Project Spark Getting Started

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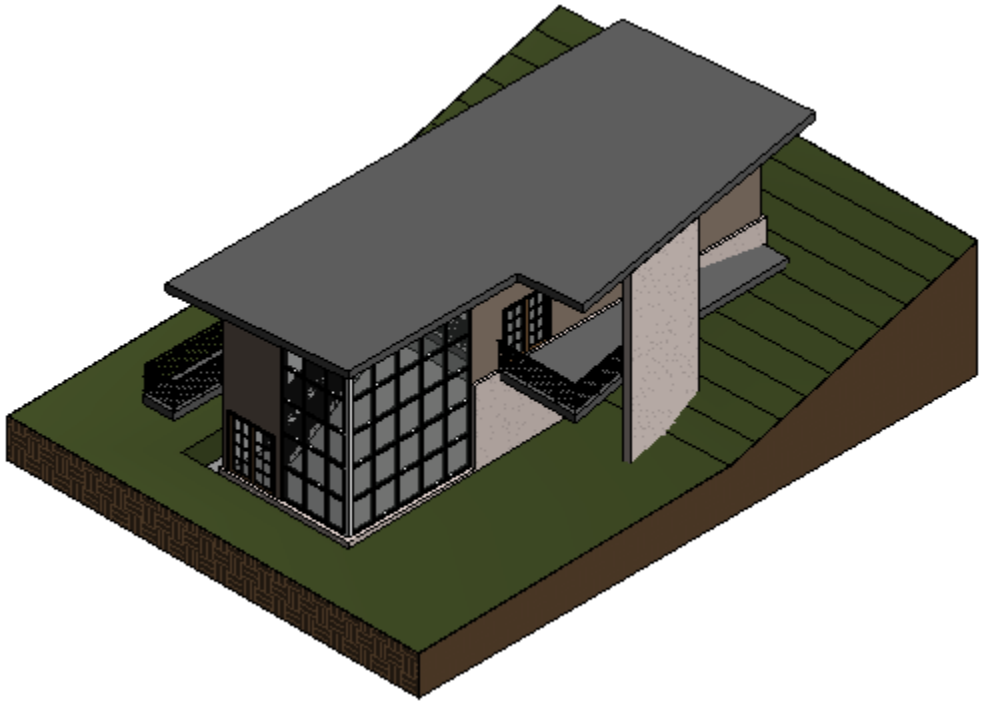
Published by:
Autodesk, Inc.
111 McInnis Parkway
San Rafael, CA 94903, USA

Contents

Getting Started

Welcome to the Getting Started Guide for Spark. This series of tutorials steps through the process of creating a simple building model. The following image illustrates the resulting project you create during the tutorials.



Prerequisites

Even if you are familiar with 3D modeling or other Autodesk software, watch the Essential Skills videos that are provided with Spark to jump-start both your understanding of how Spark works and where the indicated tools and interface elements can be found.

Getting Started Videos

A video is available for each of the Getting Started tutorials. It is helpful to watch the video before performing the steps yourself to get an overview of the workflow and procedures presented in tutorial.

The videos are located here:
http://wikihelp.autodesk.com/Spark/enu/Community/Videos/Getting_Started

Exercise Files

Exercise files are available online for each tutorial in the Getting Started Guide. Before starting these tutorials, download the files from
http://wikihelp.autodesk.com/Spark/enu/TP_1.0/Help/0000-Getting_0.

Part 1: Creating a Project and Adding Levels

Category	New Users
Time Required	10 minutes
Tutorial Files Used	None - new project

In this exercise, you start a project, and create levels for the foundation, lower level, entry level, and roof of the building model. When you create levels, you can choose to have the corresponding views created at the same time.

Objectives

- Create a project from the default template.
- Rename default levels and modify level elevations.
- Add a level by specifying the level start and end points.
- Add a level by offsetting the elevation from an existing level.

Modify Project Levels

1. Open Spark, and on the Recent Files page, click New to start a project.
2. In the Project Browser, under Elevations (Building Elevation), double-click South to open the South view in the drawing area.

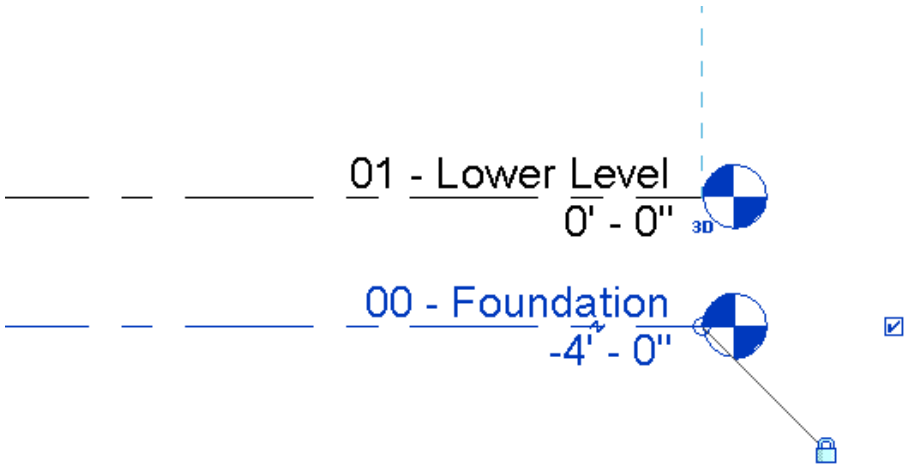
   Two levels are already created in the default template.
3. Zoom in to the level labels and values on the right.
4. Click the label for Level 1, and enter 01 - Lower Level.
5. Click outside the label to save your change.
6. At the prompt, click Yes to have Spark rename the corresponding views.
7. In the Project Browser, under Floor Plans, right-click Level 2 and click Rename.

Alternatively, you can rename levels by renaming the corresponding view in the Project Browser.

8 For Name, enter 00 - Foundation, and click OK.

9 At the prompt, click Yes to rename the corresponding level.

10 In the drawing area, click the value for 00 - Foundation, enter -4', and press Enter to change the elevation of the level.

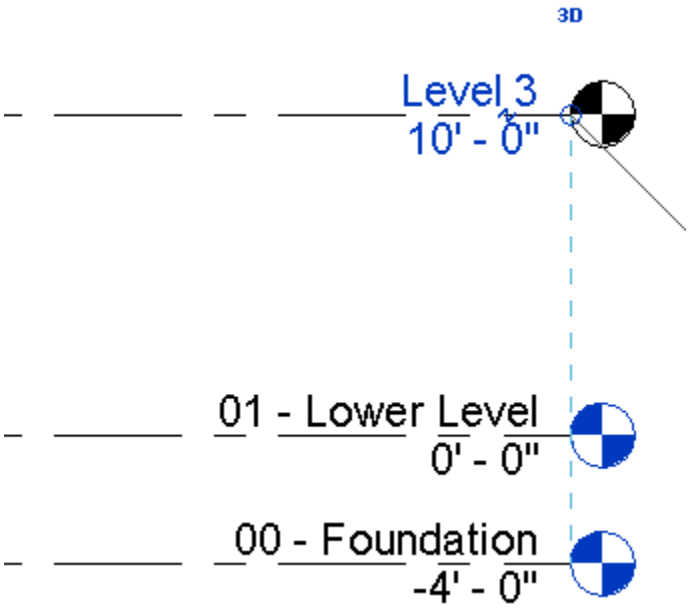


Add Levels

1 Click Home tab ➤ Datum panel ➤ (Level).

2 Position the cursor over the left endpoint of the 01 - Lower Level line, move the cursor up 10', and click to begin a new level.

3 Move the cursor horizontally to the right, until the dashed line indicates that the endpoint aligns with the endpoint of the lower level, and click to place the level.



4 Click Modify | Place Level tab ➤ Draw panel ➤ (Pick Lines).

You can add a level by creating it at a specific distance from an existing level.

5 On the Options Bar, for Offset, enter 10', and press Enter.

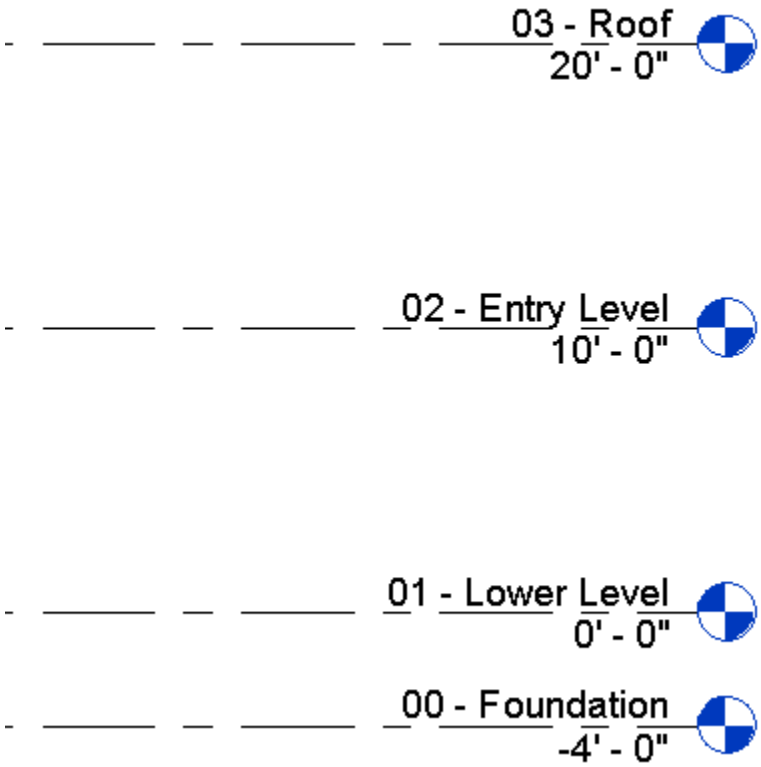
6 Position the cursor on the level you just added until the dashed line displays above, and click to place the level.

7 Click (Modify).

8 Rename Level 3 and Level 4 to the following values, and click Yes to change the corresponding levels or views.

- Level 3 = 02 - Entry Level
- Level 4 = 03 - Roof

You now have 4 levels at the appropriate elevations for the project.


03 - Roof
20' - 0"
02 - Entry Level
10' - 0"
01 - Lower Level
0' - 0"
00 - Foundation
-4' - 0"

Part 2: Creating Walls

2

Category	New Users
Time Required	15 minutes
Tutorial Files Used	GSG_02_create_walls.rvt

In this exercise, you work on different levels to add foundation walls, as well as exterior and interior walls to the project.

Objectives

- Add foundation walls using the Wall tool.
- Add exterior walls by copying the foundation walls and using the Paste Aligned to Selected Levels tool.
- Add interior walls to the lower level using the Wall tool.
- Use the Trim/Extend tool to create an opening for a corridor.
- Place interior walls on the entry level using the Create Similar command on the context menu.

Create Foundation Walls

1. Open project GSG_02_create_walls.rvt.
2. In the Project Browser, under Floor Plans, double-click 00 - Foundation to open the view in the drawing area.
3. Click Home tab ➤ Build panel ➤  (Wall).
4. On the Properties palette, click the Type Selector drop-down, and select Basic Wall:Retaining - 12" Concrete.
5. On the Options Bar:
   - For Height, select 02 - Entry Level.
   - For Location Line, select Finish Face: Interior.

- Verify Chain is selected.

6 Click Modify | Wall tab ➤ Draw panel ➤ (Line).

7 Draw walls starting at point 1 in the drawing area and ending at point 4.

These points were added to the project to make it easier to draw the walls to specific locations.

8 Press Esc to change options and place another wall.

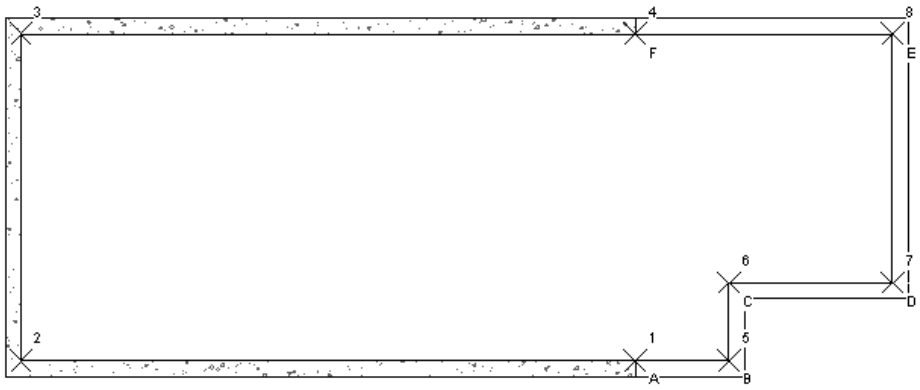
9 On the Options Bar:

- For Height, select 01 - Lower Level.
- For Location Line, select Finish Face: Interior.
- Verify Chain is selected.

10 Click point A, press Spacebar to flip the direction of the wall, and click point B.

11 Continue clicking points to draw walls from point C and ending at point F.

12 To end the command, on the Modify | Place Wall tab, click (Modify), or press Esc twice.



13 Click View tab ➤ Create panel ➤ (Default 3D View).

Add Exterior Walls

1 Working in the 3D view, select all of the walls in the view by dragging a selection window from right to left.

2 Click Modify | Wall tab ➤ Clipboard panel ➤ (Copy to Clipboard).

3 On the Clipboard panel, click the Paste drop-down, and click (Aligned to Selected Levels).

4 In the Select Levels dialog, select 02 - Entry Level.

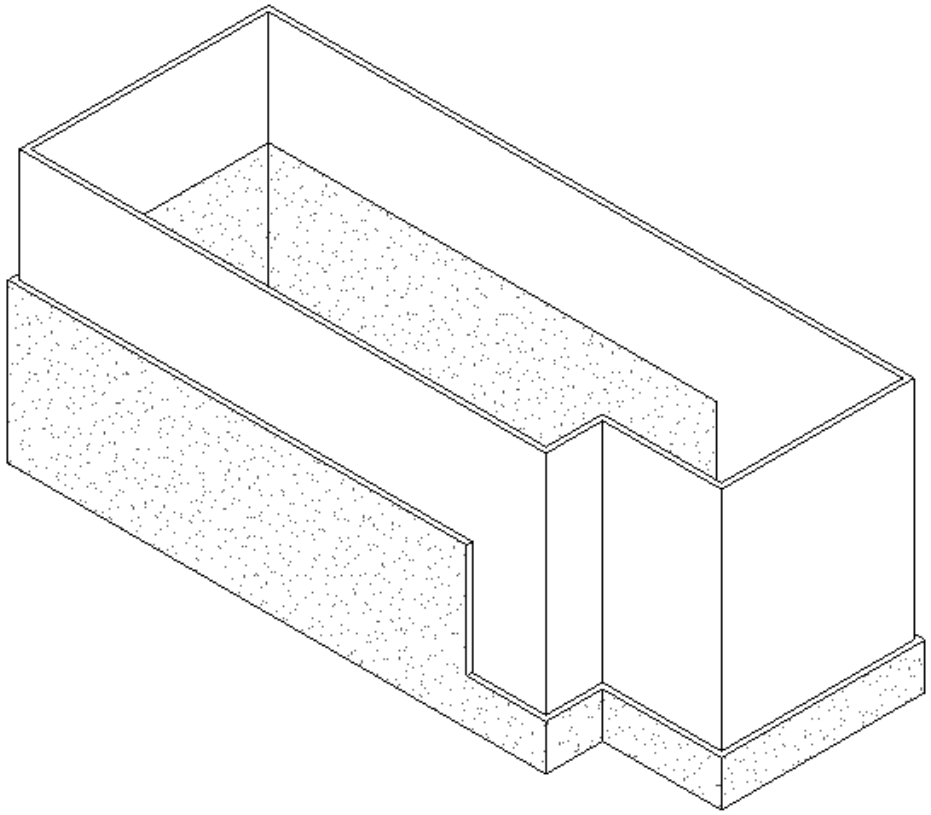
5 On the Properties palette make the following changes to the selected walls, and click Apply:

- In the Type Selector, select Basic Wall: Generic-6".
- For Top Constraint, select Up to level: 03 - Roof.
- For Top Offset, enter 0'0".

6 Select the walls with the base not touching the foundation below.

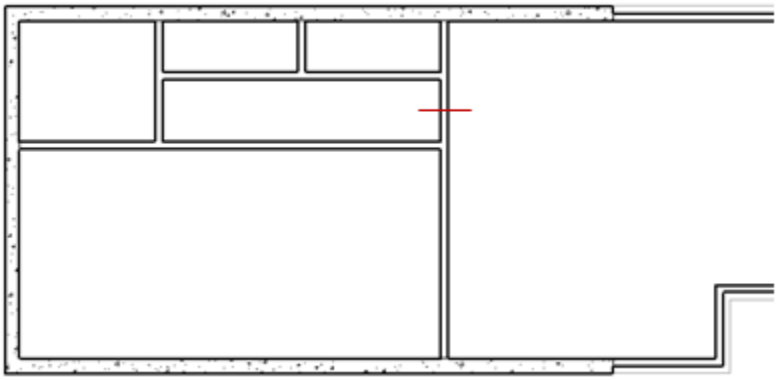
NOTE Press and hold Ctrl and click to select more than 1 wall at a time.

7 On the Properties palette, for Base Constraint, select 01 - Lower Level, and click Apply.



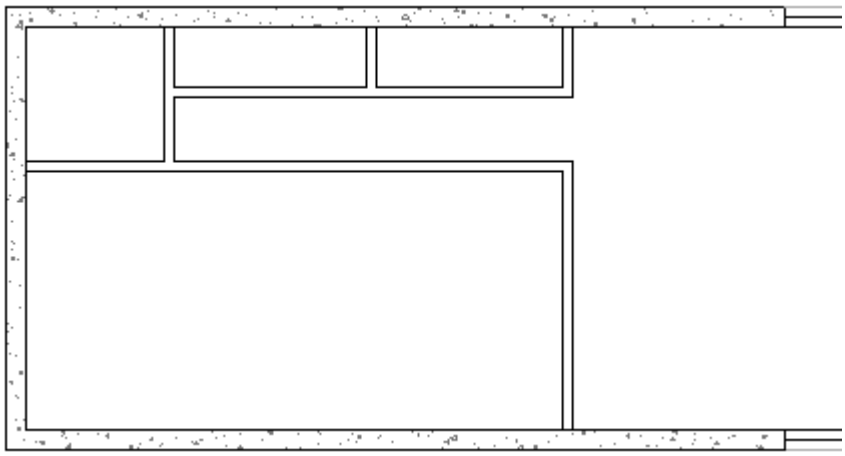
Add Interior Walls

1. In the Project Browser, under Floor Plans, double-click 01 - Lower Level.
2. Click Home tab ➤ Build panel ➤ (Wall).
3. On the Options Bar:
   - For Height, select 02 Entry Level.
   - For Location Line, select Wall Centerline.
   - Clear Chain.
4. In the Type Selector, select Basic Wall: Generic - 6".
5. On the Properties palette, verify that Top Constraint is specified as Up to Level: 02 - Entry Level.
6. Using the following image as a guide, place interior walls to create rooms:



7. Modify walls to create a corridor:
   - Click Modify tab ➤ Modify panel ➤ (Split Element).
   - Click on the wall at the location indicated by the short red line in the previous image.
   - On the Modify panel, click (Trim/Extend to Corner).
   - Trim the split wall to create a corridor as shown.

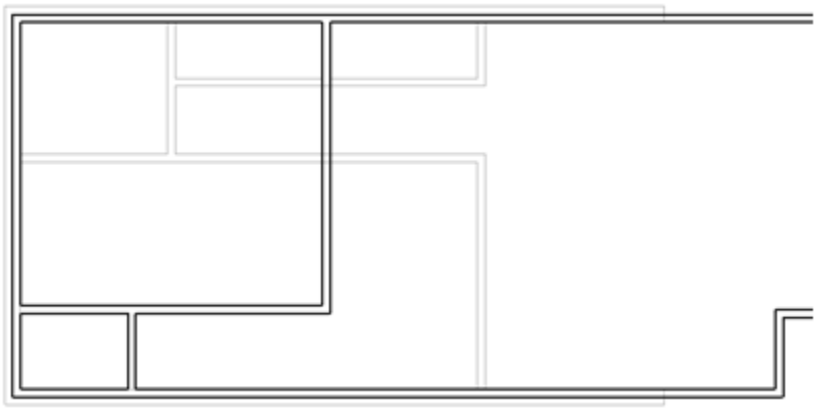
     NOTE When trimming in Spark, select the portions of the elements you want to keep.



8 Open the 02 - Entry Level floor plan.

9 Right-click on one of the half-toned walls shown in the underlay of the lower level, and click Create Similar.

10 Using the following image as a guide, place additional walls to create rooms.



11 Click (Modify) to complete the command.

Part 3: Creating a Terrain and Building Pad

3

Category	New Users
Time Required	15 minutes
Tutorial Files Used	GSG_03_terrain_pad.rvt

In this exercise, you add a toposurface and a building pad to the building site. You add points at different elevations to create the terrain and create a building pad based on the foundation walls of the building.

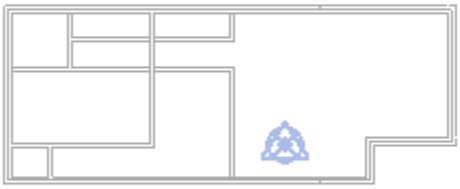
Objectives

- Create a toposurface by defining points at different elevations.
- Create a building pad based on the footprint of the foundation walls.
- Use a section box to frame the 3D view including the terrain.
- Specify a grass material for the terrain for a realistic 3D view.

Add Terrain

1. Open exercise file GSG_03_terrain_pad.rvt.
2. In the Project Browser, under Floor Plans, double-click Site.
3. Click Site tab ➤ Model Site panel ➤  (Toposurface).
   Notice that the Place Point tool on the Tools panel is selected by default.
4. On the Options Bar, for Elevation, enter 10'.
5. Click in the drawing area to add 2 points just to the left of the building, one above and one below the building.

-



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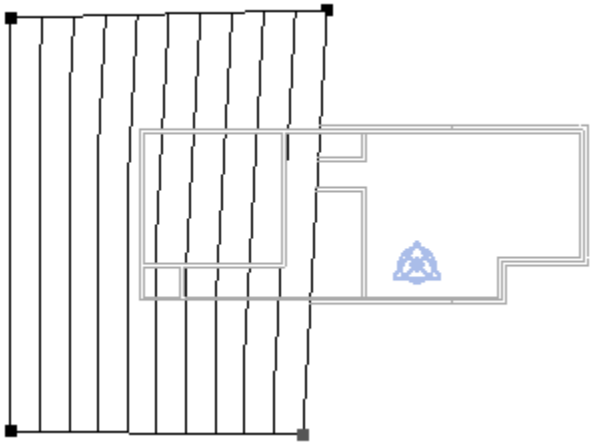
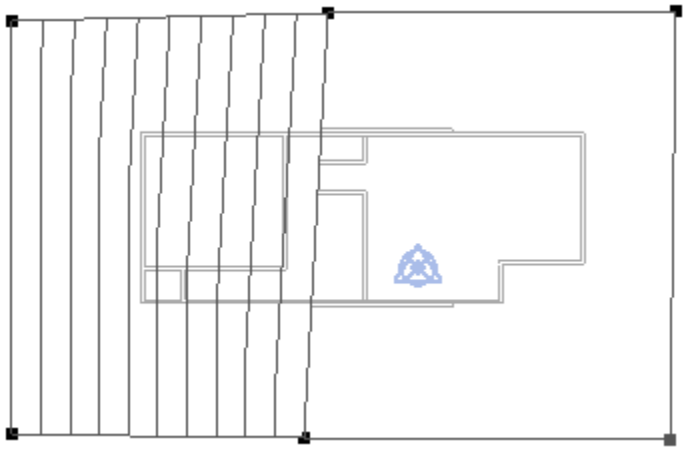
6 Change the Elevation value to 0', and add 2 more points toward the middle of the building - one above and one below the building.



7 Change the Elevation value to -1', and add 2 more points just to the right of the building - one above and one below the building.



8 On the Surface panel, click (Finish Surface).

9 On the Quick Access Toolbar, click (Default 3D View).

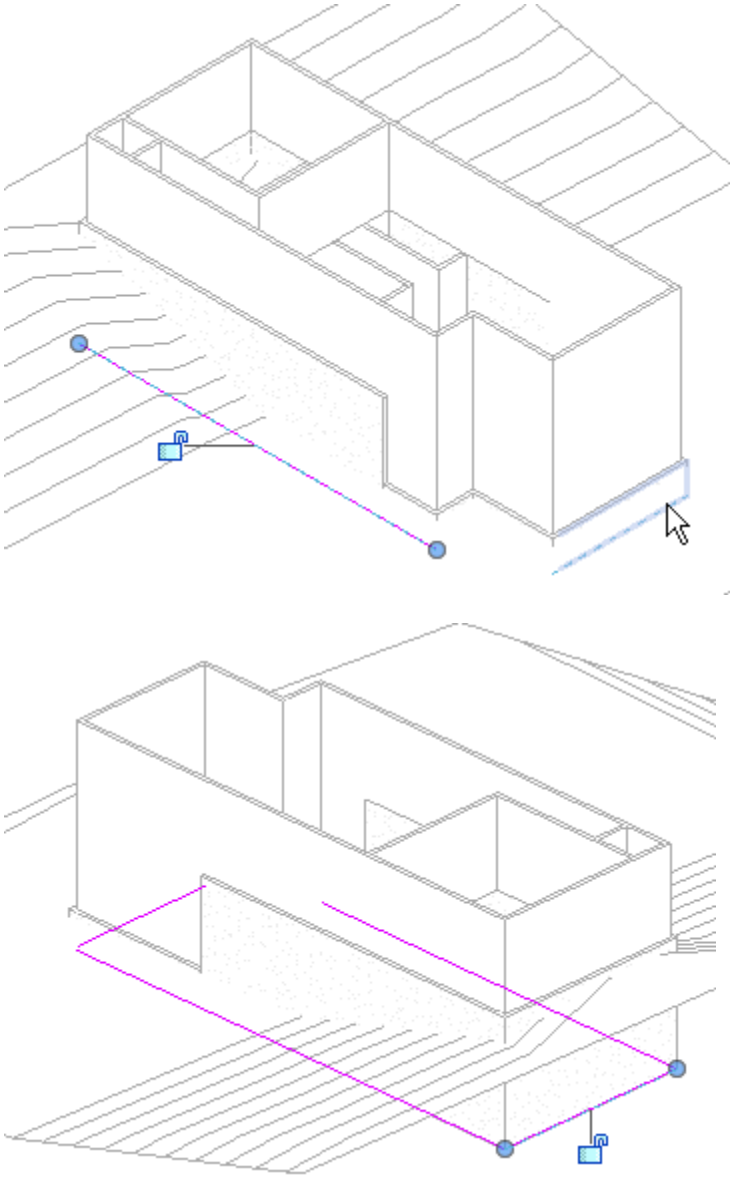
Add Building Pad

1 Click Site tab ➤ Model Site panel ➤ (Building Pad).

2 Click Modify | Create Pad Boundary tab ➤ Draw panel ➤ (Pick Lines).

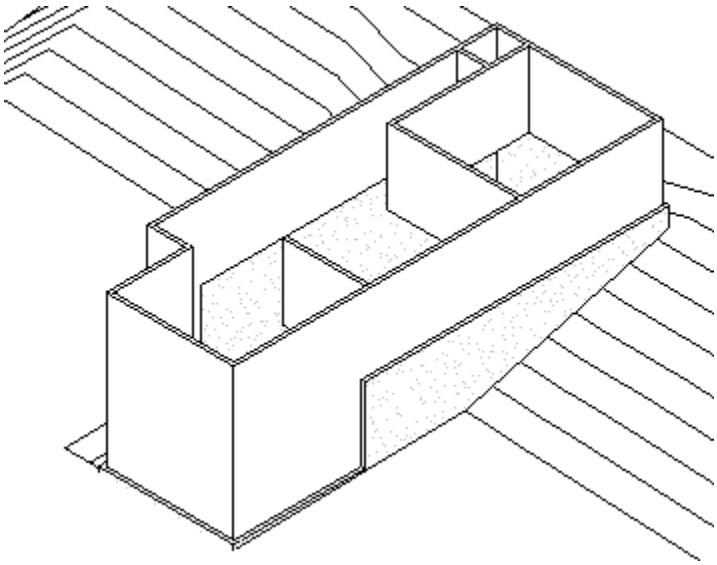
3 Select the foundation walls.

NOTE Use the ViewCube to reorient the view so you can pick all of the foundation walls.



4 On the Modify panel, click (Trim/Extend to Corner), and select the lines to close the building pad boundary.

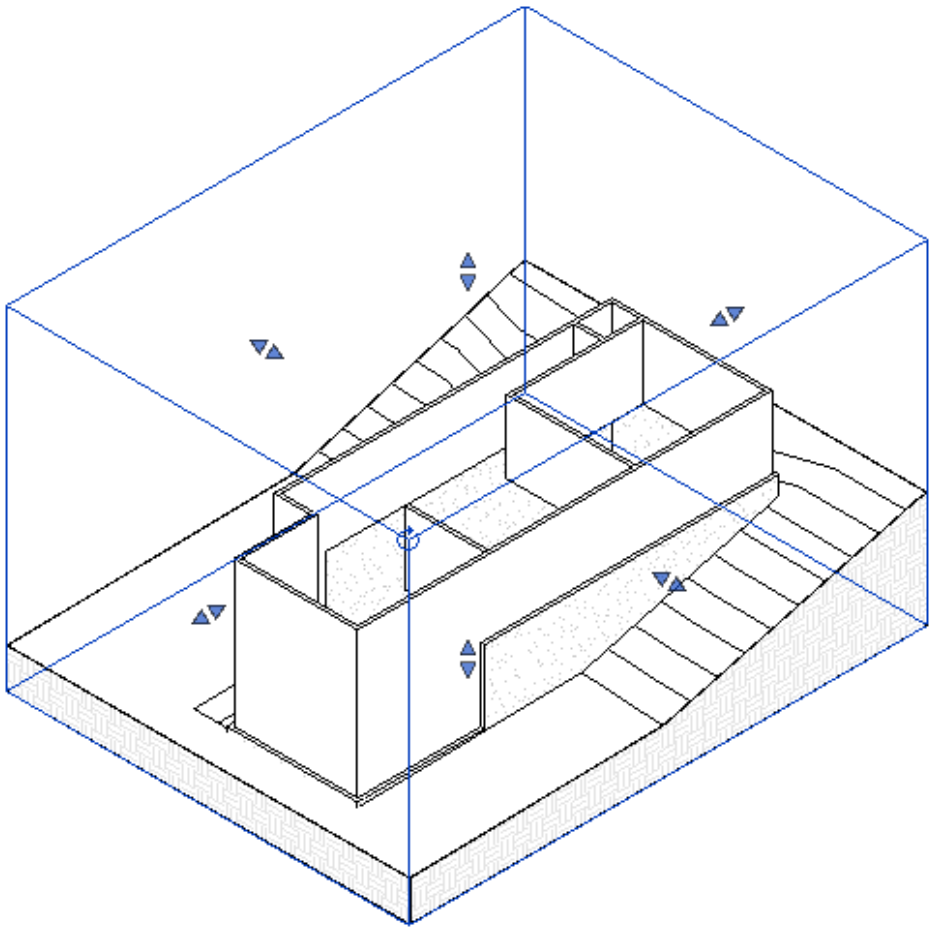
5 On the Mode panel, Click ✔ (Finish Edit Mode).



6 Orient the 3D view so it is displayed from the top/right angle, and click outside of the building and terrain to select the 3D view itself.

7 On the Properties palette, under Extents, select Section Box.

8 Select the section box in the drawing area, and drag the controls to size the box as shown.

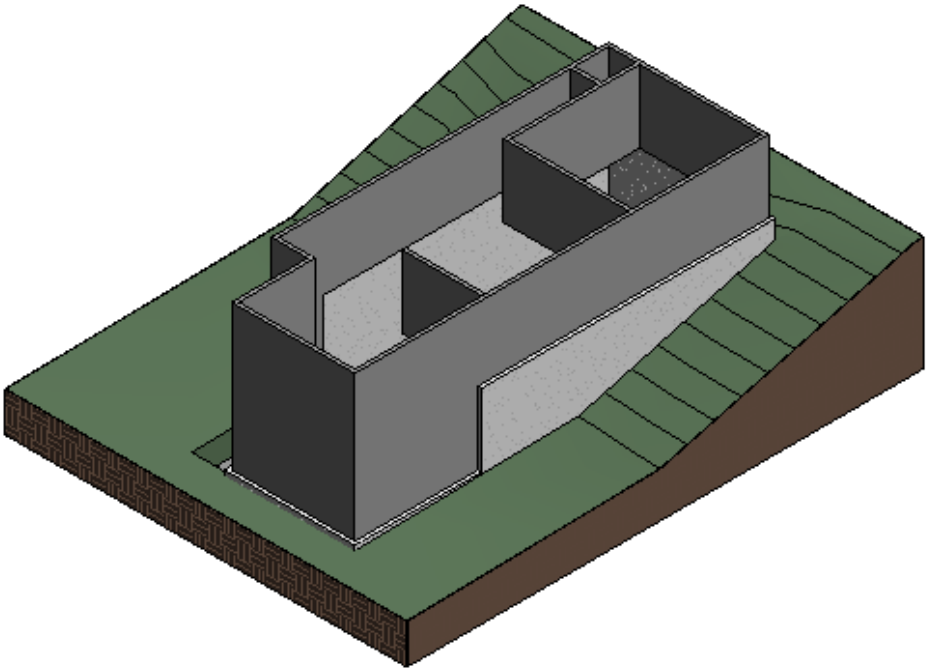


9 With the section box still selected, right-click, and click Hide in View ➤ Elements to hide the section box.

10 Select the terrain, and on the Properties palette, for Material, click the browse button.

11 In the Materials dialog, on the Materials tab, scroll and click Site - Grass, and click OK.

12 On the View Control Bar, click Visual Style: Hidden Line ➤ Shaded to view the materials.



Part 4: Creating a Floor

4

Category	New Users
Time Required	15 minutes
Tutorial Files Used	GSG_04_add_floor.rvt

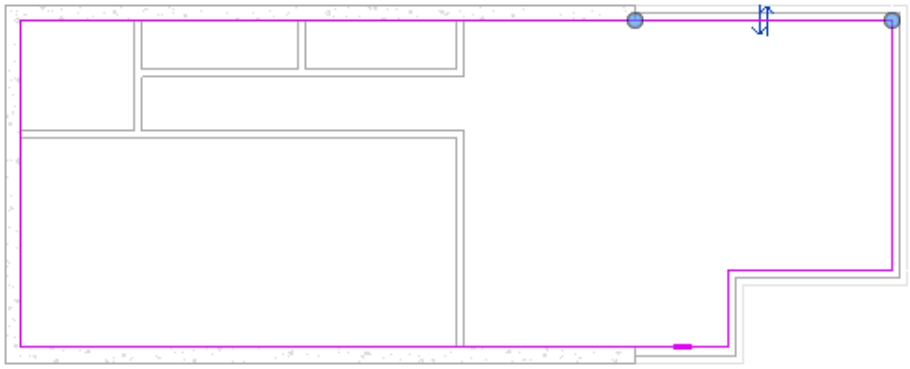
In this exercise, you create a floor on the lower level using the footprint of the exterior walls. Next, you copy the floor to the entry level and modify the floor boundary for this level. In the final steps, you attach the walls from the lower level to the entry level floor.

Objectives

- Add a floor by picking walls to create the boundary.
- Copy and paste the floor to another level.
- Edit the floor boundary and use the Align and Trim tools to create a closed loop sketch.
- Modify the roof slope.
- Attach interior walls to the floor.

Create a Floor on the Lower Level

1. Open project GS_04_add_floor.rvt.
2. In the Project Browser, under Floor Plans, double-click 01 - Lower Level.
3. Click Home tab ➤ Build panel ➤  (Floor).
4. Click Modify | Create Floor Boundary tab ➤ Draw panel ➤  (Pick Walls).
5. Press Tab and click to select the chain of walls to form the boundary.



6 On the Mode panel, click (Finish Edit Mode).

7 Click No at the prompt. "Would you like walls that go up to this floor's level to attach to its bottom?"

8 Click No at the prompt, "The floor/roof overlaps the highlighted wall(s). Would you like to join geometry and cut the overlapping volume out of the wall(s)?"

9 Click (Modify).

Copy the Floor to the Entry Level

1 Click the edge of the floor to select the element, and on the Clipboard panel, click (Copy to Clipboard).

2 On the Quick Access Toolbar, click (3D View).

3 Click Modify tab ➤ Clipboard panel ➤ Paste drop-down ➤ (Aligned to Selected Levels).

4 In the Select Levels dialog, click 02 - Entry Level, and click OK.

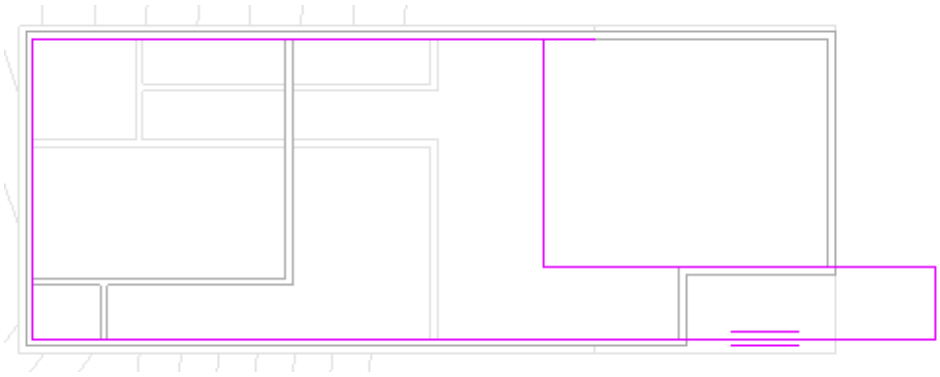
A new floor is added to the Entry Level.

Edit the Floor

1 In the Project Browser, under Floor Plans, double-click 02 - Entry Level.

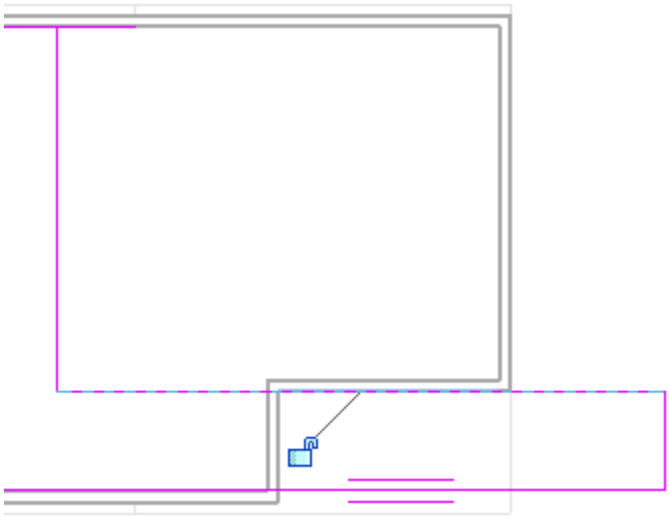
2 With the floor selected, on the Mode panel, click (Edit Boundary).

3 Select the vertical sketch lines individually on the right, and drag them to create a boundary similar to the one shown below.



4 On the Modify panel, click (Align).

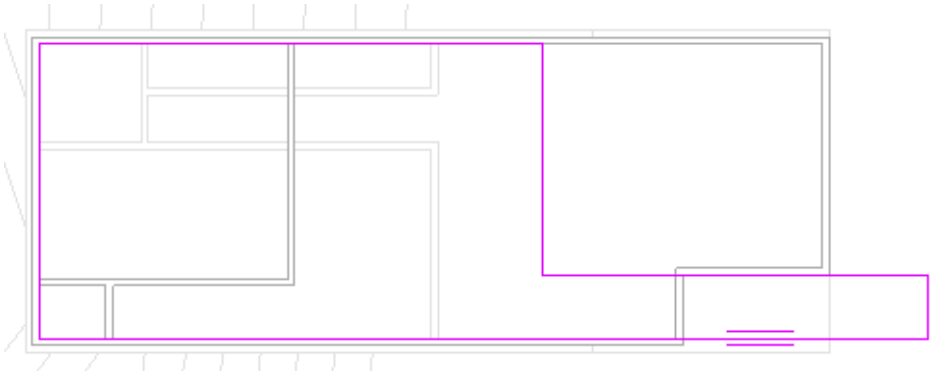
5 Click the outside face of the exterior wall and the top sketch line for the narrow part of the floor to align them, as shown.



6 On the Modify panel, click (Trim/Extend to Corner).

7 Click the sketch lines in the upper right corner to trim the corner boundary.

8 Select the small horizontal line to the right of the top corner, and press Delete.



9 On the Mode panel, click (Finish Edit Mode).

10 Click No at the 2 prompts.

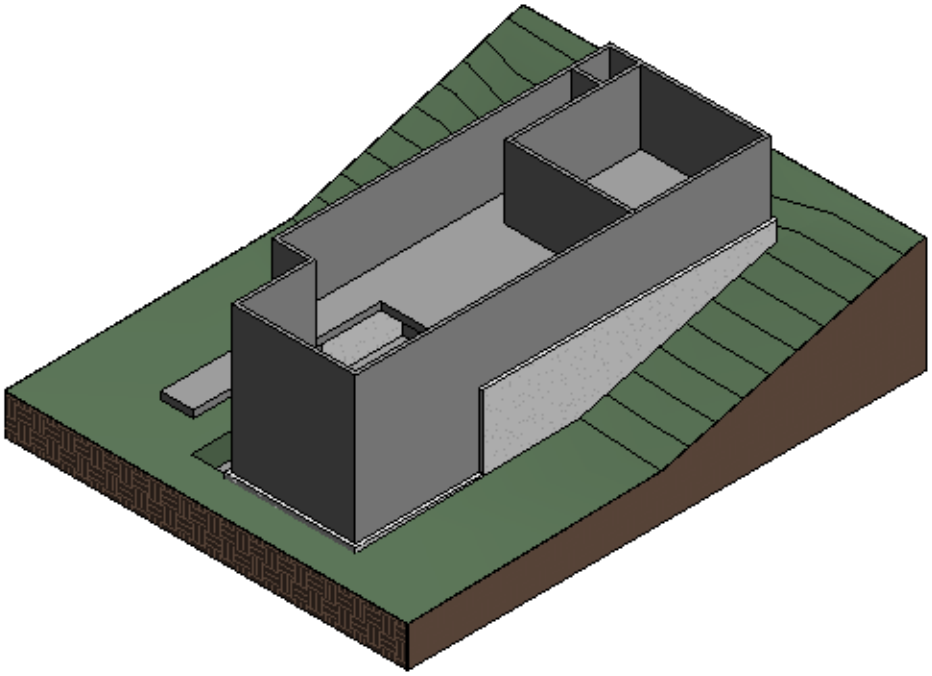
Attach the Walls to the Floor

1 Click to select the interior walls that display in the underlay for 01 - Lower Level. Press and hold Ctrl as you click to select multiple elements.

2 On the Modify|Walls panel, click (Attach Top/Base).

3 Click the new floor to attach the top of the walls on the lower level to the entry level floor.

4 On the Quick Access Toolbar, click (Default 3D View).



Part 5: Creating a Roof

5

Category	New Users
Time Required	10 minutes
Tutorial Files Used	GSG_05_add_roof.rvt

In this exercise, you create a roof using the footprint of the exterior walls. You specify an overhang value as you create the roof so that the roof has an overhang.

Objectives

- Add a slope-defining roof line.
- Add roof lines with an overhang defined.
- Use Trim/Extend to complete the sketch.
- Attach exterior walls to the roof.
- Modify the roof slope.

Draw the Roof

Draw a roof line

1. Open project GSG_05_add_roof.rvt.
2. Open the 03 - Roof floor plan.
3. Click Home tab ➤ Roof drop-down ➤  (Roof by Footprint).
4. On the Draw panel, click  (Line).
5. On the Options Bar, verify that Defines slope is selected.
6. To draw the first roof segment, begin at the bottom left and trace the exterior edge of the south wall by selecting the left wall endpoint and the intersection of the south and far-east walls.

Create roof lines with an overhang

7 On the Draw panel, click (Pick Walls).

8 On the Options Bar, for Overhang, enter 3', and clear Defines slope.

9 In the drawing area, highlight the west wall; when a dashed line is displayed on the exterior of the wall, click to place the roof line. Repeat for the north and east walls.

Complete the roof sketch

10 On the Modify panel, click (Trim/Extend to Corner).

11 Select the east roof line, and then select the south roof line. Repeat for the west and south roof lines.

12 On the Mode panel, click (Finish Edit Mode).

The resulting roof uses the default value and has a very high slope, which you correct later in the exercise.

Attach Walls to the Roof

1 Press Tab, and click to select the chain of walls (selects all of the exterior walls).

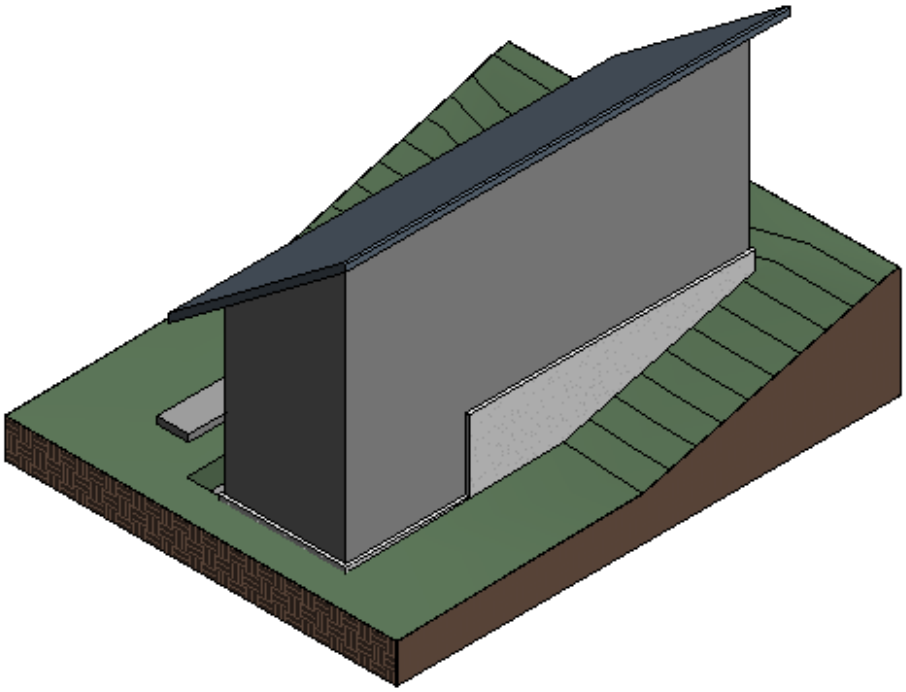
2 Press Ctrl, and click to select each interior wall that displays in the underlay of the Entry Level.

3 Click Modify | Walls tab ➤ Modify Wall panel ➤ (Attach Top/Base).

4 Click to select the roof.

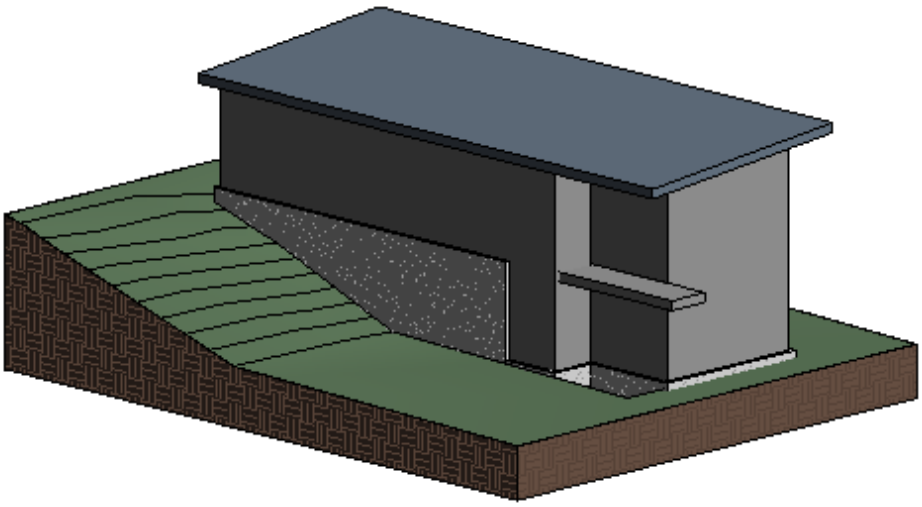
5 On the Quick Access Toolbar, click (Default 3D View).

Notice that the walls extend to the roof.



Modify the Roof Slope

1. Select the roof.
2. On the Properties palette, under Dimensions, for Slope, enter 1"/12", and click Apply.
3. Click in the drawing area to deselect the roof.



Part 6: Placing Doors

6

Category	New Users
Time Required	10 minutes
Tutorial Files Used	GSG_06_place_doors.rvt, bifold-4 Panel.rfa, Casement 3x3 with Trim.rfa, Double-Glass 2.rfa, Single-Glass 2.rfa

In this exercise, you load door types into the project, and then add interior and exterior doors to the model.

Objectives

- Load door families.
- Use the Type Selector to change door types.
- Place doors in the model.
- Use the Spacebar to change the swing of the door before placing the door.
- Use the flip controls to change the orientation of the door after placing it.

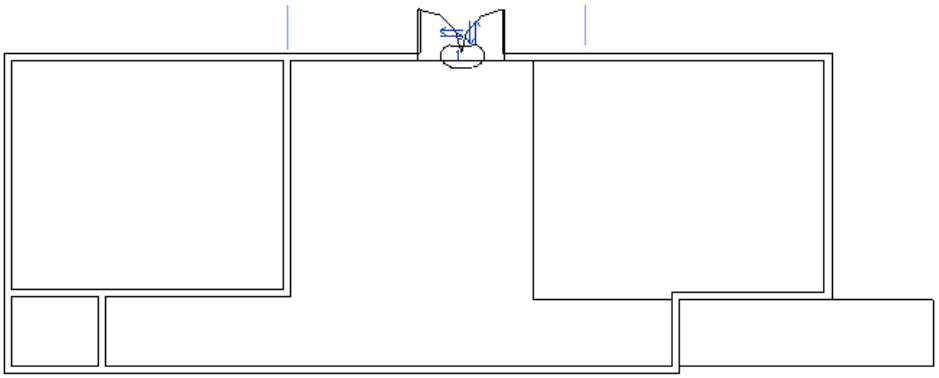
Load Families

1. Open project GSG_06_place_doors.rvt.
2. Click Insert tab ➤ Load from Library panel ➤  (Load Family).
3. In the Load Family dialog, navigate to the folder where you saved the family files for the exercise.
4. While pressing Ctrl, select the following files, and click Open.
   - bifold-4 Panel.rfa
   - Casement 3x3 with Trim.rfa
   - Double-Glass 2.rfa
   - Single-Glass 2.rfa

Place Doors

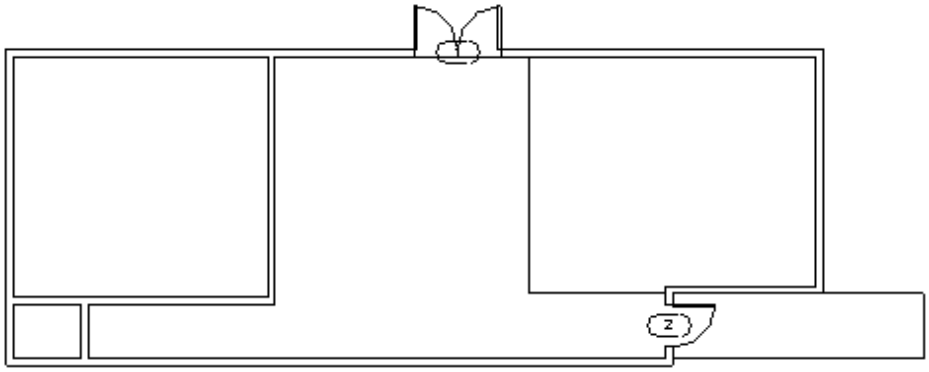
1. In the Project Browser, under Floor Plans, double-click 02 - Entry Level.
2. On the Properties palette, for Underlay, select None.

   Without the underlay display of the lower level, it is easier to see the walls for the current floor.
3. Click Home tab ➤ Build panel ➤ (Door).
4. In the Type Selector, verify that Double-Glass 2 is selected.
5. Click to place a door in the North exterior wall of the building, as shown.



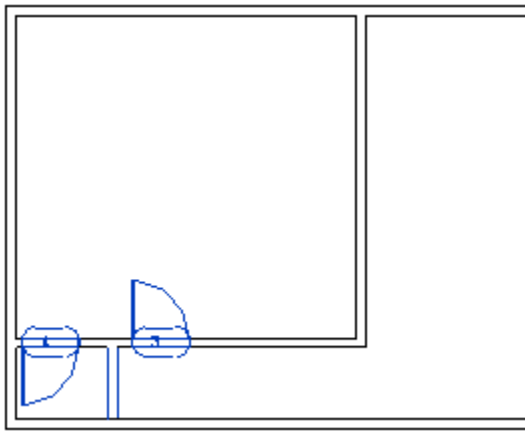
6. In the Type Selector, under Single-Glass 2, click 36" x 84".
7. Click to place the door in the lower East wall, as shown.

   NOTE To change the swing direction or hinge side as you place the door, press the Spacebar. To change the direction after a door is placed, click the flip arrows.



8 In the Type Selector, under Single-Flush, click 36" x 84".

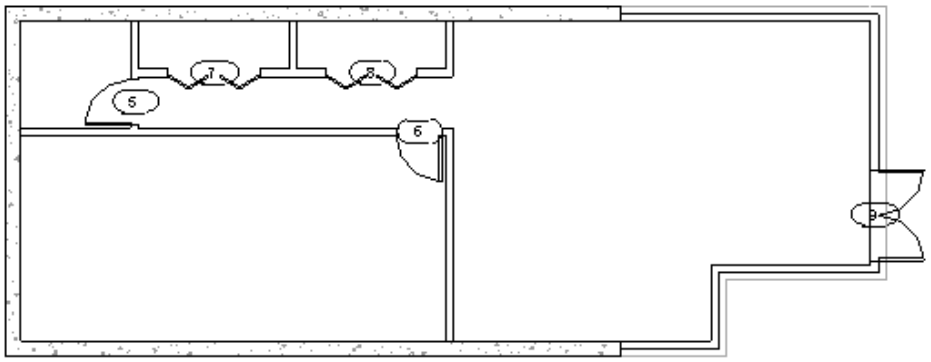
9 Place 2 more doors in the entry level, as shown.



10 Open the 01- Lower Level floor plan.

11 Click Home tab ➤ Build panel ➤ (Door).

12 Place doors in approximate locations, as shown. (Use the Type Selector to change the door type, as desired.)


7
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9

Part 7: Placing Windows

7

Category	New Users
Time Required	10 minutes
Tutorial Files Used	GSG_07_place_windows.rvt

In this exercise, you work in elevation and plan views to add windows to the model. You use alignment and dimension tools to more precisely position the windows.

Objectives

- Place windows.
- Duplicate and modify a window type to create a different window size.
- Use the Align tool to position windows.
- Use the Aligned dimension tool to reposition windows to be equidistant from each other.

Add Windows

Place 2 windows

1. Open project GSG_07_place_windows.rvt.
2. In the Project Browser, under Elevations (Building Elevation), double-click South.
3. Click Home tab ➤ Build panel ➤  (Window).
4. In the Type Selector, verify that Casement 3x3 with Trim 36" x 48" is selected.
5. Click to place 2 windows in the foundation wall, as shown, and press Esc to exit the Window tool.

Create a window type

6 In the drawing area, select the window on the right, and on the Properties palette, click (Edit Type).

7 In the Type Properties dialog, click Duplicate.

8 In the Name dialog, enter 36" x 36", and click OK.

9 Under Dimensions, for Height, enter 3', and click OK.

10 Select the window on the left, and in the Type Selector, select Casement 3x3 with Trim 36" x 36".

Align windows

11 Click Modify tab ➤ Modify panel ➤ (Align).

12 Click the top of the foundation wall, and click the top edge of the trim of the right window.

Check the status bar to make sure that you are selecting the top of the wall and not the 02 - Entry Level line.

13 Repeat the same steps to align the left window with the top of the wall.

14 Click (Modify).

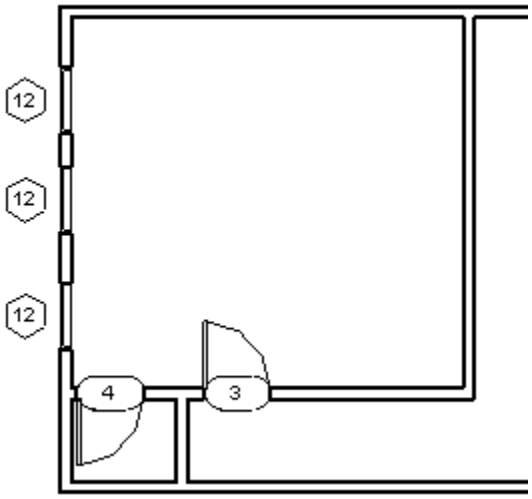
Dimension windows for equal spacing

15 Open the 02 - Entry Level floor plan.

16 Click Home tab ➤ Build panel ➤ (Window).

17 In the Type Selector, select Casement 3x3 with Trim 36" x 48".

18 Place 3 windows in the outside edge of the west wall, as shown.

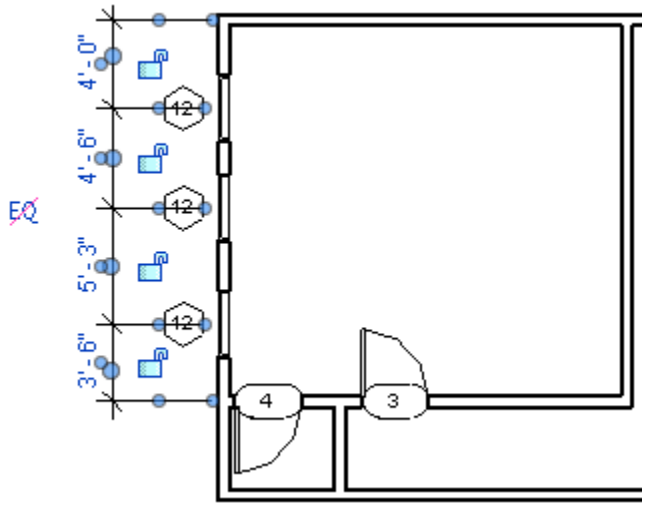


19 Click Annotate tab ➤ Dimension panel ➤ (Aligned).

20 Select the north wall, select each of the window centerlines, and then select the horizontal interior wall.

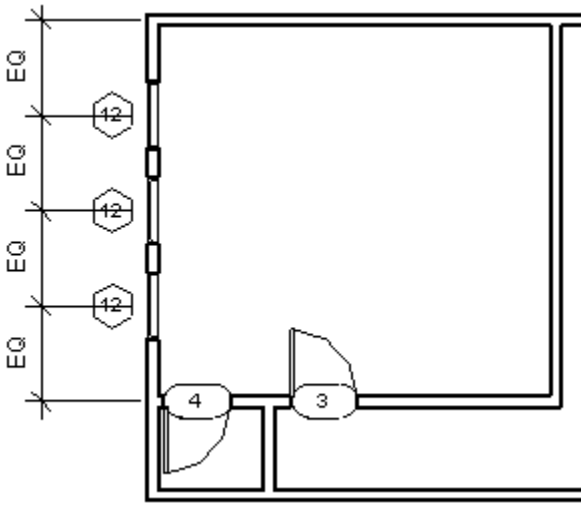
21 Click to the left of the west wall to place the dimension line.

Note that each of the 4 dimensions is different.



22 Click the equality symbol (EQ), and then press Esc twice.

The windows are moved so that all of the dimensions are equal.



23 Select the interior wall that contains the doors; move it up or down to see how the design intent is maintained.

Part 8: Placing a Curtain Wall

8

Category	New Users
Time Required	10 minutes
Tutorial Files Used	GSG_08_place_curtainwall.rvt

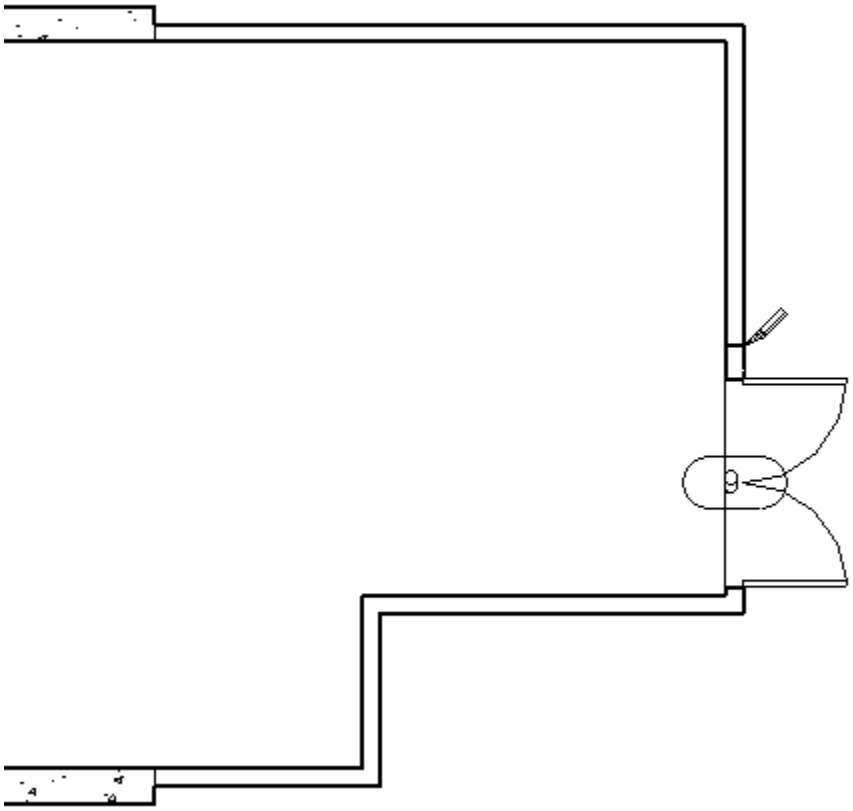
In this exercise, you change existing exterior walls to curtain walls.

Objectives

- Use the Split tool to split the existing wall.
- Change the wall type to a curtain wall type.
- Create a curtain wall type and modify the grid pattern.

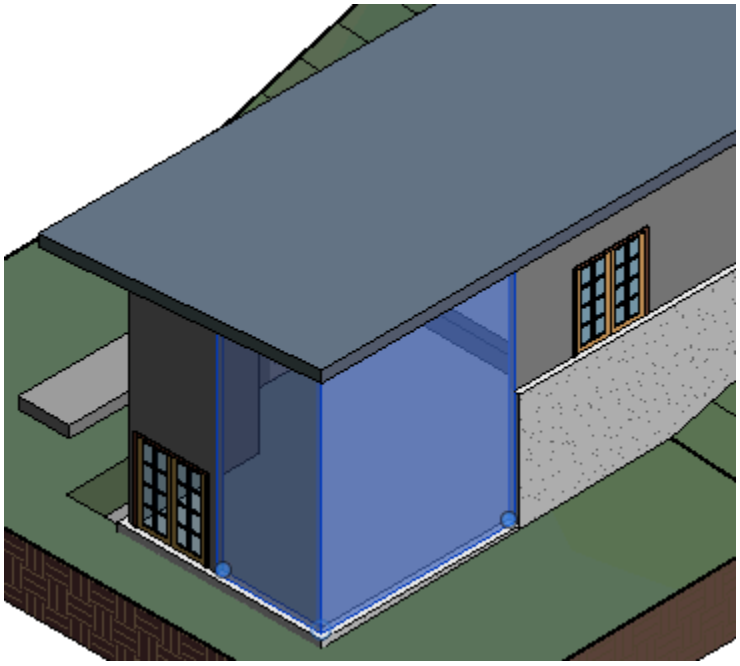
Create a Curtain Wall

1. Open project GSG_08_place_curtainwall.rvt.
2. Verify that the 01 - Lower Level floor plan is open.
3. Zoom in to the northeast corner of the building.
4. Click Modify tab ➤ Modify panel ➤  (Split Element).
5. Click the east wall just above the door to split the wall, and press Esc twice.



6 On the Quick Access Toolbar, click (Default 3D View).

7 While pressing Ctrl, select the portion of the east wall and the adjacent portion of the north wall, as shown. Click the edge of the wall to select the element.



8 In the Type Selector, under Curtain Wall, click Storefront.

9 With the curtain wall still selected in the drawing area, on the Properties palette, click (Edit Type).

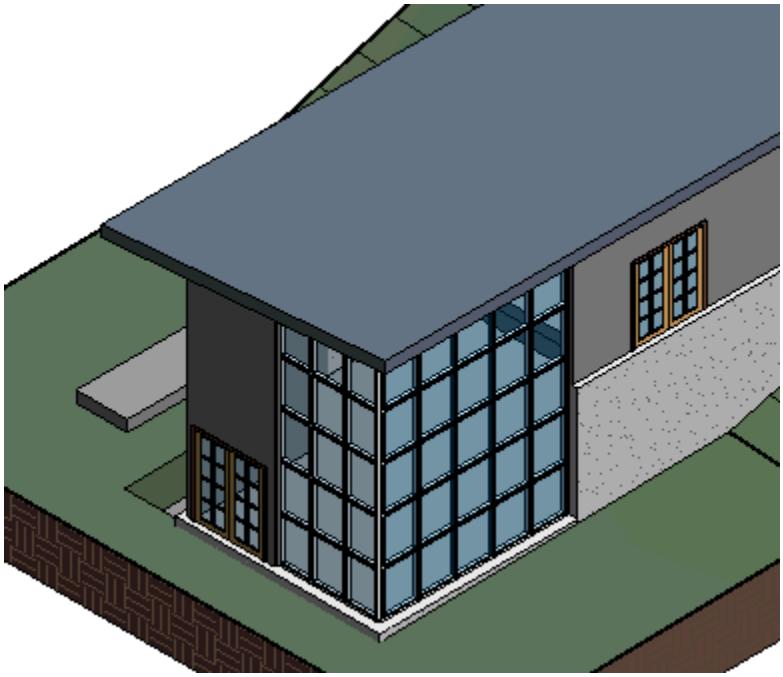
10 In the Type Properties dialog, click Duplicate.

11 In the Name dialog, enter House Wall, and click OK.

12 Under Vertical Grid Pattern, for Spacing, enter 4'.

13 Under Horizontal Grid Pattern, for Spacing, enter 4', and click OK.

The new spacing is applied to both curtain walls and this new type is part of the project.



Part 9: Creating Stairs and Railings

9

Category	New Users
Time Required	15 minutes
Tutorial Files Used	GSG_09_stairs_railings.rvt (See note in Step 1.)

In this exercise, you complete the interior of the model by adding a staircase on the lower level, and then adding and modifying railings on the entry level.

Objectives

- Create a stair between the lower level and entry level.
- Create railings using an offset value and picking model lines.
- Create railings using an offset value and drawing along model lines.
- Change the railing type to a pipe guardrail.

Create Stairs

1 Open project GSG_09_stairs_railings.rvt.

NOTE It is recommended that you use the provided exercise file for this part since changes have been made to the project to enhance the model:

- The roof sketch was edited to extend over the entry porch, and the roof type was changed to use standing metal material for the exterior face.
- The entry level floor was edited to add an entry porch.
- A sloping walkway was added leading up to the entry porch. A slope arrow was used in the sketch of the floor in order to have the walkway slope down to the toposurface.
- At the corner where the 2 curtain walls meet, the mullions were removed from the edge of one curtain wall. The type for the mullions at the edge of the other curtain wall was changed to a corner mullion.
- The type was changed for the upper walls of the model to a wall with exterior siding.
- Interior walls were changed to use a typical interior partition type.

2. Verify that the 02 - Entry Level floor plan is open.
3. Click Home tab ➤ Circulation panel ➤ (Stairs).
4. On the Properties palette, under Constraints:
   - For Base Level, select 01 - Lower Level.
   - For Top Level, select 02 - Entry Level.
5. In the east room, click the "X" to start the stair run.

   This X was added to the project to serve as a guide for placement.
6. Move the cursor to the left until the tooltip indicates that 0 risers remain, and click to specify the stair endpoint.
7. On the Mode panel, click (Finish Edit Mode).

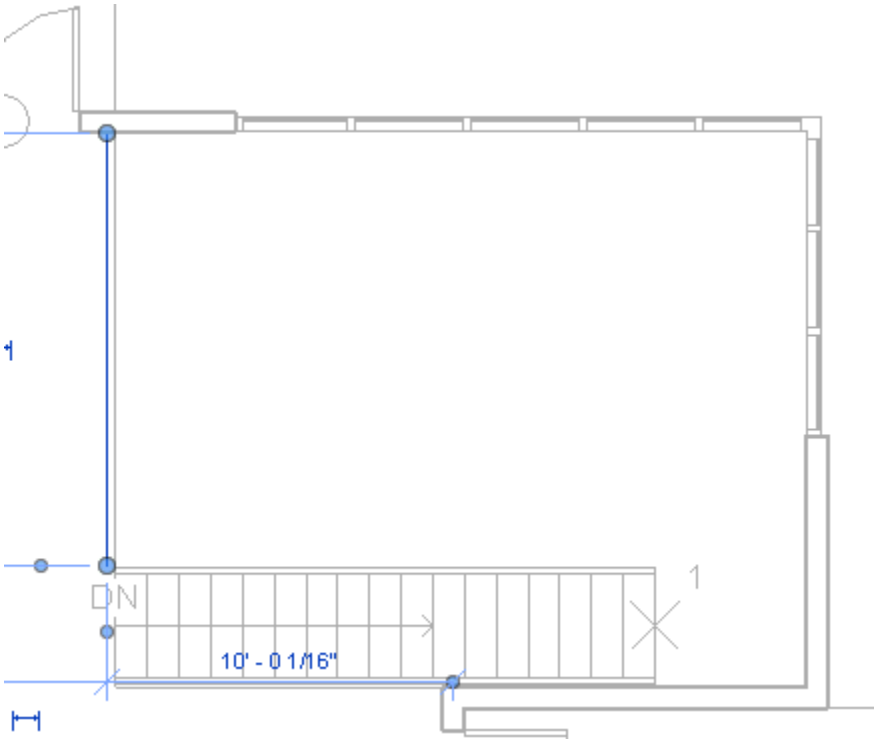
Create Railings

Create a railing at the top of the stairs

1. Click Home tab ➤ Circulation panel ➤ (Railing).
2. On the Draw panel, click (Pick Lines).
3. On the Options Bar, for Offset, enter 3".
4. Position the cursor over the left wall at the top of the stairs, and when the dashed line displays to the left, click to place the railing.

5 Press Esc twice.

6 Select the railing, click the endpoint at the corner of the stair, and drag the endpoint up until it clears the stair, as shown:



7 On the Mode panel, click (Finish Edit Mode).

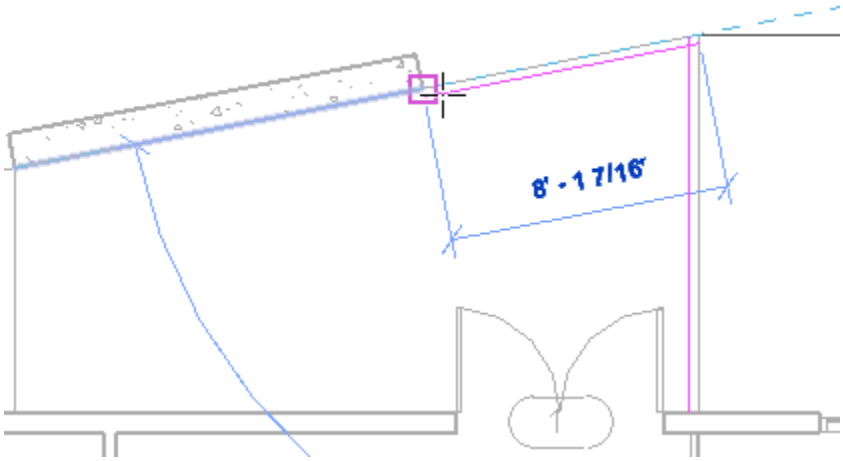
Create a railing on the entry porch

8 Click Home tab ➤ Circulation panel ➤ (Railing).

9 On the Draw panel, click (Line).

10 On the Options Bar, for Offset, enter 3", and select Chain.

11 Click at the corner of the external walls to the right of the double doors, move the cursor up, and click at the intersection of the walls, move the cursor to the left, and click to create a railing on the entry porch, as shown:



12 On the Mode panel, click (Finish Edit Mode).

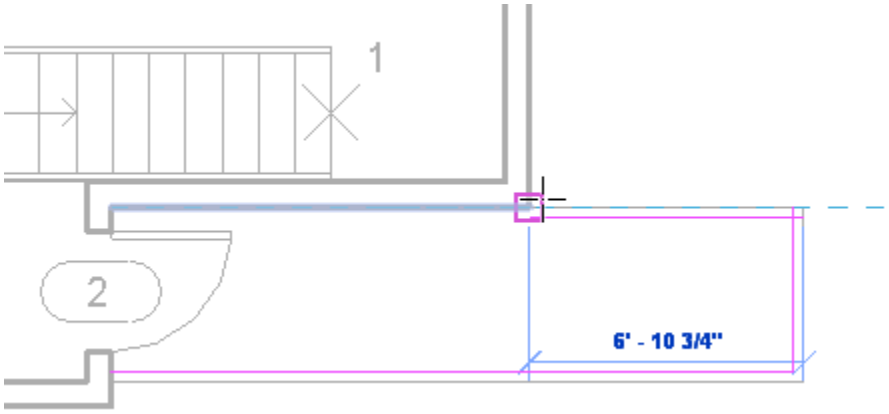
Create a railing on the back deck

13 Click Home tab ➤ Circulation panel ➤ (Railing).

14 On the Draw panel, click (Line).

15 On the Options Bar, for Offset, enter 3", and verify that Chain is selected.

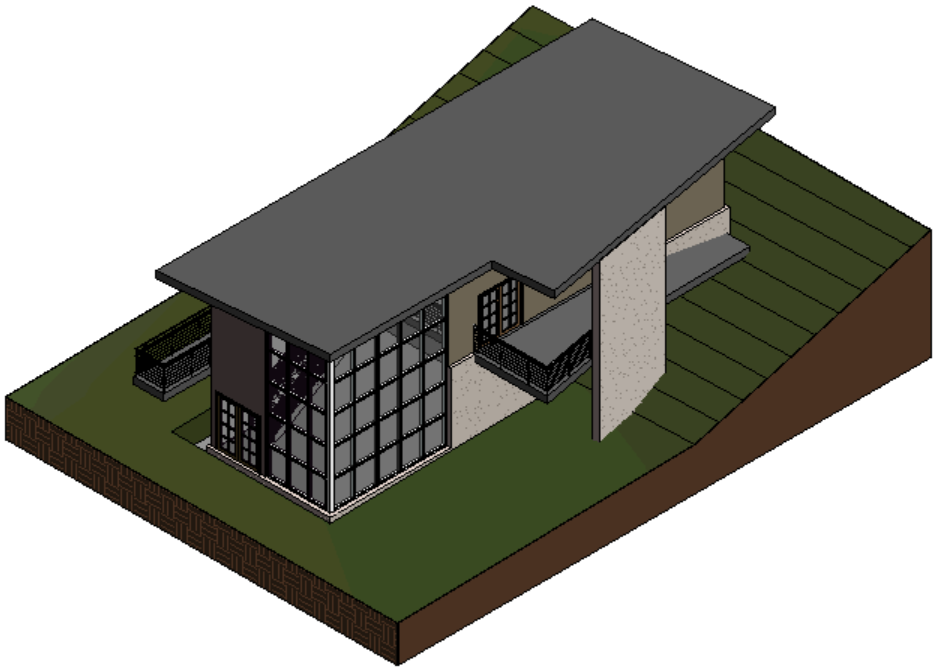
16 Starting at the lower-left corner and drawing counter-clockwise, place railings on the back deck, as shown:



17 On the Mode panel, click (Finish Edit Mode).

Modify the Railing Type

1 On the Quick Access Toolbar, click (Default 3D View).
2 Zoom in to the railing on the entry porch.
3 Select the railing, right-click, and click Select All Instances ➤ In Entire Project.
4 In the Type Selector, select Guardrail - Pipe.



Part 10: Creating Views

10

Category	New Users
Time Required	10 minutes
Tutorial Files Used	GSG_10_views.rvt

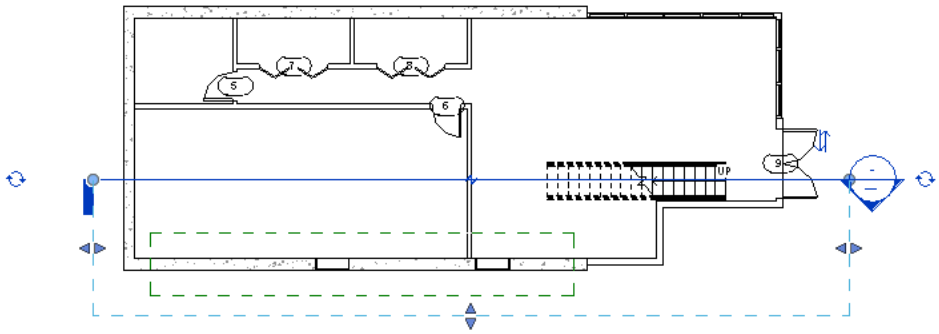
In this exercise, you create a section view, a callout view of the west wall, and a detail callout of the wall.

Objectives

- Use the Section tool to create a building section view.
- Use controls to change the area included in the section and change the section head display.
- Use the Callout tool to create a wall section view.
- Use the Callout tool to create a detail view of the wall section.

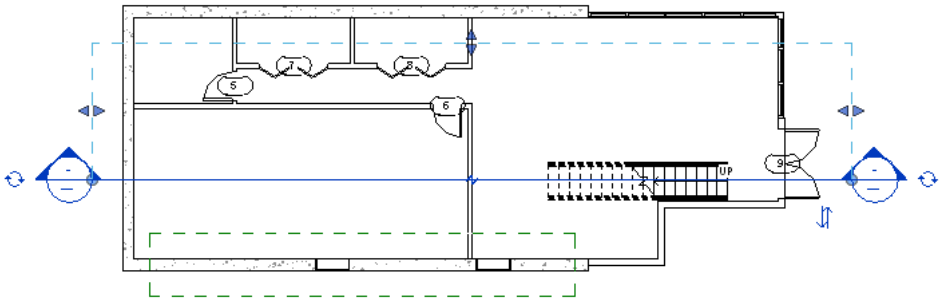
Create a Section View

1. Open project GSG_10_views.rvt.
2. In the Project Browser, under Floor Plans, double-click 01 - Lower Level.
3. Click View tab ➤ Create panel ➤ (Section).
4. Click outside the east wall of the building, move the cursor to the left until it is outside the building on the west side, and click to place a section line approximately through the middle of the stairs, as shown.



5 Click the flip control ( ) to flip the section so it includes the middle portion of the building.

6 Click the cycle control ( ) on the left twice, to cycle through the section tail options and display the section head on the left and right.



7 Double-click the section head to open the section view.

8 On the View Control Bar, click (Hide Crop Region).

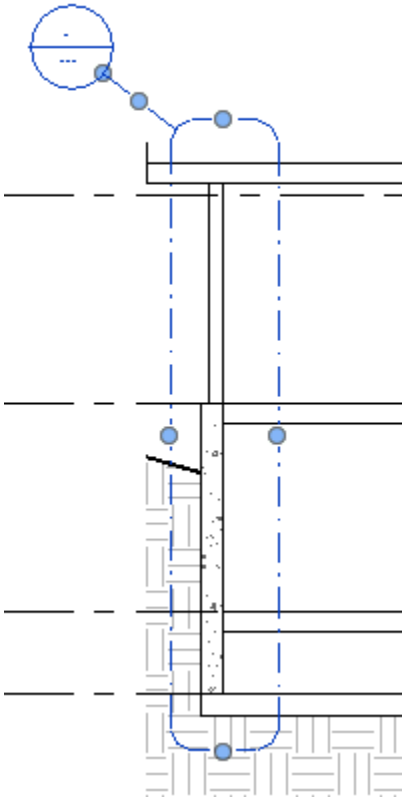
Create Callout Views

1 Click View tab ➤ Create panel ➤ (Callout).

2 In the Type Selector, under Section, click Wall Section.

3 Draw a callout around the entire west wall of the building, from the foundation to the roof.

4 Select the callout, and use the Drag Head control to drag the callout head so it displays to the upper-left of the callout.



5 Double-click the callout head to open the callout view.

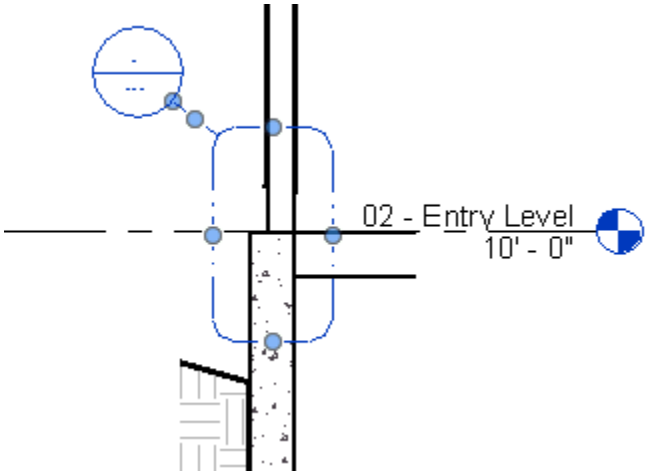
6 On the View Control Bar, click (Hide Crop Region).

7 On the Create panel, click (Callout).

8 In the Type Selector, under Detail View, click Detail.

9 Draw a callout around the area where the 2 wall types meet at 02 -Entry Level.

10 Reposition the callout head to the upper-left position.



11 Double-click the callout head to open the detail view.

12 On the View Control Bar, click (Hide Crop Region).

Part 11:Adding Dimensions

Category	New Users
Time Required	15 minutes
Tutorial Files Used	GSG_11_dimensions.rvt

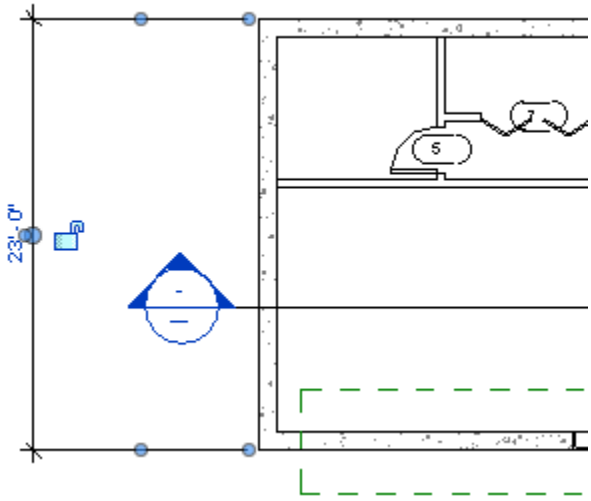
In this exercise, you add dimensions to the building model to dimension the footprint of the main building, and the location of the feature wall relative to the building.

Objectives

- Add aligned and angular dimensions to indicate the location of the feature wall relative to the building.
- Dimension the width and length of the building.
- Use the Openings option with an aligned dimension to automatically include window openings when dimensioning the exterior wall.

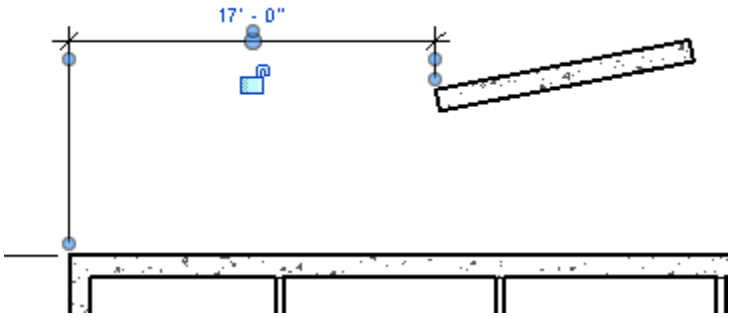
Add Dimensions

1. Open project GSG_11_dimensions.rvt.
2. Verify that the 01 - Lower Level floor plan is open.
3. Click Annotate tab ➤ Dimension panel ➤  (Aligned).
4. On the Options Bar, select Wall Faces, and for Pick, select Individual References.
5. Dimension the building width:
   - Click the exterior face of the north wall.
   - Click the exterior face of the south wall.
   - Move the cursor to the left of the building, and click to place the dimension.



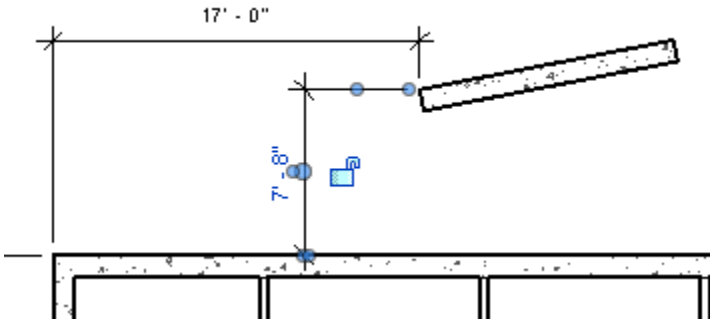
6 Dimension the distance between the west wall and the feature wall:

- Click the exterior face of the west wall.
- Move the cursor over the top-left corner of the feature wall, press Tab to highlight the endpoint, then click to select it.
- Move the cursor up, and click to place the dimension.



7 Dimension the distance between the north wall and the feature wall:

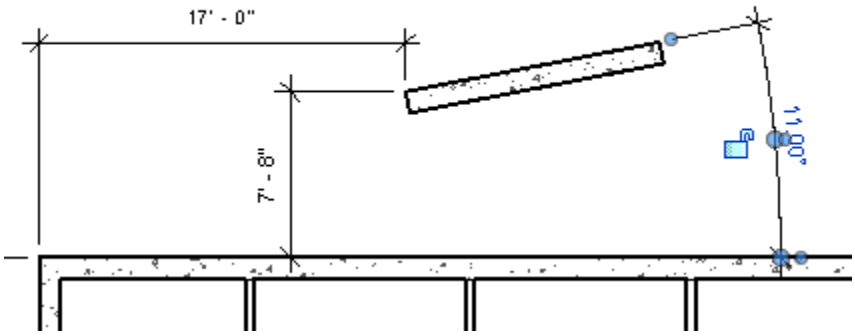
- Click the exterior face of the north wall.
- Move the cursor over the top-left corner of the feature wall, press Tab to highlight the endpoint, then click to select it.
- Move the cursor to the left, and click to place the dimension.



8 On the Dimension panel, click (Angular).

9 Add an angular dimension from the north wall to the feature wall:

- Click the north face of the feature wall.
- Click the exterior face of the north wall.
- Move the cursor to the right, and click to place the dimension.



10 On the Dimension panel, click (Aligned).

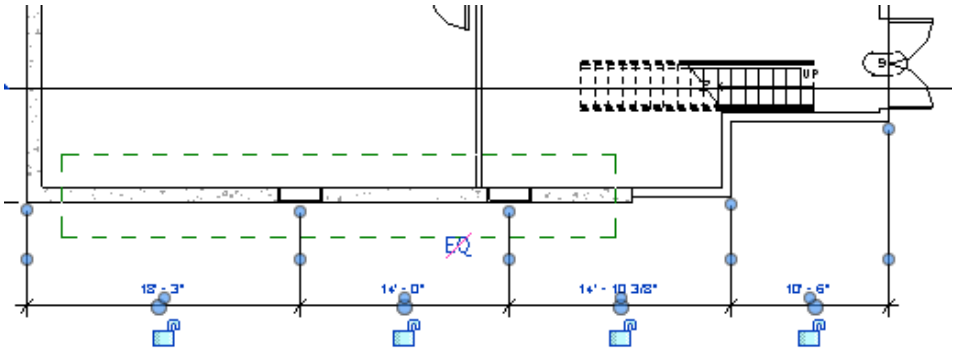
11 On the Options Bar:

- For Pick, select Entire Walls.
- Click Options.
- In the Auto Dimension Options dialog, select Openings, and click OK.

12 Dimension the window openings and intersections for the south wall:

- Click the south exterior wall.

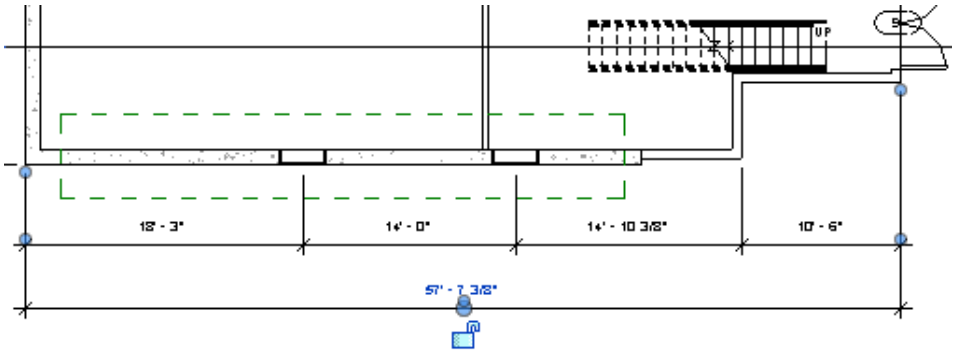
- Click the 2 adjacent south walls.
- Move the cursor down, and click to place the dimension.



13 On the Options Bar, for Pick, select Individual References.

14 Dimension the length of the building:

- Click the exterior face of the west wall.
- Click the exterior face of the east wall just below the double door.
- Move the cursor below the previous dimension, and click to place the dimension.



Part 12: Adding Notes

12

Category	New Users
Time Required	10 minutes
Tutorial Files Used	GSG_12_notes.rvt

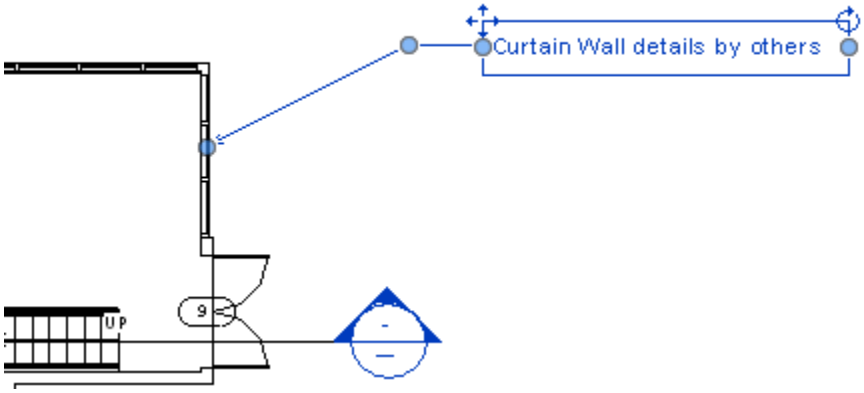
In this exercise, you add text annotations to a plan view of the building model.

Objectives

- Add text annotations to the building model.
- Modify the text location and format.

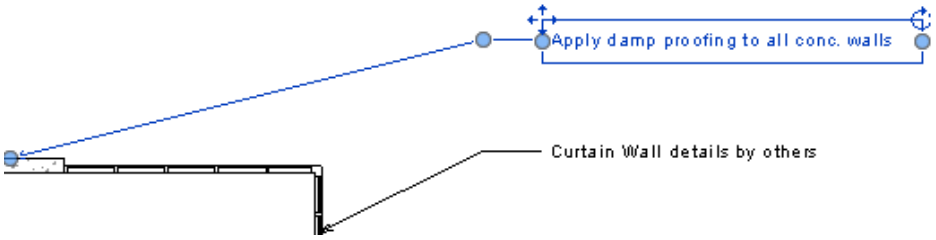
Add Notes

1. Open project GSG_12_notes.rvt.
2. Verify that the 01 - Lower Level floor plan is open.
3. Click Annotate tab ➤ Text panel ➤ A (Text).
4. On the Format panel, click (Two Segments).
5. Add a note to the east curtain wall:
   - Click the east curtain wall.
   - Move the cursor up and to the right, and click to place the first segment.
   - Move the cursor horizontally to the right to place the second segment.
   - Enter the text: `Curtain Wall details by others`, and click outside the text field.



6 Using the same method, add the following note to the north retaining wall, aligning this note with the curtain wall text:

- `Apply damp proofing to all conc. walls.`



7 Press Esc twice.

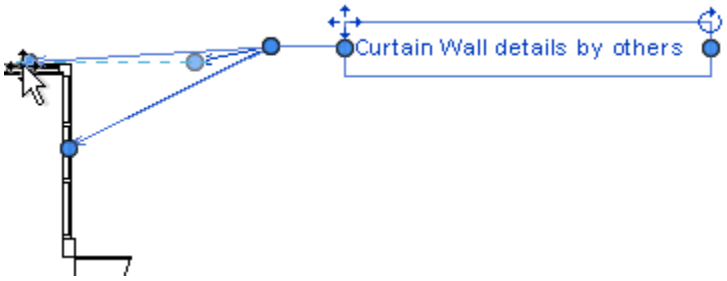
8 Select the note for the north wall, drag the right control to the left to size the note box and wrap the text.

9 Click and drag the move control to reposition the text, and press Esc twice.

10 Select the note for the curtain wall.

11 On the Format panel, click (Add Left Side Straight Leader).

12 In the drawing area, click the endpoint for the new leader and drag it so that it points to the north curtain wall.


Curtain Wall details by others

Part 13: Creating Sheets

13

Category	New Users
Time Required	10 minutes
Tutorial Files Used	GSG_13_sheets.rvt

In this exercise, you create a sheet and add multiple views to the sheet. You add a section view to the sheet and see that the section mark in the plan view is updated to include the sheet information.

Objectives

- Create a sheet using a titleblock template.
- Add views to the sheet and modify view placement and title format.

Create a Sheet

1. Open project GSG_13_sheets.rvt.
2. Click View tab ➤ Sheet Composition panel ➤  (Sheet).
3. In the New Sheet dialog, under Select titleblocks, select E1 30 x 42 Horizontal : E1 30 x 42 Horizontal, and click OK.
4. In the lower-right corner of the sheet, double-click the sheet number, enter A1, and press Enter.

Add Views to the Sheet

1. In the Project Browser, under 3D Views, click the View to Building view title and drag it to the upper-left corner of the sheet, and release the mouse button.

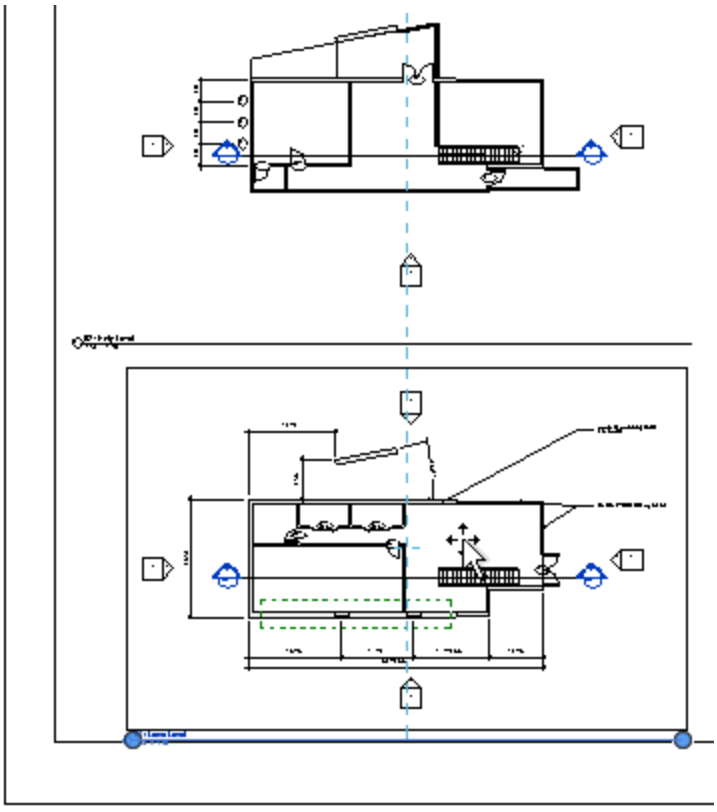
   An outline of the view displays for easier placement.

2 Click to place the view.

3 Using the same method, drag the 02 - Entry Level floor plan view to the sheet, and place it left-aligned below the View to Building view.

NOTE Dashed lines display to make it easier to align views on the sheet.

4 Using the same method, drag the 01 - Lower Level floor plan view below the 02 - Entry Level view, moving the view slightly to the right until the centers align, then click to place the view.

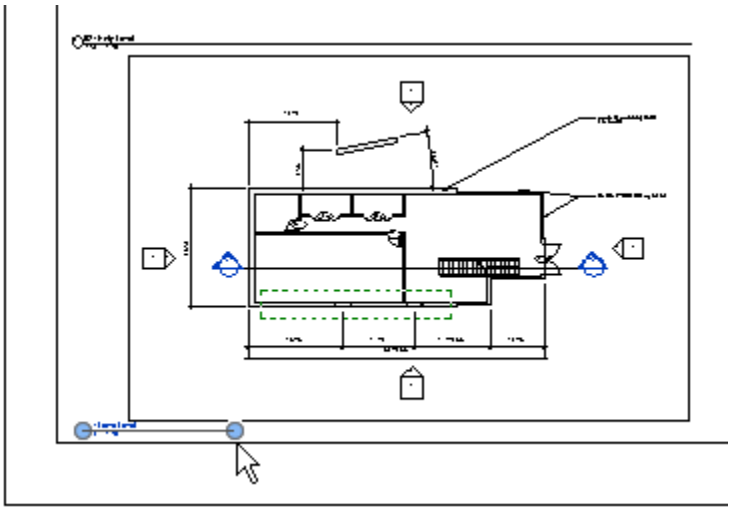


5 Click outside the sheet to deselect the view.

6 Click the view title for the 01 - Lower Level floor plan view on the sheet, and drag it to the left to align it with the title for the view above. Use the dashed lines to help with alignment.

7 Press Esc.

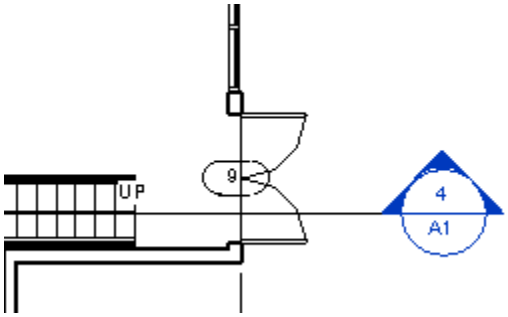
8 Select the 01 - Lower Level floor plan view on the sheet (not just the title), and drag the right endpoint to the left to shorten the horizontal title line.



9 Use the same method to shorten the lines for the other 2 views.

10 In the Project Browser, under Sections (Building Section), click the Building Section view title and place the view on the sheet.

11 Zoom in to the section mark for the 01 - Lower Level floor plan view on the sheet. Notice that the section mark is updated to indicate that the Building Section view is the fourth view placed on the A1 sheet.



This is the final exercise in the Getting Started Guide.