# Kitchen and Bath Design Tutorial

This tutorial continues where the Materials Tutorial left off. You should save this tutorial using a new name to archive your previous work.

The tools and techniques used to design kitchens and bathrooms are very similar. This tutorial focuses on kitchen design. When you're finished you can use what you've learned to finish up the bathrooms as well. In this tutorial you will learn about:

- Adding Cabinets
- Placing Appliances
- Editing Cabinets and Appliances

- Creating a Cabinet Island
- Editing Cabinets and Appliances
- Working in Cross Section/Elevation Views

## Adding Cabinets

Begin by selecting **File**> **Save As** , and name the plan BeachHouse - Kitchen Bath Tutorial.

*To place a base cabinet*

1.  **Zoom**  in on the Kitchen area in floor plan view.
2.  Select **Build> Cabinet> Base Cabinet** .
3.  Click to place a base cabinet anywhere in the kitchen.

Once a cabinet is placed, it can be edited like other objects.

*To select and edit a cabinet*
1. Cabinets can be selected using one of the following methods.

   • Click on the cabinet while the **Select Objects** 🔍 tool is active.

   • Click on the cabinet while any of the **Cabinet Tools** 🗃 are active.
   • Right-click on the cabinet when another tool is active.
2. When the cabinet is selected, edit handles, a front indicator, and a temporary dimension display. As with other objects, the arrow that displays when the pointer is held over an edit handle indicates what edit function that edit handle will perform. See "Editing Box-Based Objects" on page 154 of the Reference Manual.
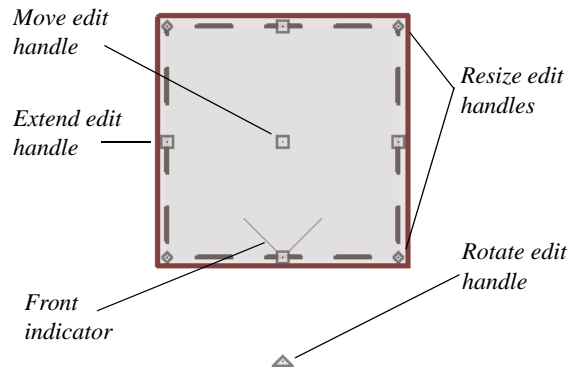


   • Move a cabinet using the Move edit handle. By default, you can move a cabinet parallel to its sides or its front and back edges. To allow unrestricted movement, hold down the Ctrl key or click and drag using the right mouse button.
   • Resize two sides of a cabinet using a Resize edit handle, located in each corner.
   • Extend a cabinet's edge on one side using an Extend edit handle.
   • Rotate a cabinet using the Rotate edit handle, which is always offset to one side.
   • A temporary dimension updates as the cabinet is moved or resized.
3. When a cabinet is selected, you can also click the **Open Object** 🚪 edit button to open its specification dialog and make a wide variety of changes to the cabinet. For more information, see "Cabinet Specification Dialog" on page 551 of the Reference Manual.

*To lay out base cabinets for this tutorial*
1. Place and position six base cabinets and edit their widths as shown in the following image:
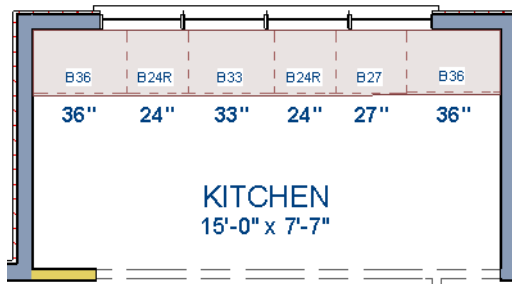
- Two of the cabinets are 36", two are 24" wide, one is 33" and one is 27" wide.
- A cabinet snaps to another if they are in alignment, facing the same direction, and of the same type.

Note: The display of cabinet module lines has been turned on in the following images. See "Displaying Cabinets" on page 543 of the Reference Manual for more information.
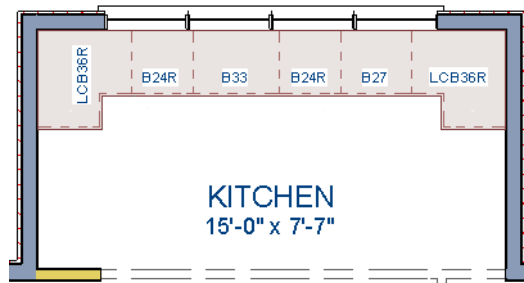
### *To create corner cabinets*

1. Select the 36" wide base cabinet on the left.
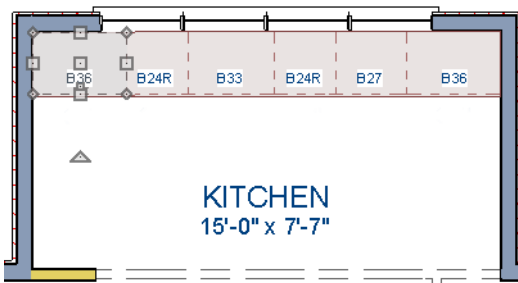


2. Click the **Open Object** 🔲 edit button to open the **Base Cabinet Specification** dialog. On the General panel:
   - Specify a **Width** greater than the Depth. The selected cabinet's width should already have been changed to 36", which works well with a 24" depth. If it isn't, change it to 36" now.
   - Click the **Special** drop-down list and select "Corner".
   - On the Front panel, uncheck the box beside **Diagonal Door**.
   - Click **OK** to change the cabinet into a corner cabinet.
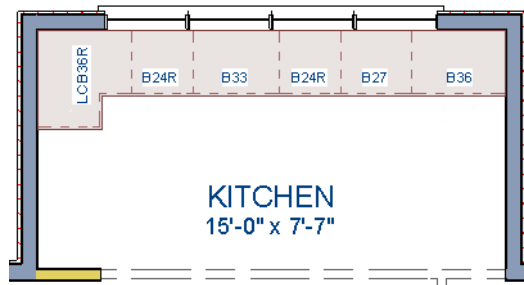
3.  With the cabinet still selected, use its Rotate edit handle to rotate it so its back faces the wall corner if necessary.

4.  A different approach can be used to create a corner cabinet in the right corner. Begin by selecting the cabinet on the right and pressing the **Delete** key or clicking the **Delete** ⊠ edit button.

5.  Select **Build> Cabinet> Base Cabinet** 🗇, then move your mouse pointer into the corner. When the cabinet preview changes to a corner cabinet, click once.

6.  Uncheck **Diagonal Door** for this new cabinet as described in step #2, above.



> 💡 To move a row of cabinets, select one cabinet, then click and drag the Move edit handle towards the other cabinets. The selected cabinet will push the others. See "Bumping/Pushing" on page 164 of the Reference Manual.

*To place wall cabinets*

1.  Select **Build> Cabinet> Wall Cabinet** 🗔.
2.  Click above the left corner base cabinet to place a wall cabinet as shown.

**4**
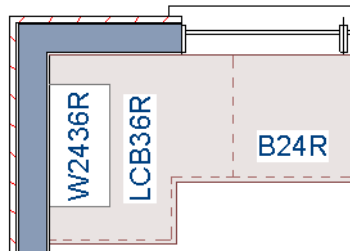
3. Click the **Open Object** ⬜ edit button to open the **Wall Cabinet Specification** dialog:
   - On the General panel, specify a **Width** of 33".
   - On the Door/Drawer panel, change the **Door Style** to "Framed", and check the box beside **Glass Doors**.
   - On the Moldings panel, click the **Add New** button to add crown molding to the cabinet.
     In this example, a crown molding profile with a **Height** of 2 1/2", a **Width** of 2 1/2", and a Vertical **Offset** of - 2 1/2" is used. For more details, see "To add crown molding to a room" on page 109.
   - Click **OK** to apply these changes to the wall cabinet.
4. With the wall cabinet still selected:

   - Click the **Copy/Paste** ⬛ edit button.

   - Click the **Reflect About Object** ⬛ edit button.
   - Move your mouse pointer into the center of the room so that the room becomes highlighted.
   - When you see a dashed vertical line running through the center of the room, click once. The dashed line is a reflection axis, and a copy of the cabinet will be created on the opposite side of the kitchen, aligned with the original.
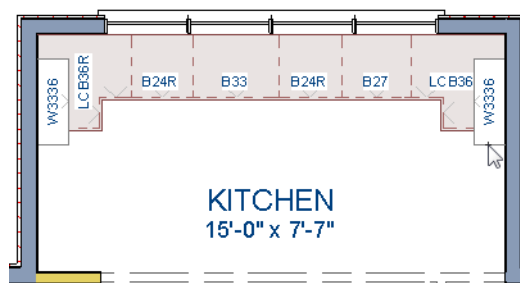
> Note: The display of cabinet face indicator lines has been turned on in the following images. See "Displaying Cabinets" on page 543 of the Reference Manual for more information.

With the wall cabinets in place, you may want to add soffits to enclose the space between them and the ceiling.

### *To place soffits*

1. Select **Build> Cabinet> Soffit** then click above the wall cabinets to place soffits.
2. Adjust their width and orientation to match the wall cabinets below.

> When objects are very close to one another or occupy the same vertical space in floor plan view, it may be difficult to select the intended object. You can select an objects, then click the **Select Next Object** edit button or press the Tab key to select a neighboring object. The Status Bar indicates which object is currently selected.

For more information about cabinets, see "Cabinets" on page 535 of the Reference Manual.

## Placing Appliances

Appliances come in two basic varieties, freestanding and built-in. For more information about library objects such as appliances, see "The Library" on page 639 of the Reference Manual.

### *To place a freestanding appliance*

1. Select **View> Library Browser** to open the Library Browser.
2. In the Core Catalog, browse to Architectural> Appliances> Refrigerators, locate a refrigerator, and select it for placement.
3. On the left side of the kitchen, click in the empty space below the base corner cabinet to place the refrigerator.
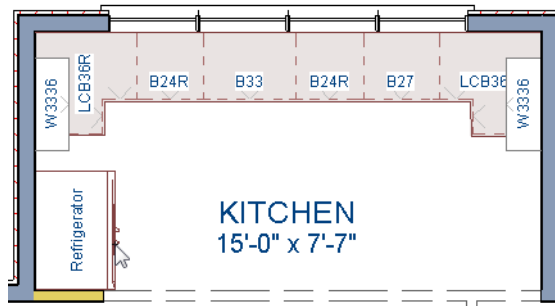
4. In the Appliances catalog, find an electric range and place it in the empty space on the right side of the kitchen.

*To place a built-in appliance*

1. Select **View> Library Browser** to open the Library Browser.
2. In the Core Catalog, browse to Architectural> Fixtures> Sinks, locate a sink, and select it for placement. In this example, the Self Rimming Offset 32" sink is used.
3. Click on the base cabinet near the top of the screen that is 33" wide to insert the sink into that cabinet.
4. In Core Catalog> Architectural> Appliances> Dishwashers, select a dishwasher for placement, and click on the cabinet to the right of the sink.
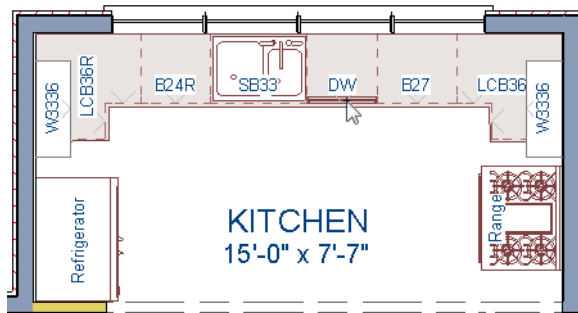


# Editing Cabinets and Appliances

Like most objects, cabinets and appliances can also be edited in their own specification dialogs. This method allows a higher degree of customization than using just the edit handles.

*To edit cabinets in the Cabinet Specification dialog*

1. Select the cabinet to the left of the sink and click the **Open Object** 🗐 edit button to open the **Base Cabinet Specification** dialog.
2. Click on the drawer in the preview image on the right side of the dialog. Notice that clicking anywhere on the preview takes you to the Front panel.
3. Click the **Add New** button to open the **New Cabinet Face Item** dialog.
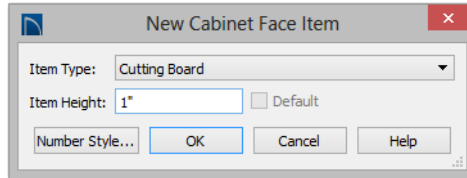


4. Click the **Item Type** drop-down list and select Cutting Board, assign an **Item Height** of 1 inch, and click **OK** to return to the **Cabinet Specification** dialog.
5. A new Cutting Board face item, as well as a new Separation, will be added below the drawer that you selected.
6. Click on the Cutting Board in the preview, then click the **Move Up** button three times to move the cutting board above the drawer.
7. Select the Separation and click the **Move Up** button three times, as well.
8. Click OK to close the **Base Cabinet Specification** dialog.

These steps can be used to create a wide variety of cabinet front configurations, such as a bank of drawers.

*To edit appliances in the Fixture Specification dialog*

1. Select the refrigerator and click the **Open Object** 🗐 edit button to open the **Fixture Specification** dialog.
2. On the General panel, change the **Depth** to 28 and click **OK**.

Finally, add some narrow base cabinets to fill in the gaps beside the appliances. You can also add a wall cabinet and soffit above the range.
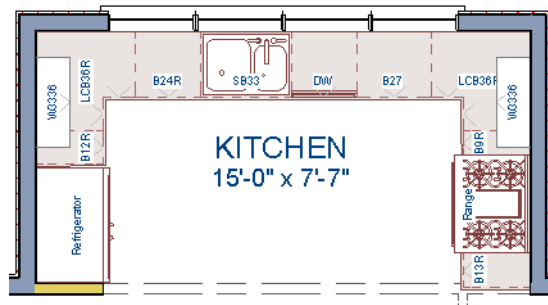
# Creating a Cabinet Island

A cabinet island with custom countertop can also be created using the Cabinet Tools. For more information, see "Editing Custom Countertops" on page 542 of the Reference Manual.

*To create a cabinet island*

1. Select **Build> Cabinet> Base Cabinet** 🔲.
2. Click to place a base cabinet in the kitchen area, and select it.

3. Click the **Open Object** 🔲 edit button to open the **Base Cabinet Specification** dialog.
   • On the General panel, specify a **Width** of 33" and a **Depth** of 27".
   • On the Front panel, create three **Double Drawers** with an **Item Height** of 8 1/2".
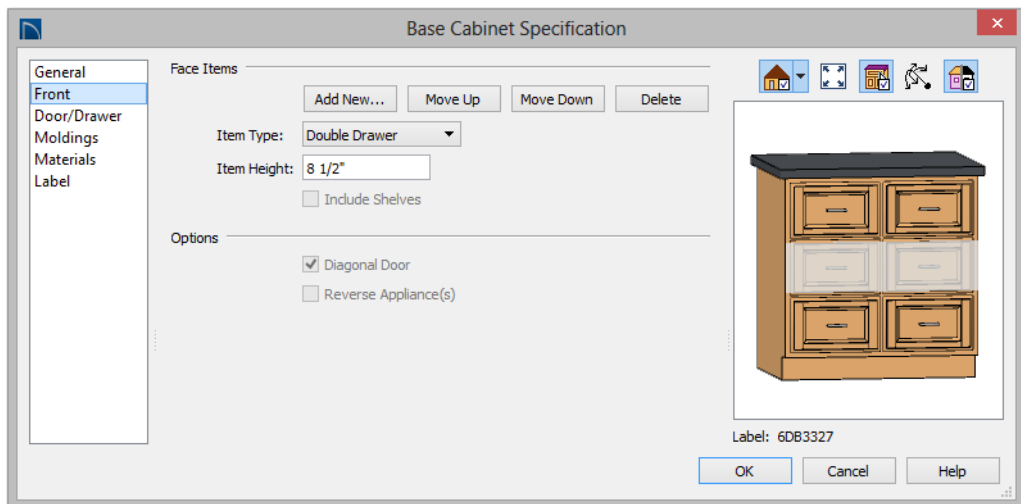
- On the Door/Drawer panel, set the Drawer Handle to **Knob**.
- Click **OK** to close the dialog and apply your changes.

4. With the Base Cabinet still selected, click the **Copy/Paste** ▣➡▣ edit button, then
   - Click and drag the Move edit handle downward on screen until the preview outline snaps directly below the existing cabinet.
   - Release the mouse button to create a copy of the original cabinet, as in the image below:
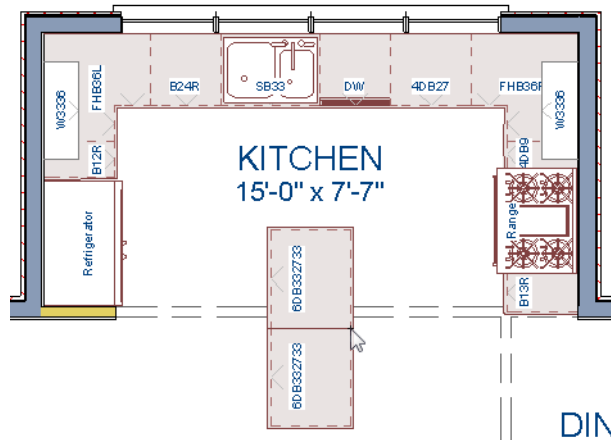


For the next portion of this tutorial, the display of cabinet labels is turned off. To do this, select

**Tools**> **Display Options** ☑. In the **Layer Display Options** dialog, locate the "Cabinets, Labels" layer, remove the checkmark in the **Disp** column, and click **OK**.

### To create a custom countertop

1. Click the **Select Objects** ▨ button, then click on the island cabinet closest to the sink to select it.

2. Click the **Generate Custom Countertop** ⛴ edit button. A new Custom Countertop polyline will be created, replacing the cabinet's countertop, and will be selected.

3. With the new custom countertop selected, use its edit handles to reshape it so it covers all of the island cabinets.

4. Click on the bottom vertical edge of the countertop polyline to make it the Selected Edge. For more information, see "Selected Edge" on page 137 of the Reference Manual.

5. Click the **Change Line/Arc** ⬆ edit button to change the Selected Edge from a straight line into a curved arc.
   - Use the triangular Reshape edit handle located along the arc's radius to adjust the cuvature of the arc.

- To temporarily suppress snapping, you can hold down the Ctrl key while you drag the Reshape handle.
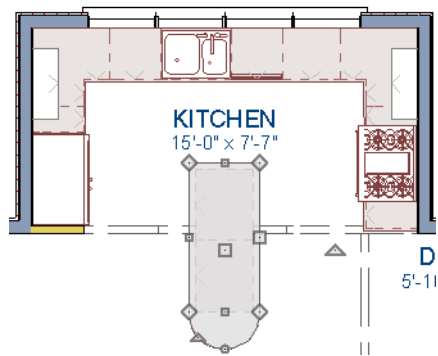


6. Create a **Full Camera**  view to see the results.



A Custom Countertop can also be drawn using the **Custom Countertop**  tool. For more information, see "Custom Countertops" on page 541 of the Reference Manual.
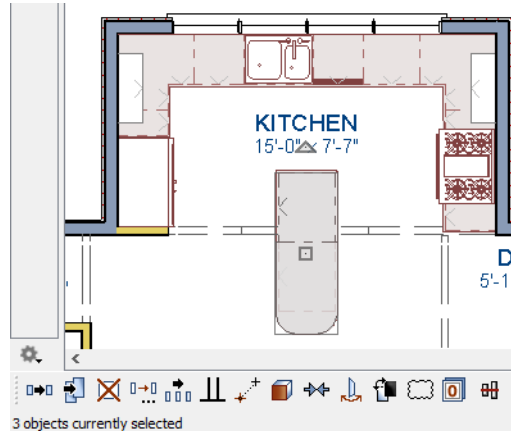
# Creating Architectural Blocks

Groups of items can be blocked together and saved to the library for use in other plans.

*To create an architectural block*

1. While in floor plan view, group select all objects you would like to include in the architectural block.

2. One way to group select the objects is to hold down the **Shift** key and select additional objects to add them to the selection set. There are many other ways to select and group select objects. For more information, see "Selecting Objects" on page 136 of the Reference Manual.



3. Click the **Make Architectural Block** edit button.

***To add an object to the library***
1. Select the architectural block.
2. Click the **Add to Library** edit button to add the architectural block to the User Catalog in the Library Browser.
3. Right-click on the new item in the User Catalog and select **Rename** from the contextual menu to change the name from "Untitled" to something descriptive like "Kitchen Bar".

If you want, you can organize the content in your User Catalog by creating folders and then moving items into those folders. For more, see "Organizing the Library" on page 650 of the Reference Manual.

***To explode an architectural block***
1. Select an architectural block.
2. Click the **Explode Architectural Block** 📕 edit button.

# Working in Cross Section/Elevation Views

Like other objects, cabinets can be edited in cross section/elevation views. This method of editing is very powerful and allows objects to be edited easily in vertical space. Next we'll edit

wall cabinets and add a range hood. For more information about working in 3D views, see "Working in 3D" on page 722 of the Reference Manual.

*To create a cross section/elevation view*

1. In floor plan view, select **3D> Create Orthographic View> Cross Section/Elevation** 🏠. Click and drag a line of sight pointed directly at the range.

2. **Zoom** 🔍 in on the kitchen.
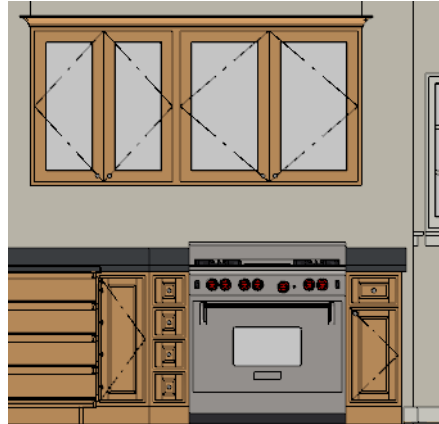


*To edit the cabinets in a cross section/elevation view*

1. Click the **Select Objects** ⬛ button, then click on the wall cabinet above the range, which should have double doors and be slightly wider than the base cabinet below it.

2. Click on the cabinet's bottom edit handle and drag it upwards.
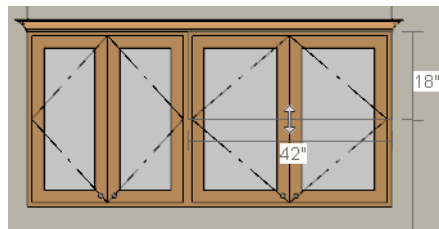


3. When the temporary dimension indicates that the cabinet height is 18 inches, release the mouse button.

> Note: If you do not see Temporary Dimensions when an object is selected, select View> Temporary Dimensions to toggle this feature back on.

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### *To place a range hood*

1. Find a range hood in the Fixtures catalog and select it for placement.
2. Click above the range to place the hood.
3. If necessary, you can adjust its position and size using its edit handles.
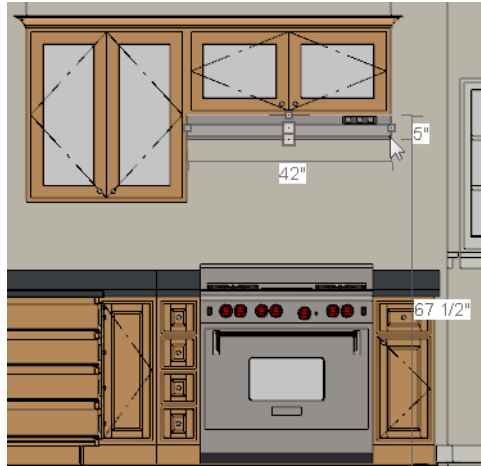


# Finishing Touches

A wide variety of furniture, accessories, and other items is available in the Library Browser at Core Catalogs> Interiors, which you can use to furnish this and other plans.

### *To view our kitchen using the Cross Section Slider and Final View*

1. In floor plan view, click **Fill Window** ⛶.

2. Create a **Full Camera** 📷 view that starts from the exterior and release the mouse button in the kitchen. See "To create a camera view" on page 41.

3. Use the **Mouse-Orbit Camera** �view tool to adjust the camera's perspective. If you want, you can turn off the display of the backdrop in the **3D View Defaults** dialog. For more information, see "3D View Defaults Dialog" on page 703 of the Reference Manual.

4. Select **3D> Camera View Options> Cross Section Slider** 🏠 to open the **Cross Section Slider** dialog.
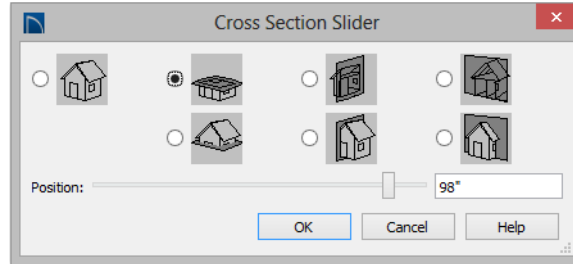
5. Select the flat cut line and use the **Position** slider to specify the location of the cutting plane. See "Cross Section Slider" on page 721 of the Reference Manual.

6. Select **3D> Camera View Options> Final View** 🏠 to create a higher quality final view.



7. Be sure to **Save** 💾 your work.

If you would like, you can continue working on this plan in the Landscaping Tutorial. To learn how to arrange views of your model on a page for printing, see the Layout Tutorial.