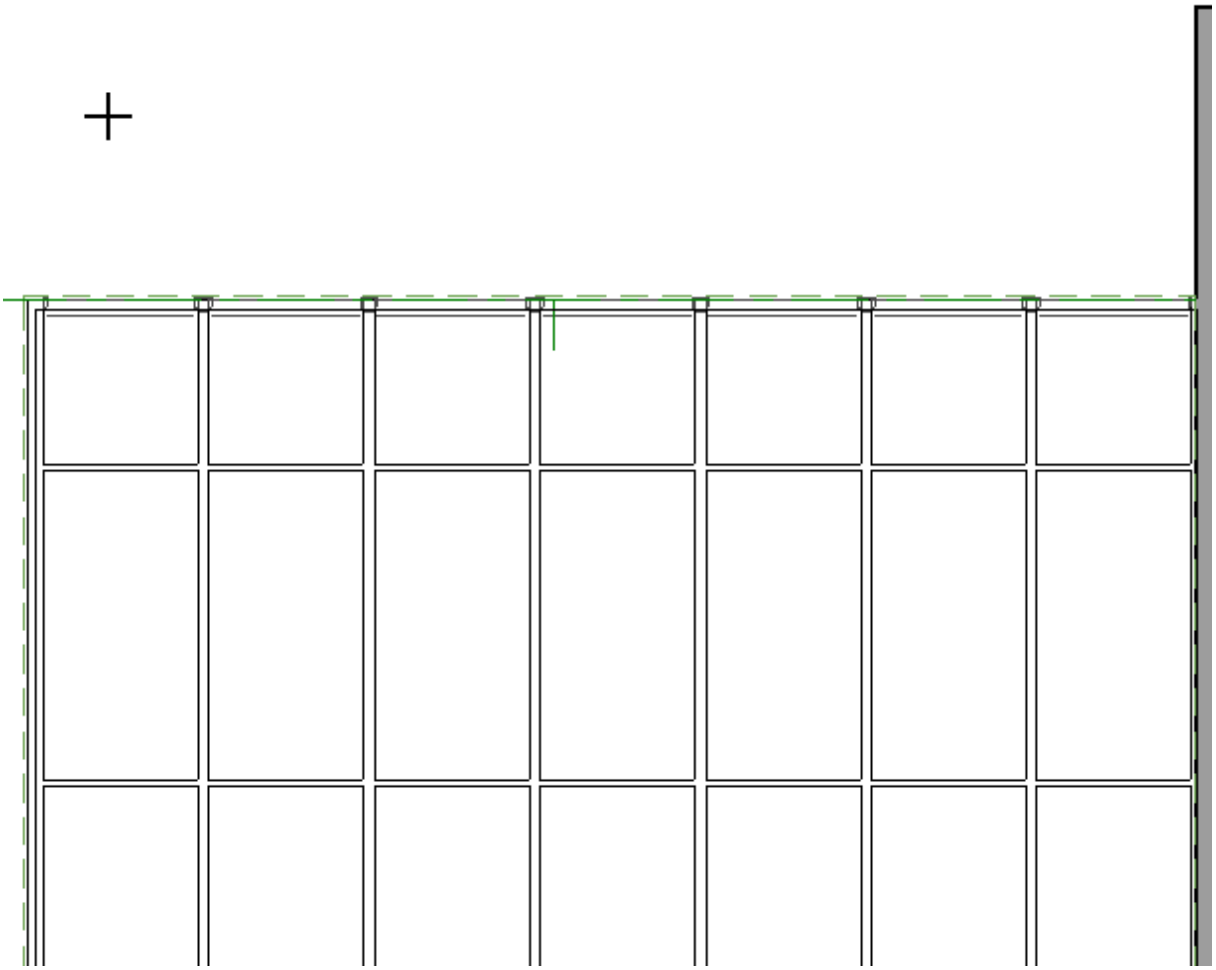
        - **Sides**, **Top**, and **Bottom Width** are set to 1/2".
        - **Fit Frame to Wall** is unchecked.
        - The **Depth** is set to 1 1/2" and the **Inset** is set to -1/4".
    - On the FRAMING panel, the Rough Opening values for **Each Side**, **Top**, and **Bottom**

are all 0".

- On the MATERIALS panel, all components of the Window are using the **Steel Stud 16" OC** material, apart from the Glass.

3. Select the window placed in the solarium wall and use the **Multiple Copy** edit button to replicate the window across the wall at your desired interval.

4. Group select the windows. To do this, navigate to **Build> Window> Window** from the menu, hold down the **Shift** key on the keyboard, and using the left mouse button, click and drag a selection marquee. With the windows selected, use the **Copy/Paste** edit button to create copies and paste them on the adjacent walls.



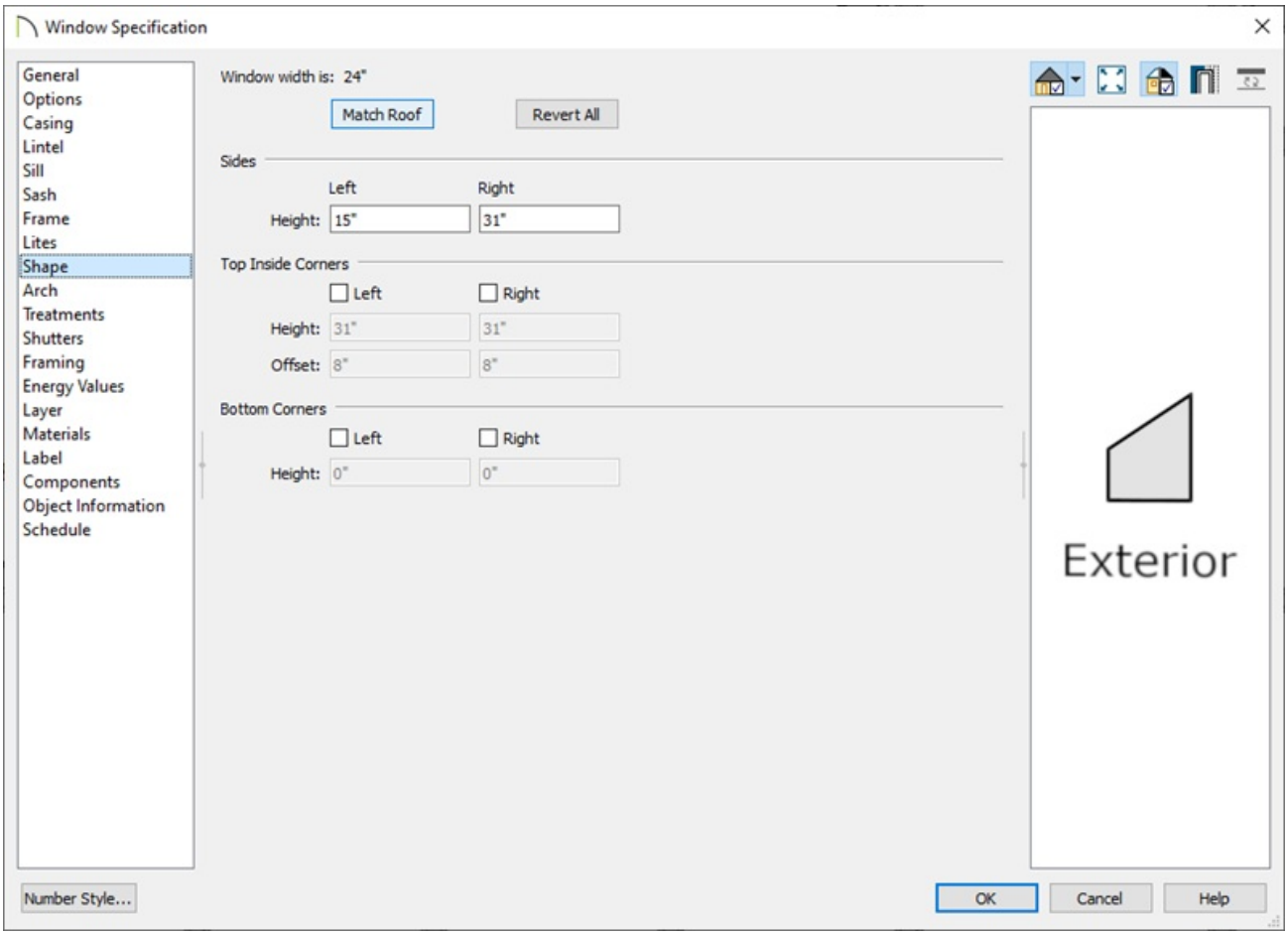
To create a glass gable end

Due to the slope of the roof on a gable end, we'll want to shape the windows in this wall to match the slope.

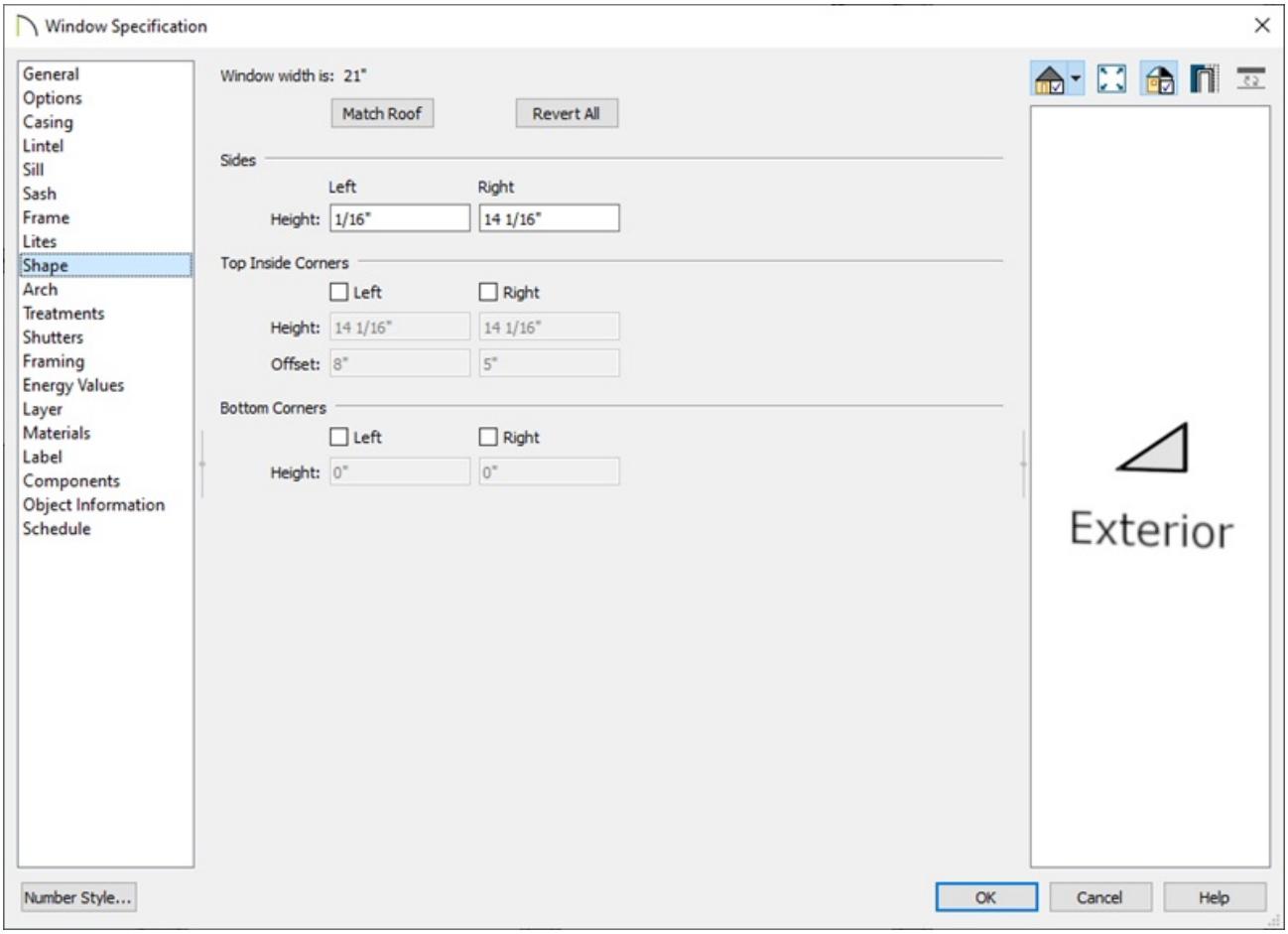
1. Select **3D> Create Orthographic View> Cross Section/Elevation** to create an exterior elevation of the solarium wall with the gable end.

2. Select **Build> Window> Window** to place a window into the gable end wall and make any necessary adjustments.

3. Select the window, click on the **Open Object** edit button, and access the SHAPE panel.

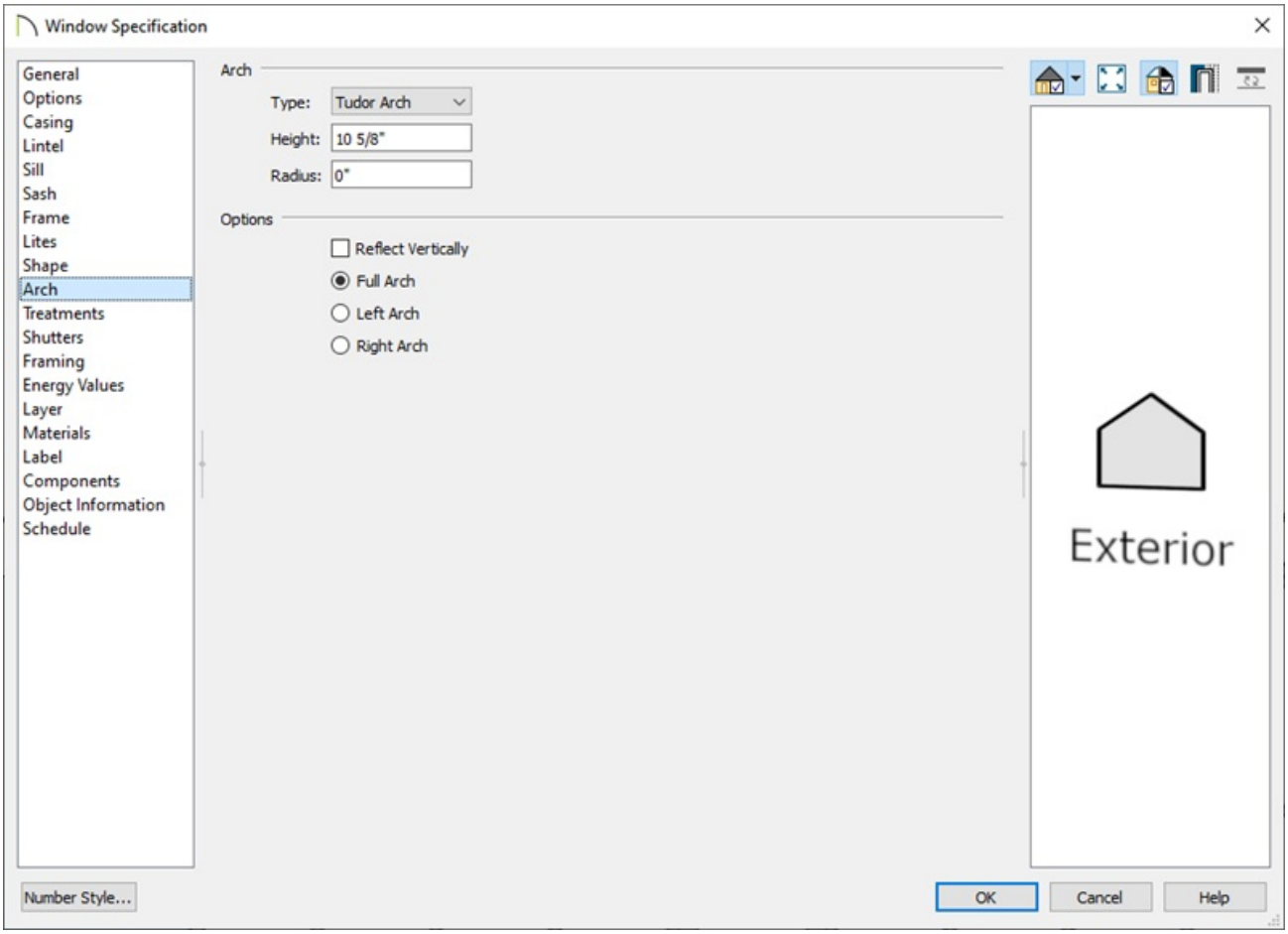


- Use the **Match Roof** button to change the window to match the pitch of the roof.



- The **Height** of the **Left** and **Right Sides** can be manually adjusted to fit windows in the corner ends of the gable end wall.

4. The ARCH panel or **Top Inside Corners** on the SHAPE panel can be used to shape a window for the center of our gable end wall, under the ridge line.



- In this example, the Tudor Arch **Type** is used.

Related Articles

- Creating Hip and Gable Roofs Manually (https://www.homedesignersoftware.com/support/article/KB-00415/creating-hip-and-gable-roofs-manually.html)
- Creating Shaped Windows (/support/article/KB-00036/creating-shaped-windows.html)
- Defining a New Wall Type (/support/article/KB-02944/defining-a-new-wall-type.html)
- Group Selecting Objects (/support/article/KB-00623/group-selecting-objects.html)
- Using the Reflect About Object Tool (/support/article/KB-00284/using-the-reflect-about-object-tool.html)

(https://chieftalk.chiefarchitect.com/)

(/blog/)

(https://www.facebook.com/ChiefArchitect)

(https://www.youtube.com/user/ChiefArchitectInc)

(https://www.instagram.com/chiefarchitectsoftware/

(https://www.houzz.com/pro/chiefarchitect/)

(https://www.pinterest.com/chiefarchitect/)