

Exercise 11-2: Kitchen Layout

In this exercise you will look at adding cabinets in the kitchen to your project. As usual, Revit provides several pre-defined families to be placed into the project.

Placing cabinets:

You will add base cabinets and appliances first.

1. Open ex11-1.rvt and **Save As ex11-2.rvt**.
2. Switch to the **First Floor** plan view and zoom into the kitchen.
3. Using the **Component** tool selected, place the Elements (cabinets and appliances) as shown in Figure 11-2.1; use *Snaps* for accuracy. Remember that the cursor is at the back of the cabinet when placing the component.

FYI: Most of the specified families are already loaded into your project from your template you started with; the others can be loaded manually from the local or online libraries.

4. Select one of the corner cabinets and change its height to 2'-10 1/2" via *Properties*.

FYI: This will match the adjacent cabinet's height.

FYI:

As with other components (i.e., doors and windows), Revit loads several types to represent the most valuable/useful sizes available.

Cabinets typically come in 3" increments with different types (i.e., single or double door unit) having maximum and minimum sizes.

Next you will add the counter tops to the base cabinets. You will place five separate counter top elements (Figure 11-2.2). You will adjust the lengths of the counter tops to fit the cabinets below.

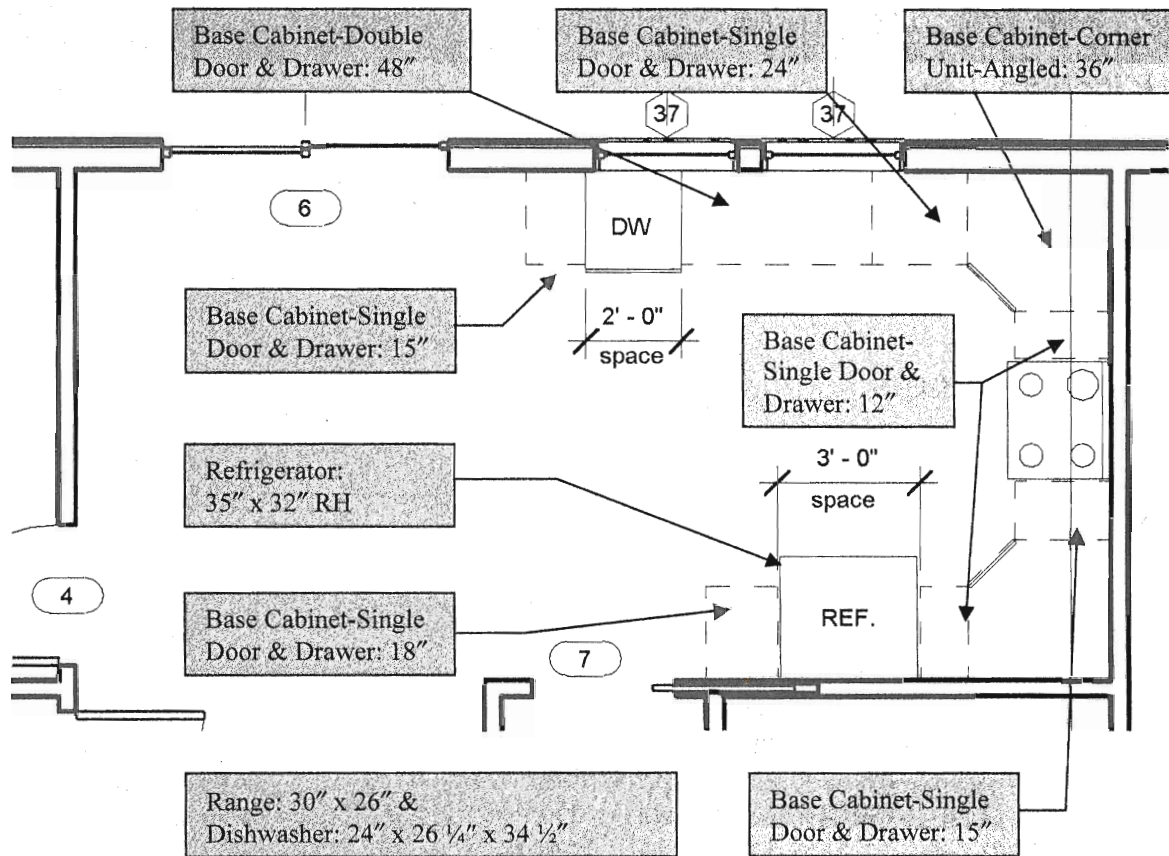


Figure 11-2.1 First Floor Plan View: base cabinets added to kitchen

5. Per the steps listed below, add the counter tops shown in Figure 11-2.2, using *Snaps* to accurately place them.
 - a. Load the elements not loaded, in your project, from the *Casework\Domestic Kitchen* folder.
 - b. Place the bottom-right corner unit (use *Move*, *Mirror* and *Snaps*) and then, with the unit selected, drag one of the end grips back to align with the edge of the cabinet below.
 - c. Load and place the other corner unit with the sink hole.
 - i. Adjust the edge locations (use *Properties* for accuracy)
 - ii. Adjust sink hole via *Properties*: *Sink Location*: **5'-4"**
 - d. Add the two straight counter tops as shown.
 - e. Verify the *Height* is **3'-0"** via *Properties*.

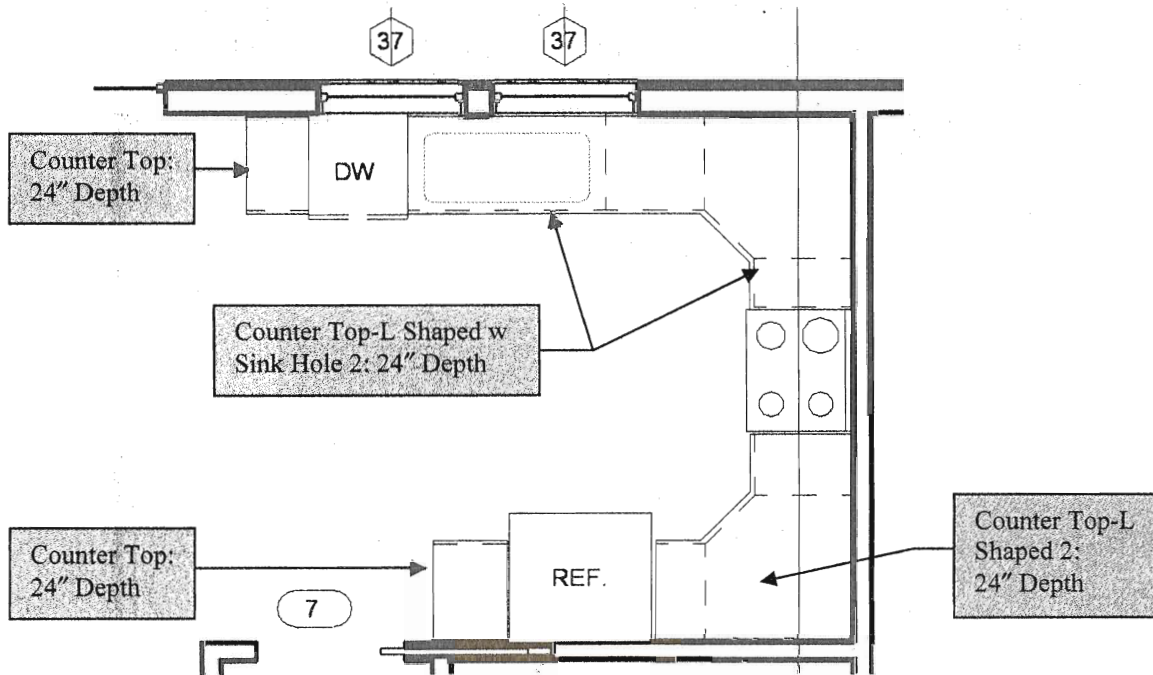


Figure 11-2.2 First Floor Plan View: counter tops added

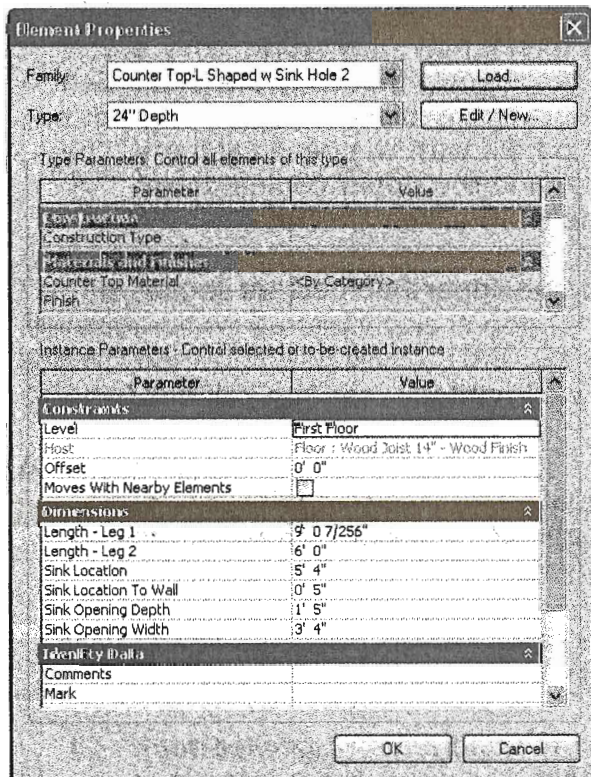


Figure 11-2.3 Properties for Counter top with Sink Hole: 24" Depth

6. Select the counter top with the sink hole and click **Properties**.
7. Change the following: (Figure 11-2.3)
 - a. Sink Location to Wall: **5"**
 - b. Sink Opening Depth: **1'-5"**
 - c. Sink Opening Width: **3'-4"**

TIP: Some settings are per element (i.e., the settings in dialog to the left) and others are per type (i.e., clicking the Edit/New... button – Type Parameters); the Instance Parameters only affect the selected item.

8. Using the *Component* tool, add **Kitchen Sink-Double: 42" x 21"** to your project – centered on the sink hole (Figure 11-2.4).

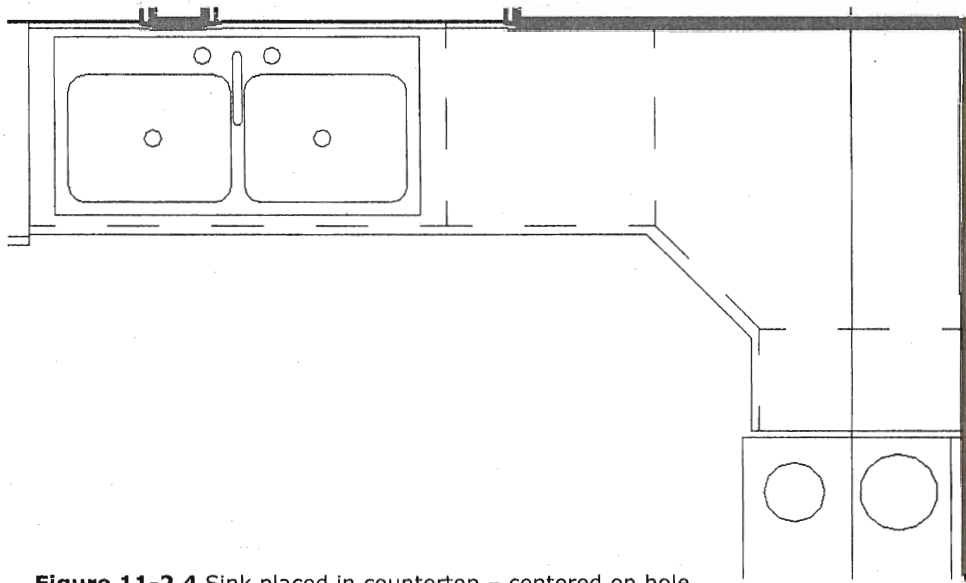


Figure 11-2.4 Sink placed in countertop – centered on hole

Placing wall cabinets:

Next you will add a couple wall cabinets to see how they work. They are similar to adding base cabinets, with the exception that they are dependent on walls (i.e., they are *Wall Hosted*). You can only place an upper cabinet on a wall, not in the middle of a room like you did with the base cabinets. The base cabinets are setup to sit on the floor and the upper cabinets are assigned a height above the floor (on the wall) via properties.

9. Using the **Component** tool, add the Upper Cabinets as shown in **Figure 11-2.5**:
 - a. Move the cursor close to a wall until you see the cabinet (which means Revit found a wall).
 - b. Center the upper cabinet above the range, leaving an equal space on each side of the cabinet; these spaces would get a filler that matches the cabinets.
 - c. The numbers and X's in the cabinets are for clarity of this step only; you do not need to add these items.
 - d. If you have trouble adding the uppers at the pocket door location, add them to the right and move them into place.

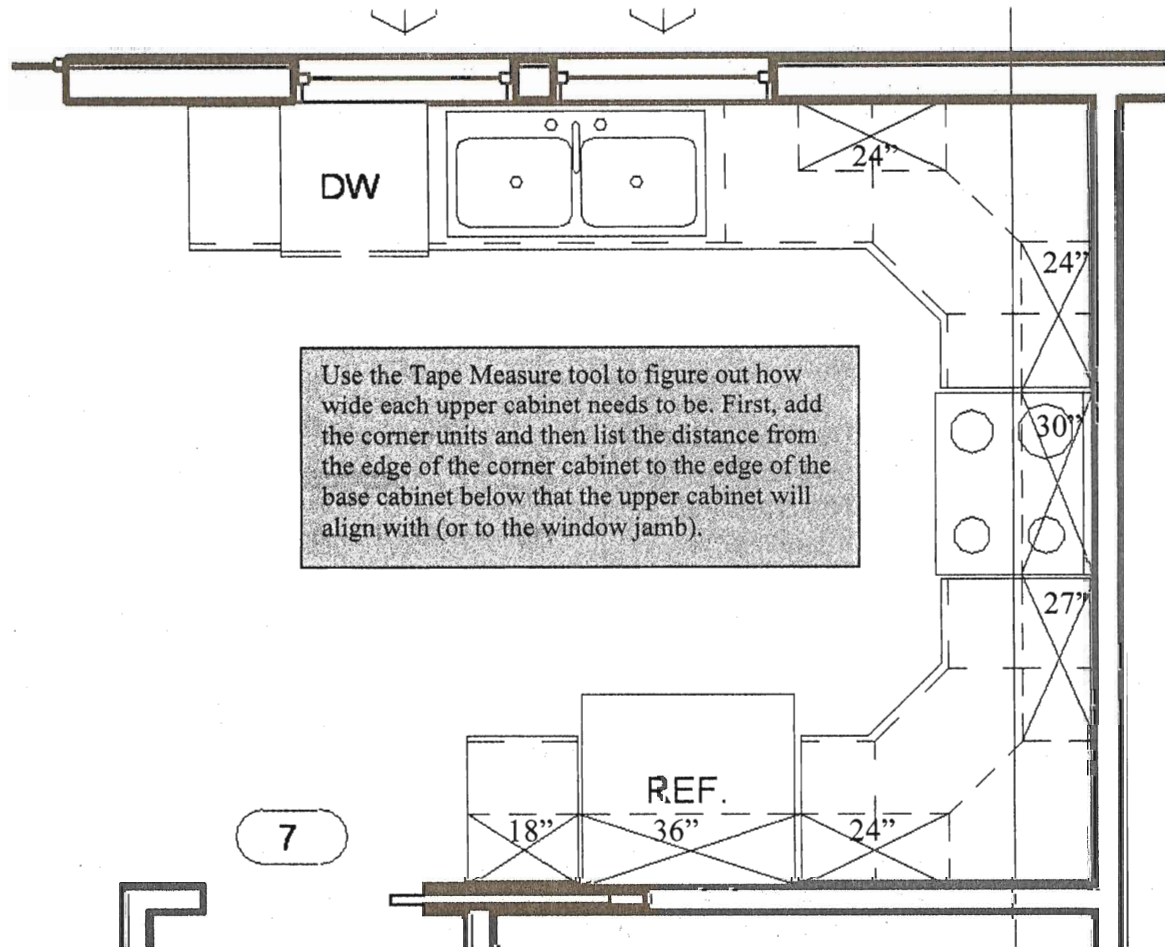


Figure 11-2.5 First Floor plan view: upper cabinets added (X'S added for clarity in this image)

The heights of the cabinets will be adjusted when you get to the interior elevation view; as usual this is gone through Properties. **FYI:** Wall cabinets are typically dashed in plan because they are above the floor plan cut plane.

Adding the interior elevation tag:

10. Add an interior **Elevation Tag** as shown in Figure 11-2.6.

TIP: Make sure you select Interior Elevation from the Type Selector.

11. Rename the new elevation view to **Kitchen (east)**.
12. Select the **Circle** portion of the symbol; the symbol should look like Figure 11-2.7 when selected correctly.

13. Click the north (top) and south (bottom) check-boxes as shown in Figure 11-2.7.
14. **Rename** the two new views to **Kitchen (north)** and **Kitchen (south)**.

The single elevation tag in plan view is associated with the three kitchen elevation views.

15. Double-click the triangular portion of the elevation tag pointing towards the east (right) to open that view.
16. Adjust the **Crop Region** so the floor system is not visible.
17. Set the *View Scale* to $\frac{1}{2}'' = 1'-0''$; your drawing should look like **Figure 11-2.8**.

Depending on where, exactly, you placed the *Elevation Tag*, you may see the side of the refrigerator or a section through it, as in Figure 11-2.8. In this case you will want to adjust the view so you see the cabinets beyond, which is more important to show. You will switch back to the plan view and adjust the views settings.

18. Switch back to **First Floor** plan view.
19. Click, to select, the east view's triangle (portion of the elevation tag) so you see the *Extent of View/Far Clip Plane* lines.

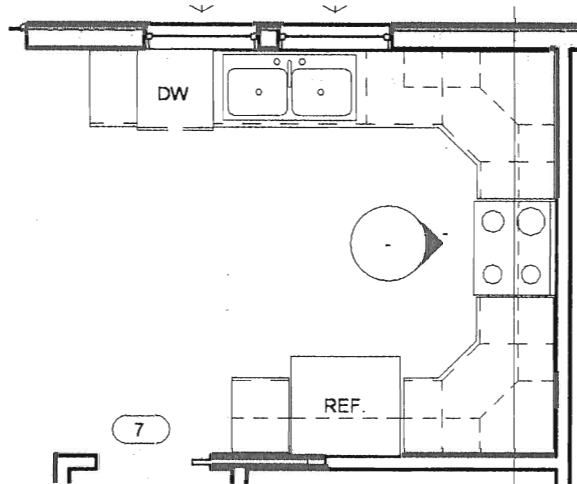


Figure 11-2.6 Elevation tag added to kitchen

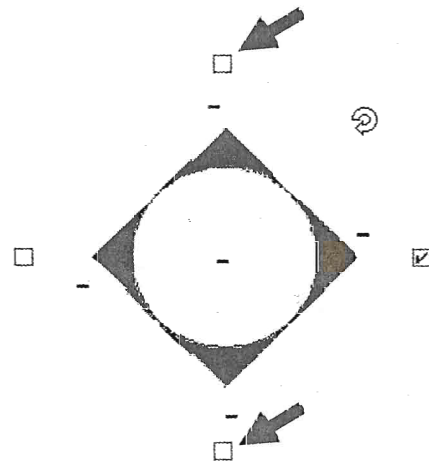


Figure 11-2.7 Elevation tag selected

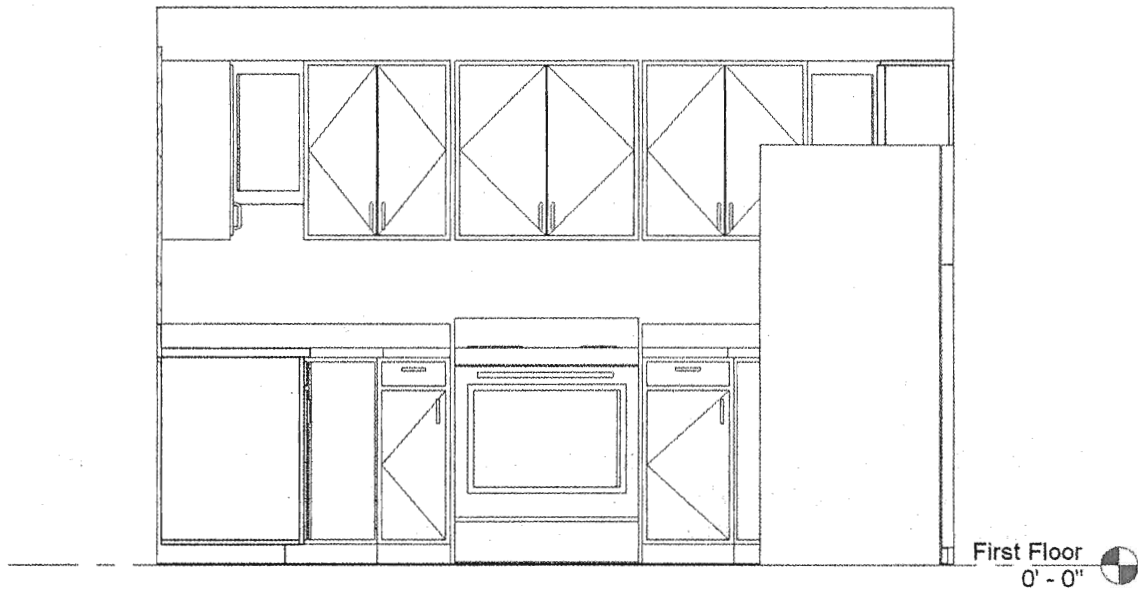


Figure 11-2.8 Kitchen (east); initial view

20. Click and drag to adjust the location of the *Extent of View* line as shown in Figure 11-2.9 (also adjust the Far Clip Plane if necessary).

Notice the *Extent of View* line has been moved to the east of the refrigerator and the Far Clip Plane is in the middle of the wall.

21. Switch back to the **Kitchen (east)** view and note the changes (Figure 11-2.10).

You will modify one more thing in this view before moving on. The height of the wall cabinets needs a little work (Figure 11-2.10); the corner cabinets are too short and the cabinet over the range is too tall. You can adjust these in either the plan or elevation view. You will adjust them in the elevation view so you can immediately see the changes.

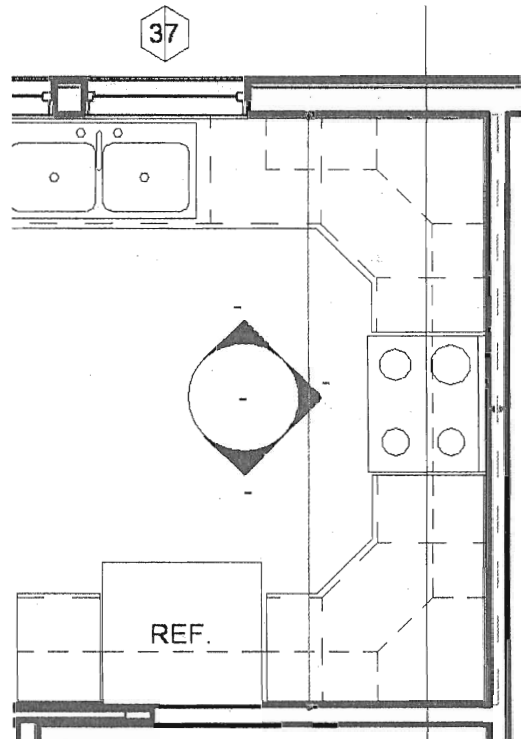


Figure 11-2.9 First Floor; elev tag selected

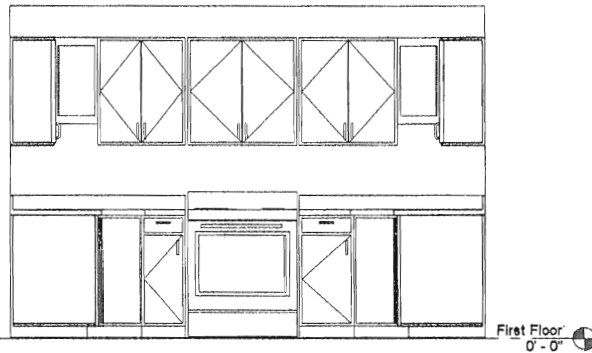


Figure 11-2.10 Kitchen (east) view; view settings adjusted

22. Select both corner upper cabinets and change their height to **2'-6"** and the Elevation to **4'-6"** ($2'-6" + 4'-6" = 7'-0"$ to top). Make these changes via the instance and type properties.
23. Select the upper cabinet above the range and change its height to **15"** and the Elevation so the top stays at 7'-0".
24. Search the **Web Library** for a range hood and load/place it.

Your elevation should now look like Figure 11-2.11. Notice that the cabinets on the right and left (which are actually in section) are heavier lines than the cabinet which are in elevation. Again, Revit saves time by assuming the industry standard. However, you can use the *Linework* tool to change this if you so desire!

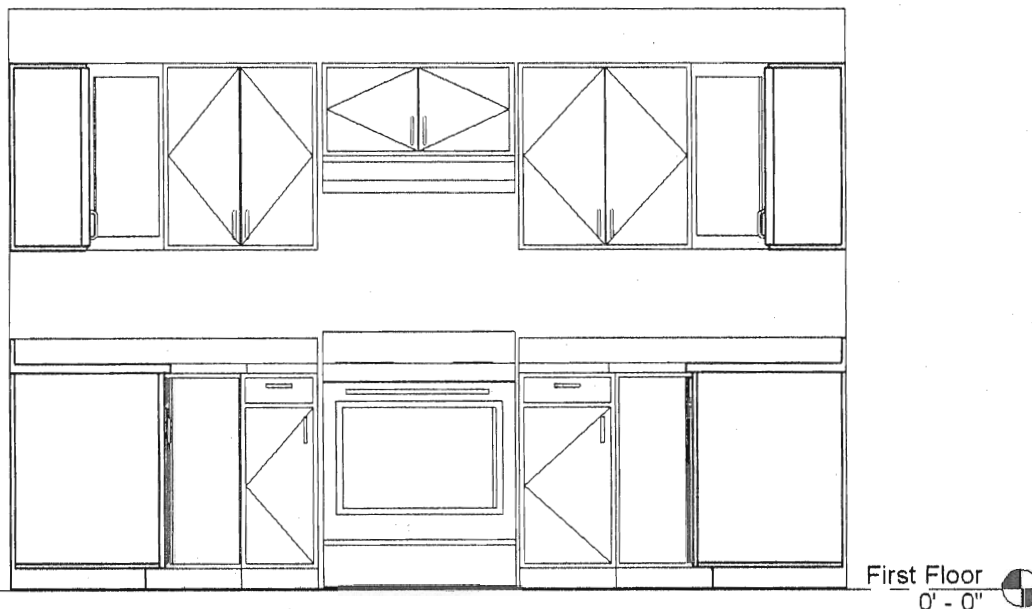


Figure 11-2.11 Kitchen (east) view; view settings adjusted

You will add notes and dimensions to the elevation.

25. Add the notes and dimensions per **Figure 11-2.12**.
26. Select the **Linework** tool and set the *Type Selector* to **Wide lines**. Select the perimeter lines so they stand out more.

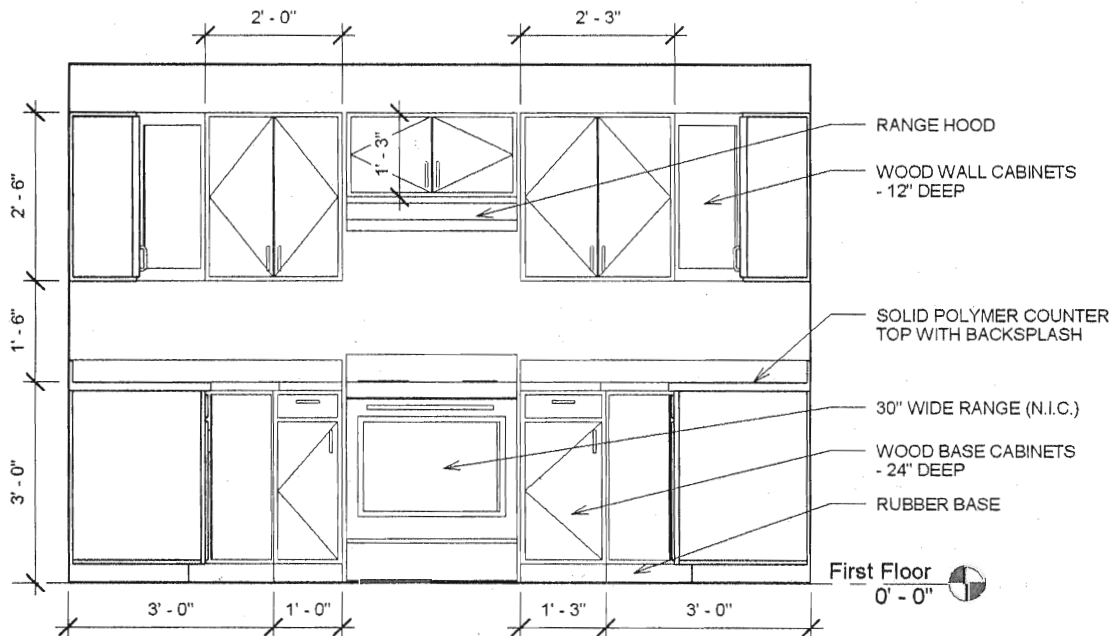


Figure 11-2.12 Interior elevation with annotations

That's it for the east elevation! Next you will take a quick look at the other two elevations you setup in the kitchen.

27. Switch to the **Kitchen (north)** view.
28. Adjust the *Crop Region* and the perimeter lines per the previous elevation (Figure 11-2.13).
29. Change the *View Scale* to **1/2" = 1'-0"**.

You will notice right away that the windows are in conflict with the cabinets and the countertop does not extend over the dishwasher. Both of these required changes can be made in either the plan or the elevation; again, you will make changes in the elevation view so you can see the results.

First you will fix the windows. An error like this could easily be overlooked using a traditional CAD program because the exterior elevation and the interior elevations are separate/independent drawings files; so you could have fixed the height of the windows in the interior elevation, but forget to change the exterior elevation (where the windows are typed and ordered

from). In Revit, it is not even possible to have one window be two different sizes in the same project file.

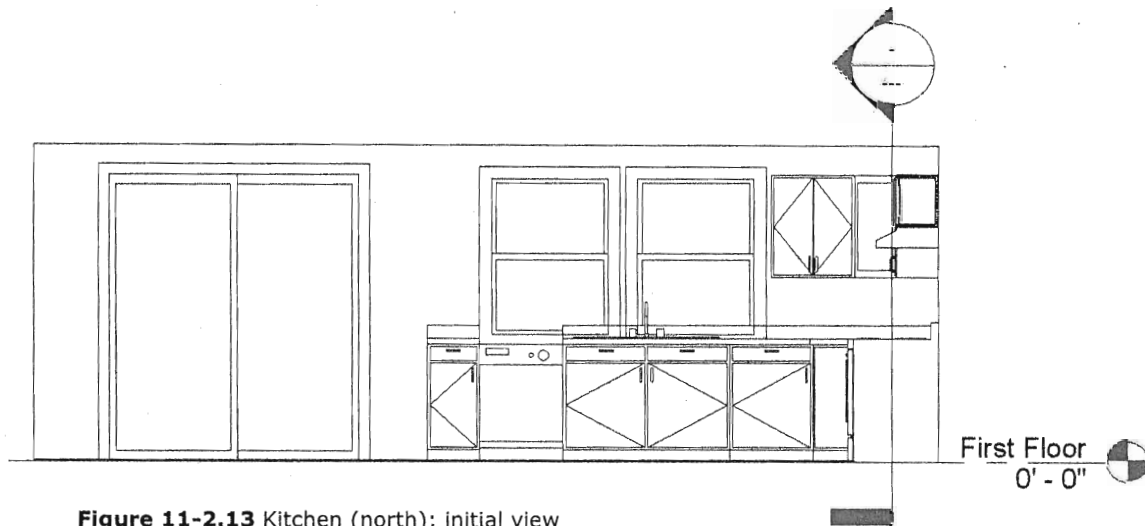


Figure 11-2.13 Kitchen (north); initial view

30. Select the Section line, right-click and pick **Hide in View** → **Elements**. You do not need to see that section here.
31. Select the two windows in the **Kitchen (north)** view.
32. Via *Properties*, create a new window *Type* named **Double Hung with Trim: 36" x 42"**:
 - a. Set the *Height* to **3'-6"** (from 4'-0")
 - b. See the *Sill Height* to **3'-6"** (From 3'-0")

Now the windows do not conflict with the countertop's backsplash. Now you will adjust the counter top.

33. In the Kitchen (north) view, zoom in on the dishwasher area.
34. Select the **Counter Top** over the **15"** wide base cabinet (to the left of the range) and press the **Delete** key to erase it.
35. Using the **Align** tool, select the left-edge of the 15" wide base cabinet and then select the left edge of the countertop. The countertop should now align with the edge of the cabinets.

FYI: You must pick these items in the order specified.
36. Edit the perimeter using the **Linework** tool.

Your modified Kitchen (north) should look like Figure 11-2.14.

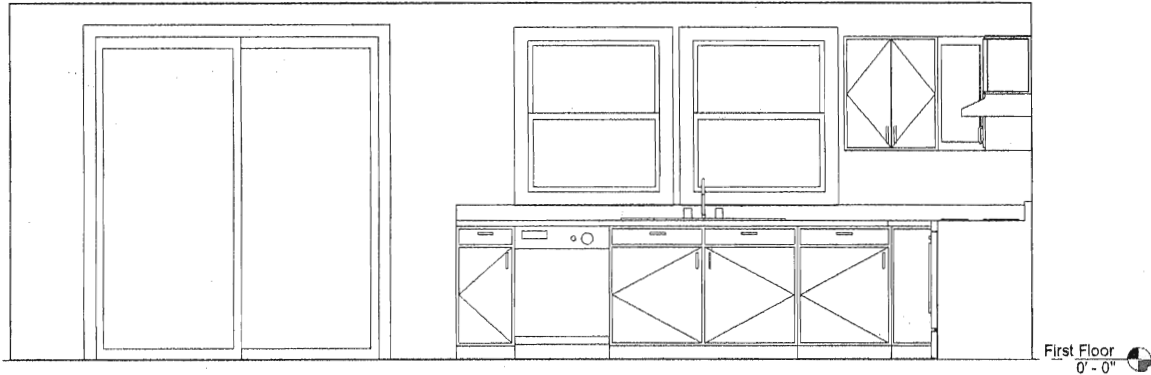


Figure 11-2.14 Kitchen (north); modified view

37. Open **Kitchen (south)**.

38. Modify the **Crop Region** and the perimeter linework.

You cannot see the refrigerator doors, you now realize that the refrigerator was inserted backwards (Figure 11-2.15); you will fix this next.

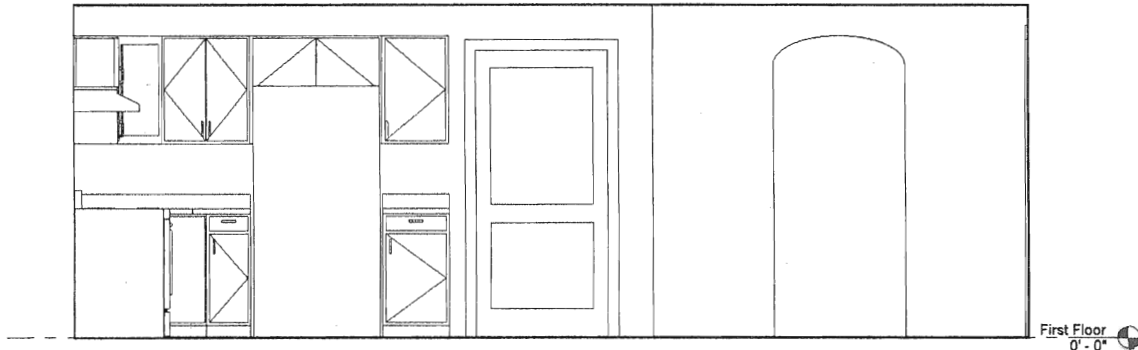


Figure 11-2.15 Kitchen (south); initial view

39. Set the scale to **1/2" = 1'-0"** and **Hide** the building section.

40. **Rotate** the refrigerator (in plan view) 180 degrees.

41. Modify the upper cabinet above the refrigerator to be 12" tall (with the top at 7'-0").

TIP: If this cabinet were used anywhere else in the project you would have had to make a duplicate before changing the height; otherwise, all the cabinets would have changes as well (because it is a type parameter you are changing, not an instance parameter).

Often, you have a portion of a wall that does not have very much on it, so it is not worth elevating. In the Kitchen (south) view you will “crop” a portion of the wall on the right.

42. Click the **Crop Region** and drag the right side of the *Crop Region* rectangle towards the left so only the portion of elevation shown in Figure 11-2.16 is visible.

Your Kitchen (south) view should now look like Figure 11-2.16.

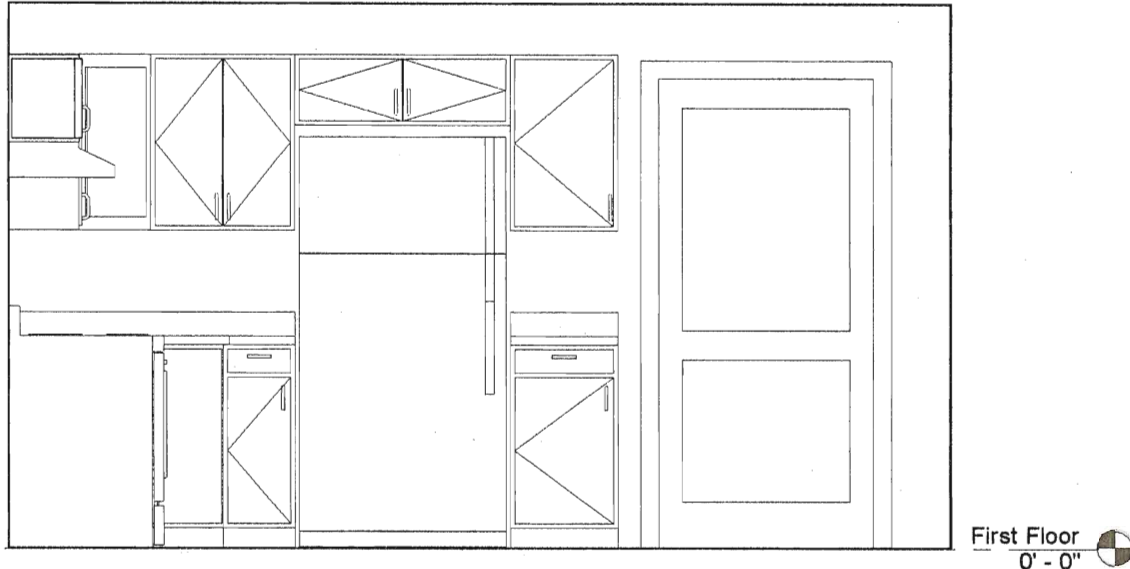


Figure 11-2.16 Kitchen (south); modified view

The last things you will adjust are the lines in the cabinet elevations that indicate the swing of the cabinet door; these lines are typically dashed lines.

There are two ways to accomplish this. One way will only affect the current view (*View* → *Visibility/Graphics Overrides*) and the other will affect the entire project (*Settings* → *Object Styles*). You want this change to be applied everywhere, so you want to implement the latter method.

43. From the *Settings* menu, select **Object Styles**.
44. On the *Model* tab, click the “plus” symbol next to **Casework** in the *Category* column (Figure 11-2.17).
45. Change the **Line Pattern** for *Elevation Swing* to **Hidden 1/8”** (Figure 11-2.17).
46. Click **OK** to see the results in the three kitchen elevations.

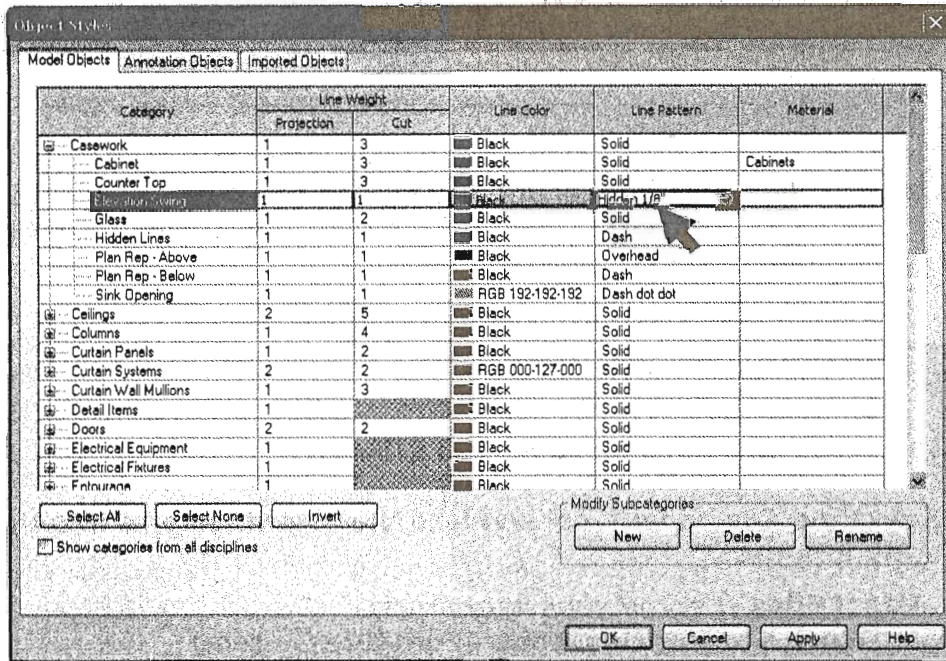
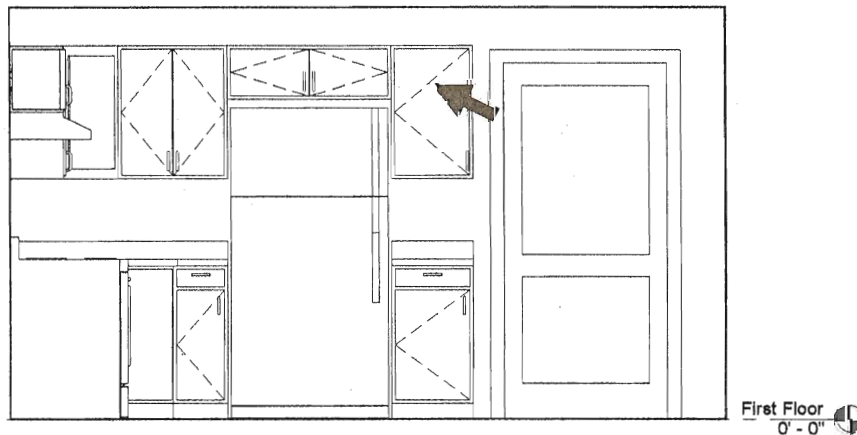


Figure 11-2.17 Object Styles dialog box – controls project wide graphics settings



That is it for the kitchen! With a little practice, you could design a kitchen in very short order.

47. **Save** your project as **ex11-2.rvt**.

TIP:

You may have noticed on the Web Library, a listing for the American Woodwork Institute. This section has Revit families for most of the industry standard cabinets. You can download the cabinets from their website. You can even print out a small flyer that shows an image of each cabinet that can be downloaded.