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Revit® 2027 Architecture Fundamentals

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Chapter

2

Starting a Revit Project

Starting a Revit project begins by using a template. You can then link in a CAD file or an existing Revit model, if these are available. From there, you can add the framework for a design, including levels to define vertical heights and grids to help define the Revit elements' layout.

Learning Objectives

- Select and open a project template.
- Link and import CAD files to be used as a basis for developing a design.
- Link existing Revit models to develop and coordinate with other disciplines.
- Add and modify levels to define floor-to-floor heights and other vertical references.
- Add and modify grids to provide locations for model elements.

2.1 Selecting a Project Template

New projects are based on a project template file. The template file includes preset levels, views, and some families, such as wall styles and text styles. When using templates, most of the views are set to display only the elements specific to the template, so it is best practice to select a template that reflects your company's discipline.

Check with your BIM manager about which template you need to use for your projects. Your company might have more than one based on the type of project you are designing. Ideally, you should not start your work inside of another discipline or model. Instead, you should start from one of the default Revit templates or your company's custom template and link the architectural model into your project. If you link a Revit model into your project, you can use the monitoring and coordinating features to copy/monitor necessary items, such as walls, floors, and grids, from the architect. To learn more about copying/monitoring, see ASCENT's *Autodesk Revit: Collaboration Tools* guide.

How To: Start a New Project

1. On the Home screen under *Models*, click **New**. Alternatively, in the *File* tab, expand (New) and click (Project), as shown in Figure 2–1, or press <Ctrl>+<N>.

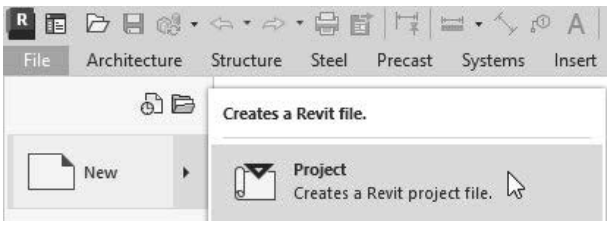


Figure 2–1

2. In the *New Project* dialog box (shown in Figure 2–2), select the template that you want to use and click **OK**.

   Note: *The list of template files is set in the Options dialog box in the File Locations tab. It might vary depending on the installed product and company standards.*

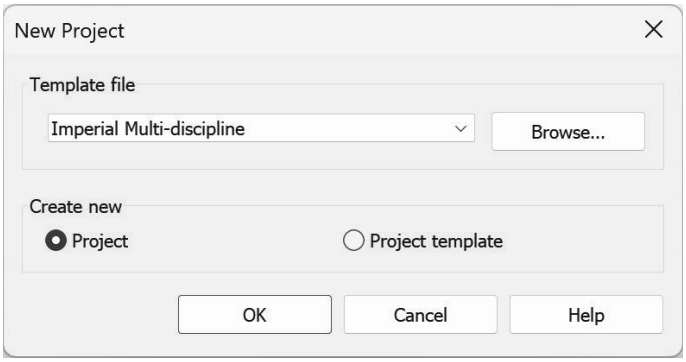


Figure 2–2

Hint: Revit Worksharing

If established by your company that worksharing is needed, you would typically want to start a worksharing project on your local network once a project has been created.

- For more information about establishing and using worksets, refer to ASCENT's *Autodesk Revit: Collaboration Tools* guide.

Recommended Project Setup

A multidiscipline approach to design and data sharing is the recommended best practice for all Revit projects. It allows multiple teams to create and work on their own trade-specific designs and then easily share the models with other teams so they can consolidate all design data into one host model by linking in other disciplines, as illustrated in Figure 2–3.

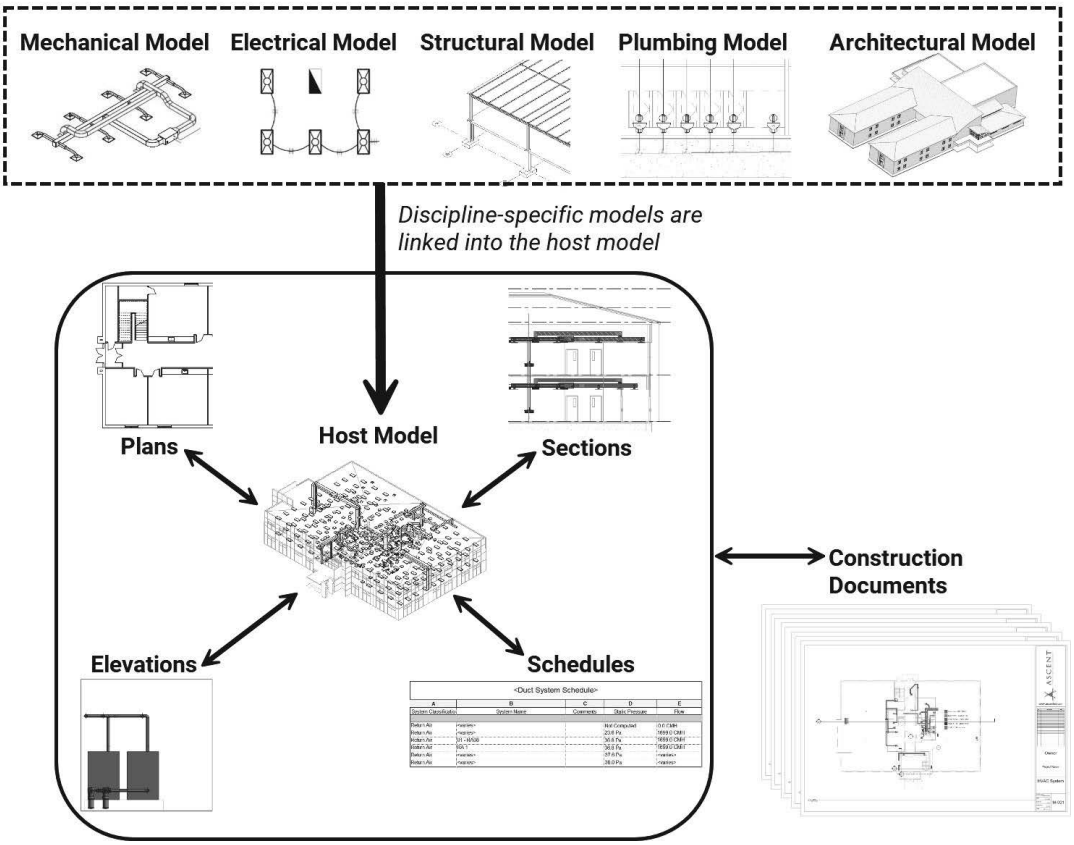


Figure 2–3

In Revit, models from different disciplines (such as architectural, mechanical, electrical, plumbing, and structural) can be linked together into one project. For example, mechanical and structural models can be linked into an architectural model, allowing teams to coordinate designs while maintaining separate project files.

Once saved, the links are part of the current project, and if any of the linked files are modified, the updated projects can be reloaded. Alternatively, each time a project is opened, it automatically loads the latest version of the linked projects. All links can be managed using the *Manage Links* dialog box, as shown in Figure 2–4. To open it, click (Manage Links) in the *Insert* tab>*Link* panel or in the *Manage* tab>*Manage Projects* panel.

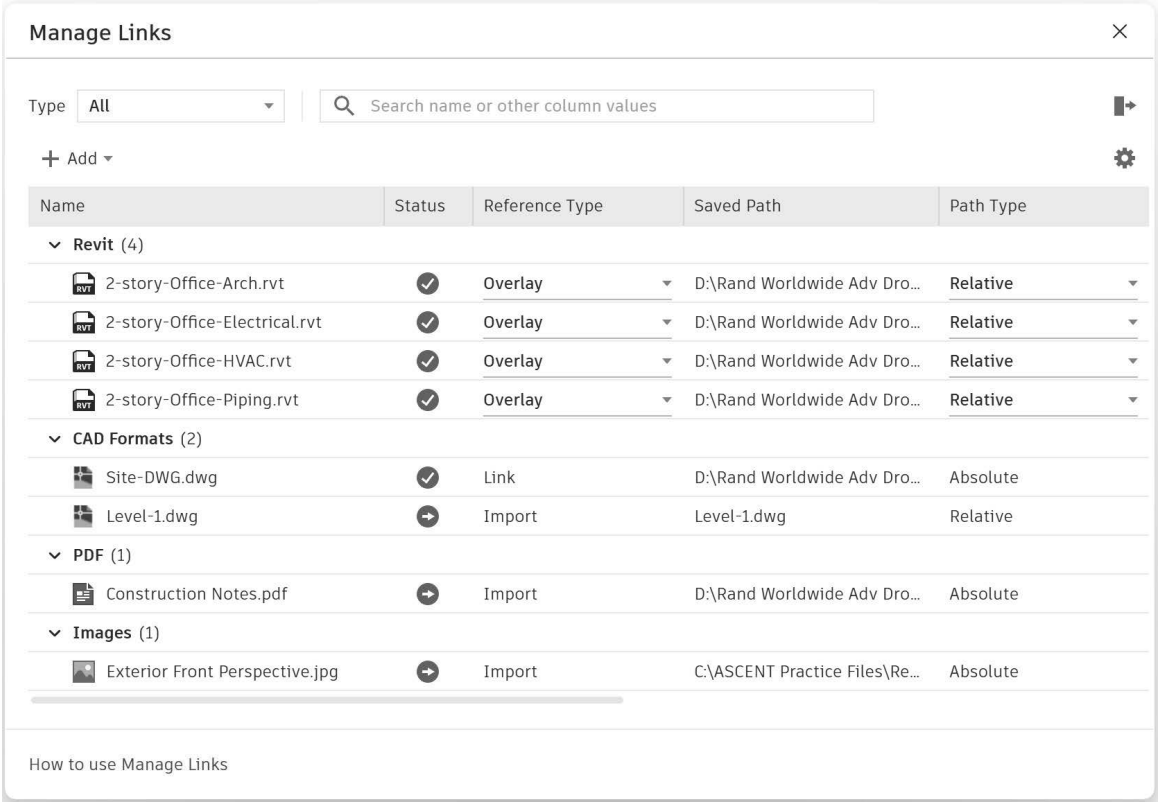


Figure 2–4

2.2 Linking and Importing CAD Files

CAD files can be imported or linked into a Revit project. As an example, a designer might lay out a floor plan using the standard 2D AutoCAD software, and you then need to incorporate that information into your structural model. In addition, many renovation projects start with existing 2D drawings. Instead of redrawing from scratch, link or import the CAD file (as shown in Figure 2–5) and trace over it in Revit. You can also print a hybrid drawing that is part Revit project and part imported/linked drawing.

Note: *When you hover over an imported or linked CAD file, you can see in the tooltip that it is called an Import Symbol.*

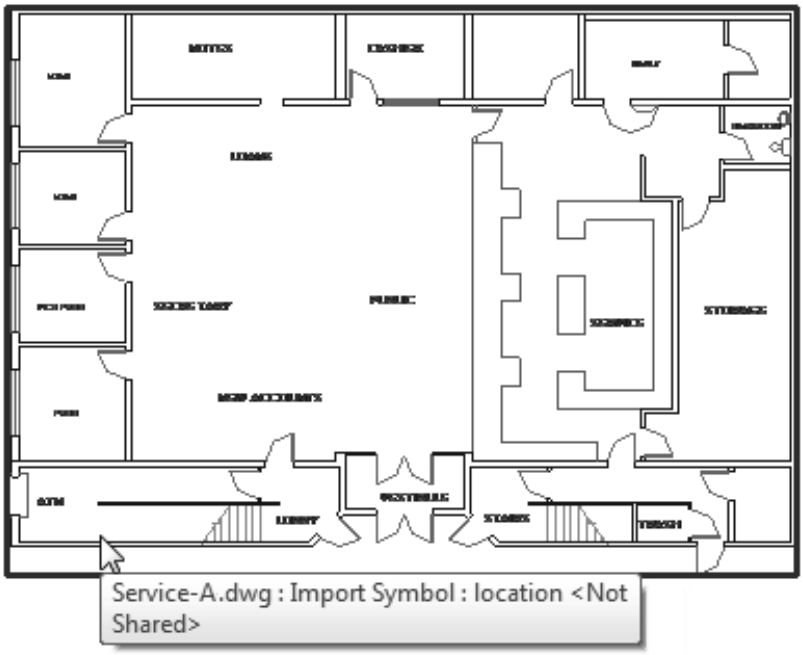


Figure 2–5

- CAD file formats that can be imported or linked include AutoCAD® (DWG and DXF), FormIt (AXM), 3D ACIS modeling kernel (SAT), MicroStation (DGN), 3D Shape (OBJ, STL, STEP, STP, and STPZ), Rhino (3dm), and Trimble SketchUp (SKP).
- When linking or importing a CAD file, you can specify a level or a named horizontal reference plane in the project to position the CAD file at.

  Note: *The reference plane needs to be at or below the level where you are trying to insert a CAD file.*

- You can specify the linking or import units (e.g., feet, meter, or US survey feet).

Linking vs. Importing

- **Link:** A connection is maintained with the original file and the link updates if the original file is updated. Within the *Manage Links* dialog box (as shown in Figure 2–6), you can manually **Reload** the linked CAD file if updates occur. There are also options to **Unload**, **Remove**, or **Import**.

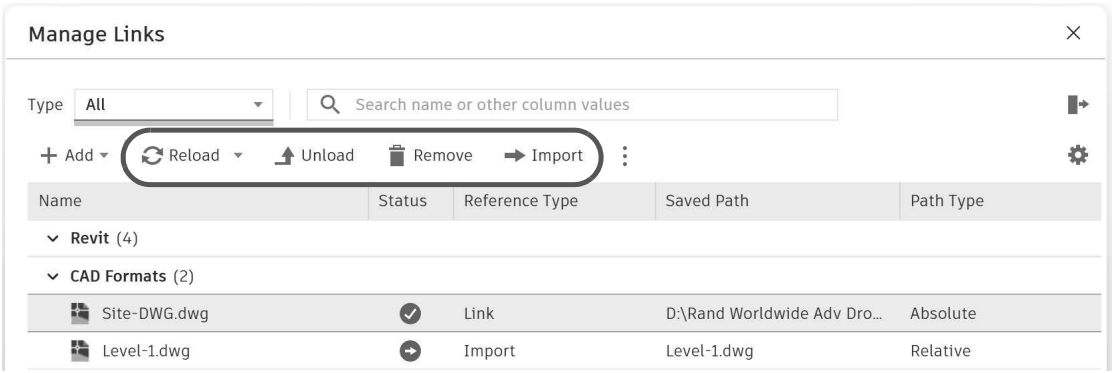


Figure 2–6

- **Import:** No connection is maintained with the original file. It becomes a separate element in the Revit model. Within the *Manage Links* dialog box, you only have the option to **Remove** the imported CAD file, as shown in Figure 2–7.

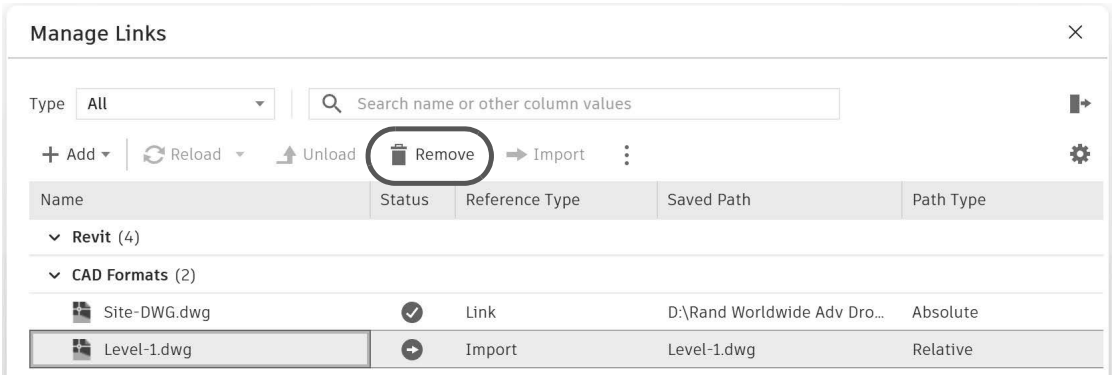


Figure 2–7

How To: Link or Import a CAD File

1. Open the view into which you want to link or import the file.
   - For a 2D file, this should be a 2D view. For a 3D file, open a 3D view.
2. In the *Insert* tab>*Link* panel, click (Link CAD), or in the *Insert* tab>*Import* panel, click (Import CAD).

3. In the *Link CAD Formats* (shown in Figure 2–8) or *Import CAD Formats* dialog box, select the file that you want to link or import.

   - Select a file format in the *Files of type* drop-down list to limit the files that are displayed.

   Note: *The dialog box settings for Link CAD Formats and Import CAD Formats are the same.*

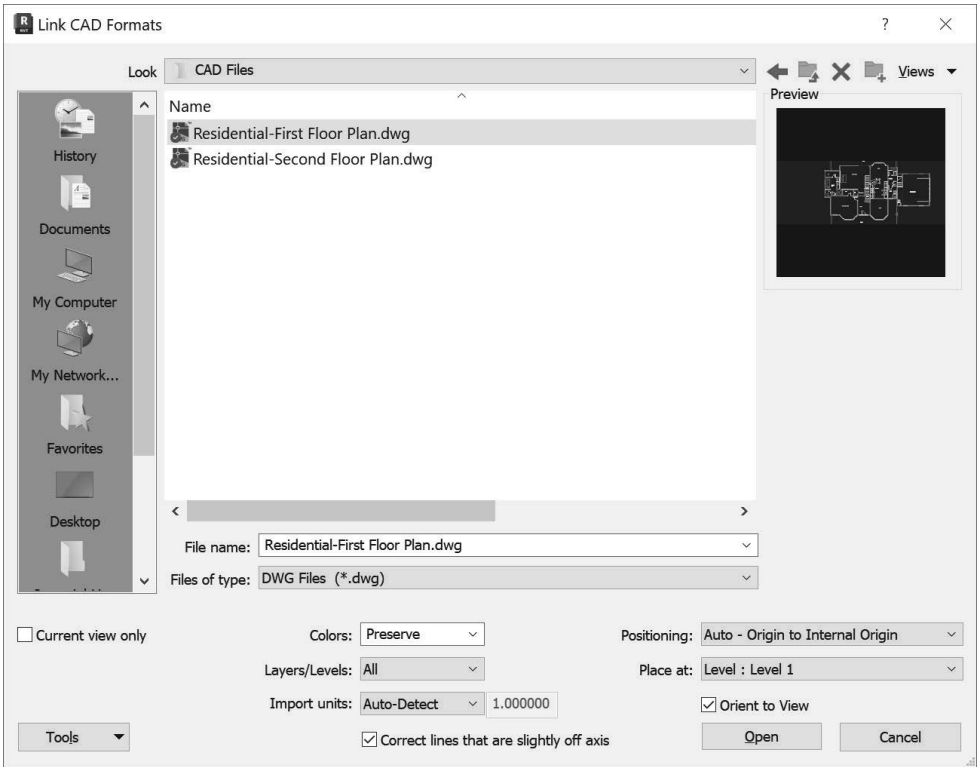


Figure 2–8

4. If **Current view only** is selected, as shown in Figure 2–9, you can set all options except the *Place at* and the *Orient to View* options. The view will only display in the current view.

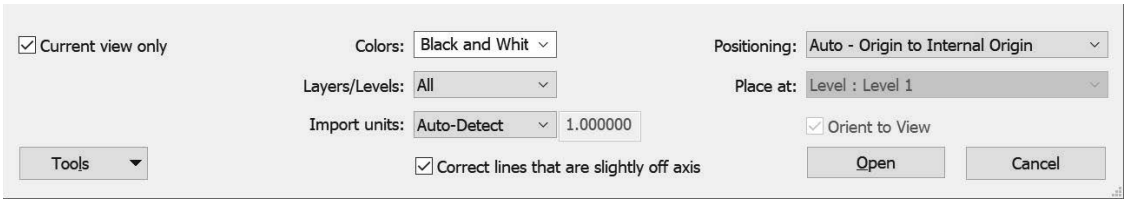


Figure 2–9

5. If you would like to place the CAD file at a level or reference plane, verify **Current view only** is unchecked and set the *Place at* option, as shown in Figure 2–10. Click **Open**.

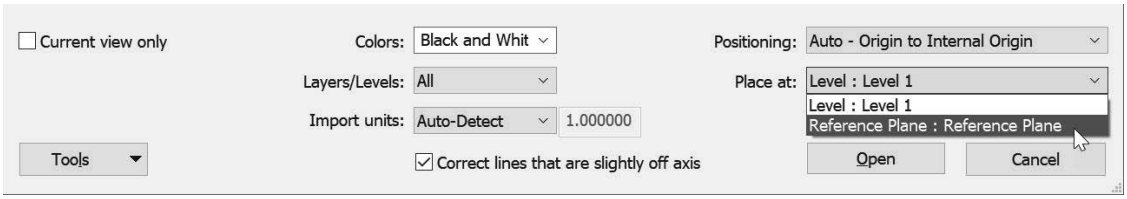
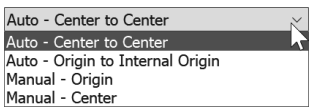
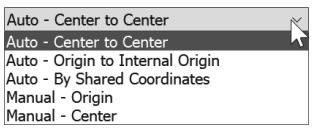


Figure 2–10

Link and Import Options

Current view only	Determine whether the CAD file is placed in every view, or only in the current view. This is especially useful if you are working with a 2D floor plan that you only need to have in one view.
Colors	Specify the color settings. Typical Revit projects are mainly black and white. However, other software frequently uses color. You can **Invert** the original colors, **Preserve** them, or change everything to **Black and White**.
Layers/Levels	Indicates which CAD layers are going to be brought into the model. Select how you want layers to be imported: **All**, **Visible**, or **Specify...**.
Import units	Select the units of the original file, as required. **Auto-Detect** works in most cases.
Correct lines...	If lines in a CAD file are off axis by less than 0.1 degree, selecting this option straightens them. It is selected by default.
Positioning	Specify how you want the imported file to be positioned in the current project:  ***Import options***  ***Linking options*** The last option used will be the default position.
Place at	Select a level or named reference plane at which to place the imported file. If you selected **Current view only**, this option is grayed out.
Orient to View	Used to orient the CAD file on import/link.

- When a file is positioned **Auto - Origin to Internal Origin**, it is pinned in place and cannot be moved. To move the file, click on the pin to unpin it, as shown in Figure 2–11.

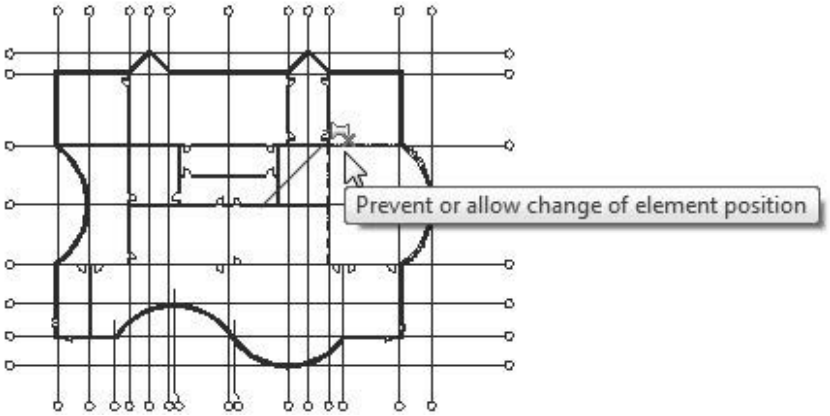


Figure 2–11

2.3 Modifying Imported/Linked CAD Files

An imported/linked CAD file is called an *import symbol* once it is inserted into a project, as shown in Figure 2–12. When you select an imported/linked file, you can modify it by arranging the *Foreground*/*Background* status, modifying its type properties, querying information about elements in the file, and deleting layers. You can also modify the visibility/graphic overrides of each imported/linked file instance.

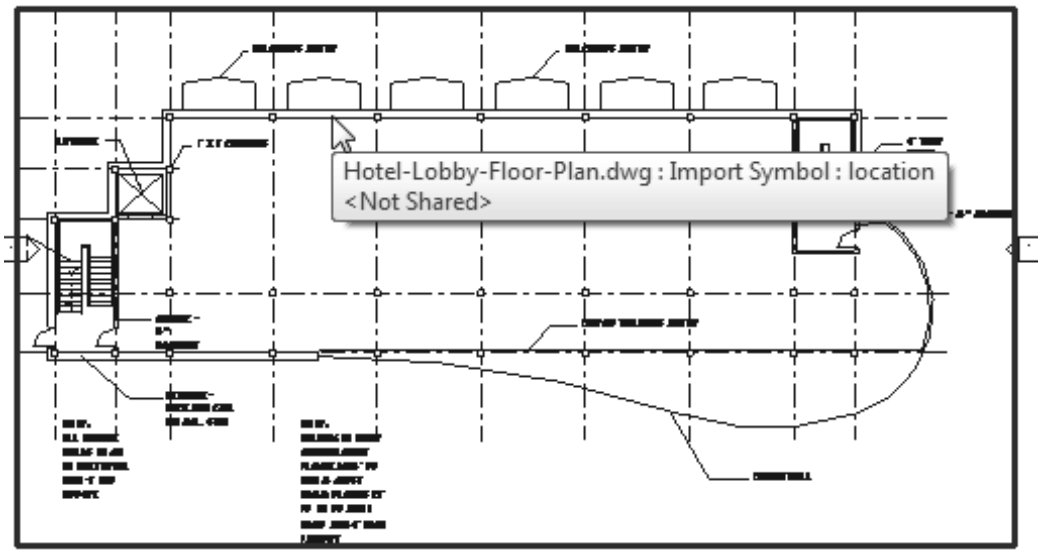
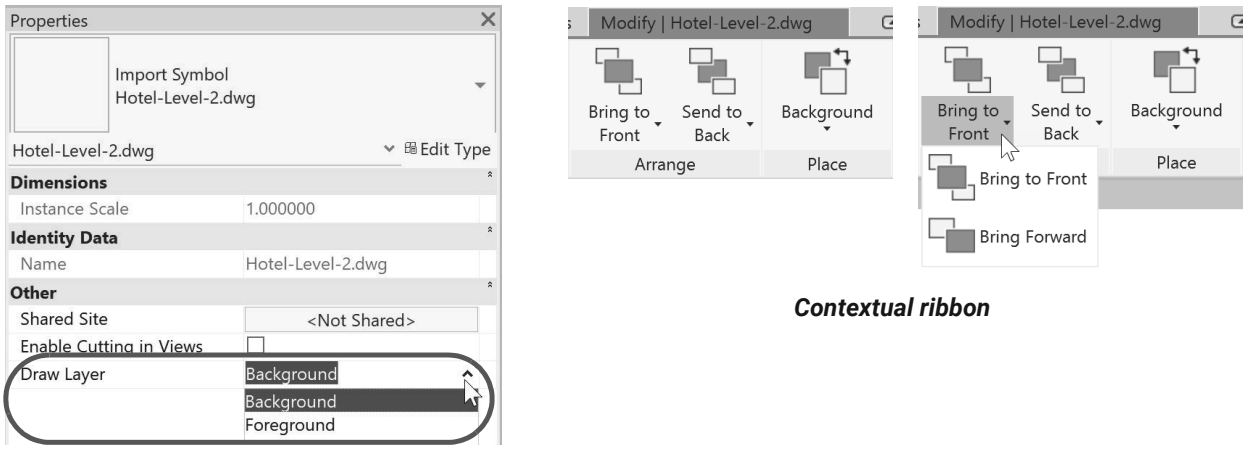


Figure 2–12

Arrange Linked/Imported CAD Files

CAD files that are linked or imported using the **Current view only** setting have the option to set the file to display in the foreground or background.

- Select the CAD file in the view and in Properties, expand *Draw Layer (*as shown on the left in Figure 2–13) and select either **Foreground** or **Background**.
- In the contextual tab>*Arrange* panel (shown on the right in Figure 2–13), select either **Bring to Front** or **Send to Back** or expand them to see more options to move linked files to the front or back of the host elements.



Properties

Contextual ribbon

Figure 2–13

Visibility/Graphic Overrides – Imported Categories

Imported or linked CAD files have their own visibility settings in the *Visibility/Graphic Overrides* dialog box on the *Imported Categories* tab. You can control the display of individual layers within the CAD file by turning them on or off in the *Visibility* column (as shown in Figure 2–14) and changing their colors, line weights, and line patterns. This helps ensure that the CAD file appears clean and consistent with your Revit project's graphic standards. This is also where you can set your imported or linked CAD file to display in the view in halftone or turn it off completely.

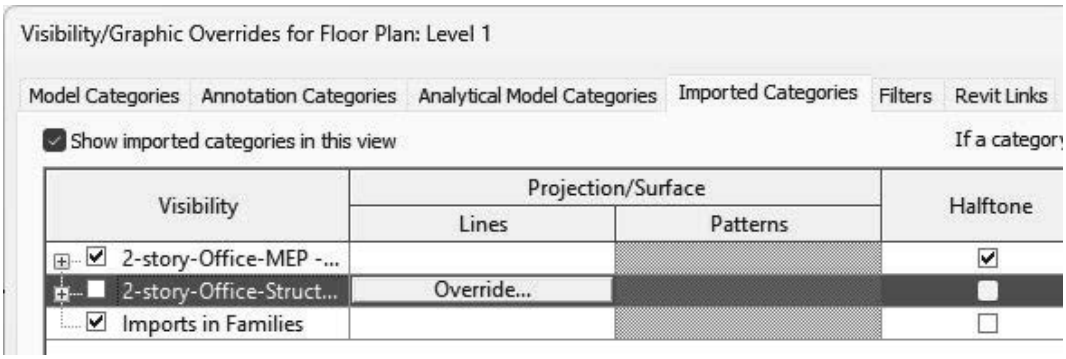


Figure 2–14

How To: Hide Individual CAD File Layers

1. In the *View* tab>*Graphics* panel, click (Visibility/Graphics), or type **VG** or **VV** to open the *Visibility/Graphic Overrides* dialog box.
2. Select the *Imported Categories* tab. It displays a list of each imported instance and its layers/levels, as shown in Figure 2–15.
3. To have the linked/imported file display in halftone, check the box in the *Halftone* column.
4. Click the plus sign beside the file name to expand the list of the layers in that file.
5. Clear the checkmark from the individual layers that you do not want to display.
   - Typically, these layers contain similar information, such as all windows or all notes in a drawing. However, it is not as definite as using Revit elements. An item might have been misplaced on a different layer and, if so, it does not toggle off.

- To toggle off the entire file, clear the checkmark next to the file name in the *Visibility* column.

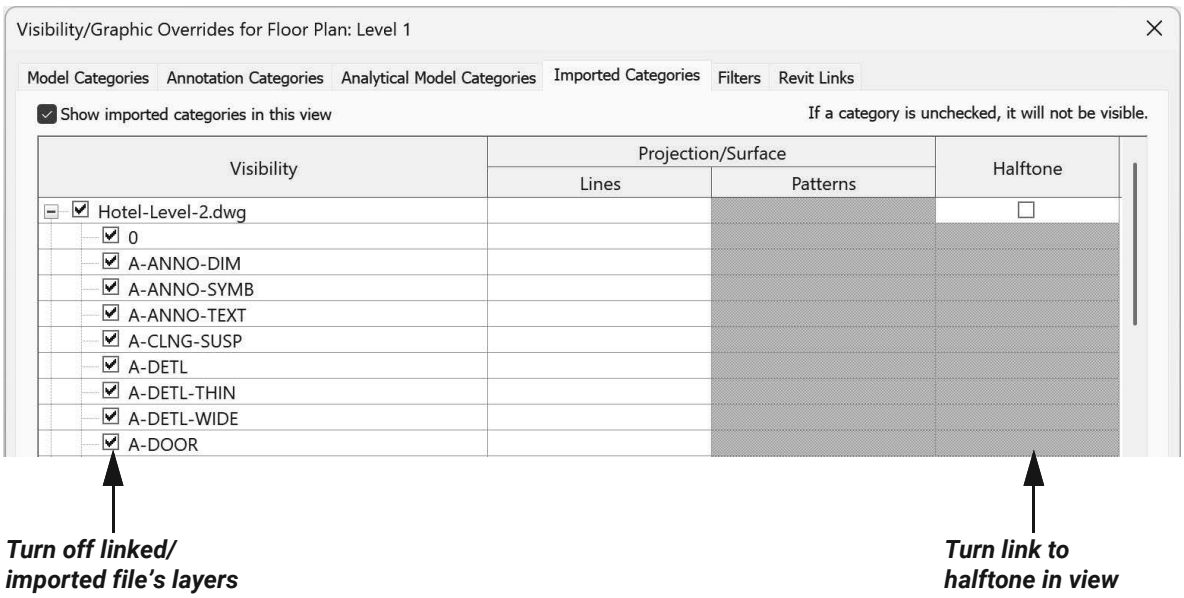


Figure 2–15

6. Close the dialog box.

Setting an Imported or Linked CAD File to Halftone in View

To see the difference between the host model elements and the linked or imported CAD file, you can set the linked/imported file to halftone, as shown in Figure 2–16.

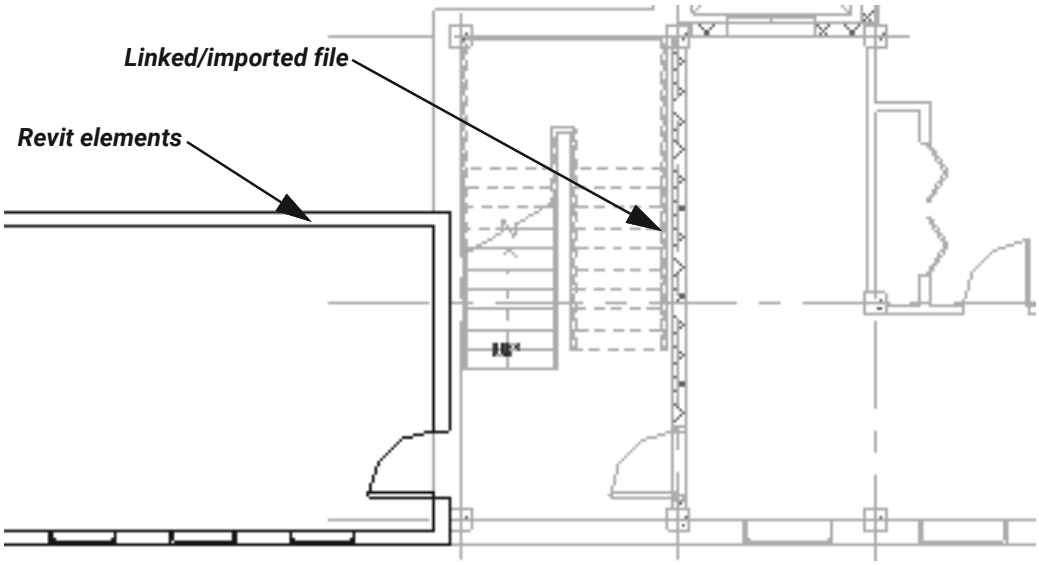


Figure 2–16

How To: Set a CAD File to Halftone in a View

1. Select the imported/linked CAD file.
2. Right-click and select **Override Graphics in View>By Element...** or **By Category...**, as shown in Figure 2–17.

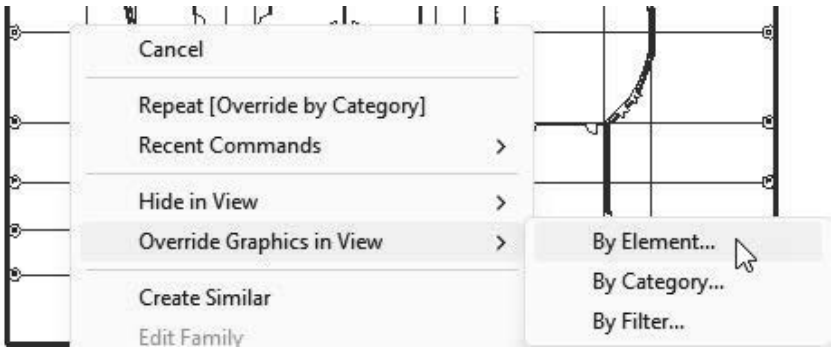
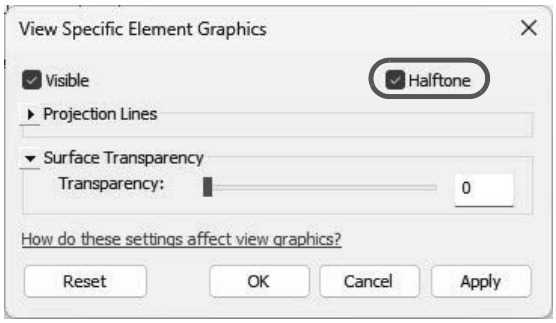
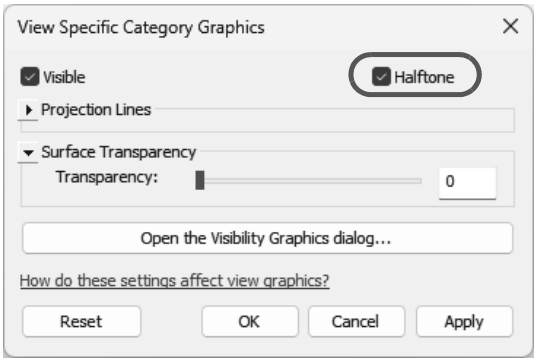


Figure 2–17

3. In the *View Specific Element* (or *Category*) *Graphics* dialog box, select **Halftone**, as shown in Figure 2–18.
   - If halftone is set using **By Element**, the setting will not show up in the *Visibility/Graphic Override* dialog box. You will need to select the CAD file, right-click, and select **Override Graphics in View>By Element** to turn it off in the *View Specific Element Graphics* dialog box.
   - If halftone is set using **By Category**, you can turn it off in the *View Specific Category Graphics* dialog box or using the *Visibility/Graphic Overrides* dialog box.



Override by Element



Override by Category

Figure 2–18

4. Click **OK**.

2.4 Linking in Revit Models

You can link Revit models directly into a project. These models can be an existing building that you are creating an addition to, as shown in Figure 2–19, or engineering models that you are checking to ensure that they line up with your model. This can also be used for campus-like projects where the same building is repeated multiple times. The Revit models that are linked are full 3D models.

Note: *A linked model automatically updates when the original file is changed.*

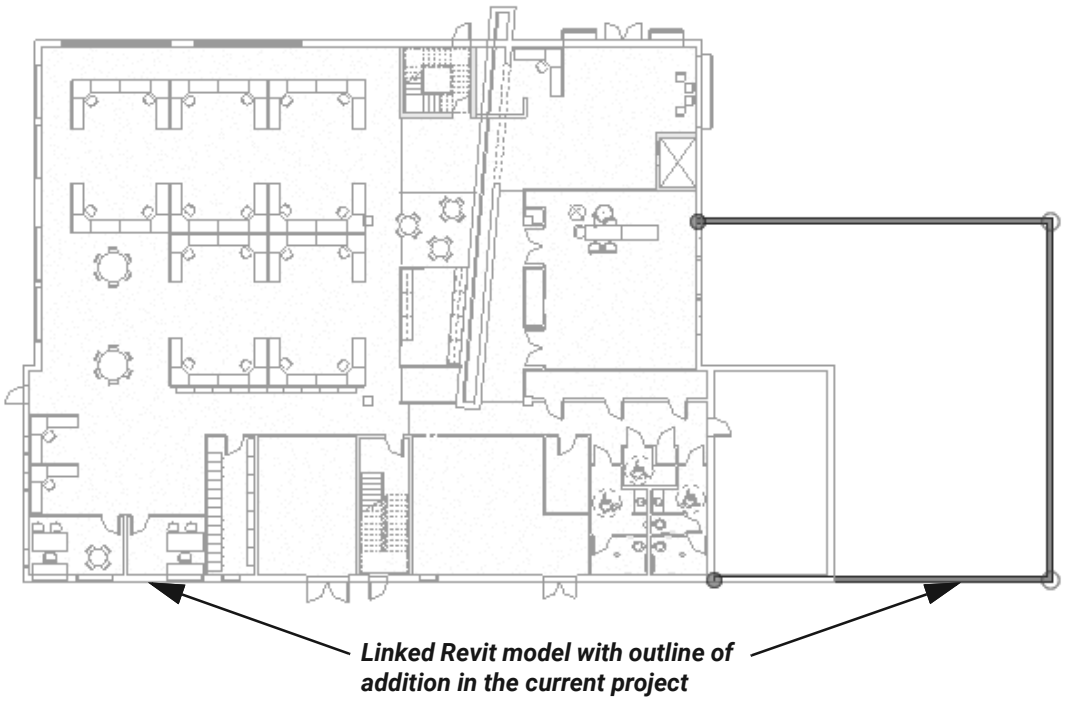


Figure 2–19

- Architectural, structural, and MEP models created in Revit can be linked into each other. It is best practice to always link Revit models that are from the same release cycle.
- When you link Revit models, clashes between disciplines can be detected and information can be passed between disciplines.
- Revit models are always linked. They cannot be imported.

How To: Add a Linked Model to a Host Project

1. In the *Insert* tab>*Link* panel, click (Link Revit).
2. In the *Import/Link RVT* dialog box, select the file that you want to link. Before opening the file, set the *Positioning*, as shown in Figure 2–20.

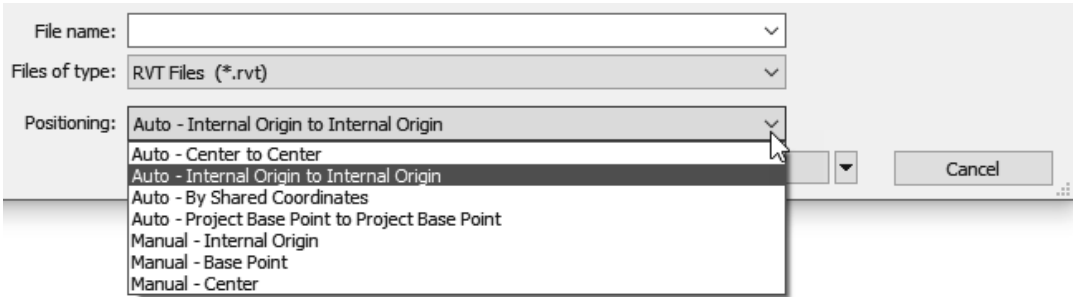


Figure 2–20

3. Click **Open**.

- Depending on how you decide to position the file, it is automatically placed in the project or you can manually place it with the cursor. The more links present in a project, the longer it takes to load.

2.5 Modifying Linked Revit Models

A Revit linked model is a separate Revit file that you bring into your current project to use as a reference. It is often used when different teams are working on different parts of a building, like architecture, structure, or MEP. Linking the model lets you see and coordinate with other disciplines' work without editing their files directly. You can control how the linked model looks and behaves in your views, but the original file stays unchanged.

It is best practice to adjust a linked Revit model's visibility using the *Revit Links* tab in the *Visibility/Graphic Overrides* dialog box.

Visibility/Graphic Overrides – Revit Links

The *Revit Links* tab in the *Visibility/Graphic Overrides* dialog box (shown in Figure 2–21) allows you to control how linked Revit models appear in your views. In the *Visibility* column, you can turn on or off each link to show or hide it in the current view. The *Halftone* column lets you set the link to a gray tone, making it easier to distinguish from the main model. Checking the box in the *Underlay* column shows the linked model as a background reference. In the *Display Settings* column, **By Host View** means the linked model will follow the visibility settings of the current view in the host project for all view settings and visibility/graphic overrides settings for the model, annotation, analytical model, and imported categories.

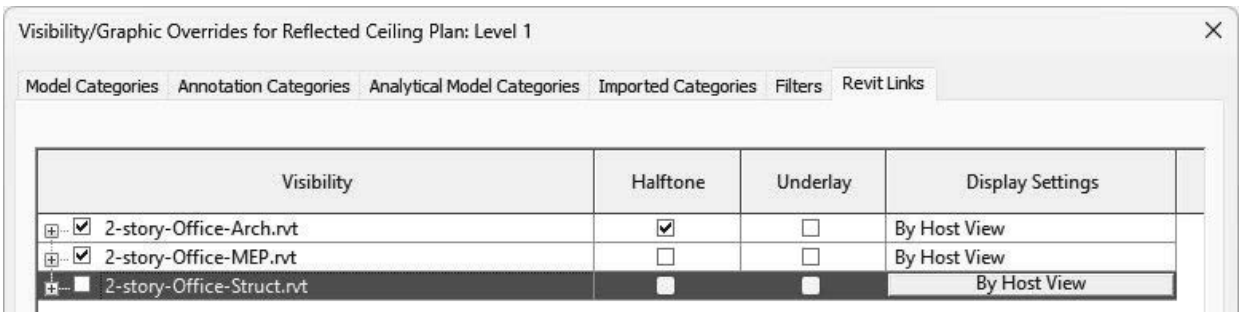


Figure 2–21

How To: Use Visibility/Graphic Overrides to Set the Revit Model to Halftone

1. In the *View* tab>*Graphics* panel, click (Visibility/Graphics), or type **VG** or **VV** to open the *Visibility/Graphic Overrides* dialog box.

2. In the *Visibility/Graphic Overrides* dialog box, on the *Revit Links* tab, check the checkbox for a specific Revit linked model in the *Halftone* column, as shown in Figure 2–22.

- If you want to turn off the Revit model in the view, uncheck the checkbox next to the model's name in the *Visibility* column.

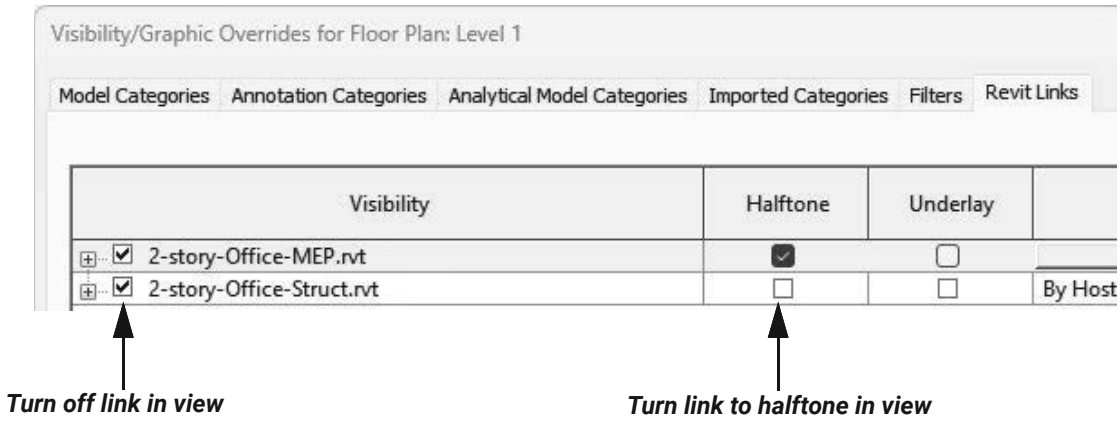


Figure 2–22

- If you select a Revit linked model and type **VH**, it will hide all Revit links in the model. To unhide the links, you will need to use **Reveal Hidden Elements** in the View Control Bar.

How To: Set Revit Models to Halftone Directly in a View

1. In the view, select a Revit model.
2. Right-click and select **Override Graphics in View>By Category...**.
3. In the *View Specific Category Graphics* dialog box, select the checkbox for **Halftone**, as shown in Figure 2–23, and click **OK**. All linked Revit models in the view are set to halftone.

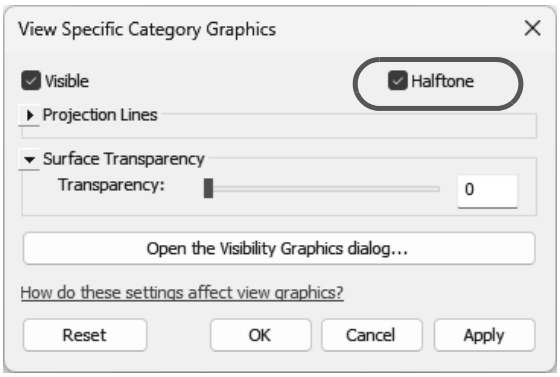


Figure 2–23

- You will need to remember that you set the linked Revit models to halftone using this dialog box, as the setting will not be reflected in the *Visibility/Graphic Overrides* dialog box as it is with CAD files.

2.6 Temporary Hide/Isolate

You might want to temporarily remove linked or imported CAD files and models from a view, modify the project, and then restore the elements. Instead of completely toggling the elements off, you can temporarily hide them.

Select the elements you want to hide (make invisible) or isolate (keep displayed while all other elements are hidden) and click (Temporary Hide/Isolate). Select the method you want to use, as shown in Figure 2–24.

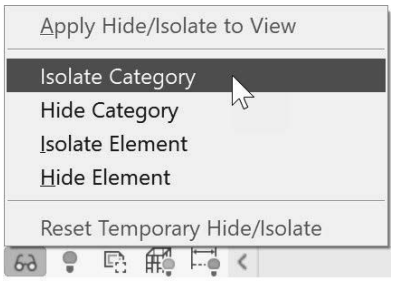


Figure 2–24

- The category or elements are hidden or isolated. A cyan border displays around the view with a note in the upper-left corner, as shown in Figure 2–25. It indicates that the view contains temporarily hidden or isolated elements.

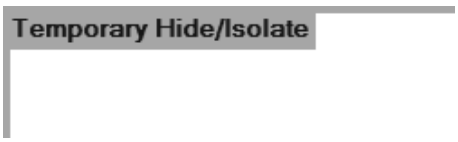


Figure 2–25

- Click (Temporary Hide/Isolate) again and select **Reset Temporary Hide/Isolate** to restore the elements to the view.
- If you want to permanently hide the elements in the view, select **Apply Hide/Isolate to View**.
- Elements that are temporarily hidden in a view are not hidden when the view is printed.

2.7 Managing Links

The *Manage Links* dialog box (shown in Figure 2–26) enables you to reload, unload, add, and remove links. You can also convert a linked CAD file to an imported file. If you accidentally click **Import**, you can close the *Manage Links* dialog box and click **Undo** in the Quick Access Toolbar.

There are three ways to open the *Manage Links* dialog box:

- In the *Insert* tab>*Manage* panel, click (Manage Links).
- In the *Manage* tab>*Manage Project* panel, click (Manage Links).
- Select the Revit link and click (Manage Links) in the *Modify | RVT Links* tab>*Link* panel.

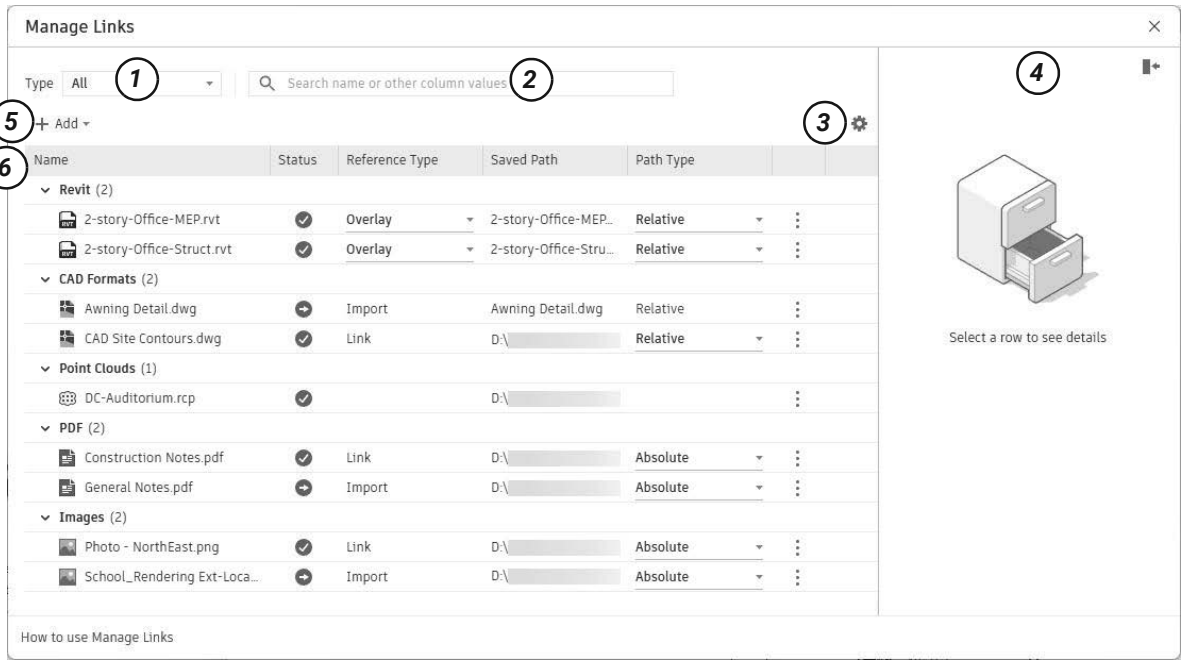


Figure 2–26

1. *Type* Drop-Down List
2. Search Bar
3. *Show Columns* List
4. File Detail Panel
5. **Add** Menu
6. File List

1. Type Drop-Down List

By default, the *Manage Links* dialog box is set to show all file types. You can adjust this by expanding the *Type* drop-down list and changing it from **All** to a specific type, as shown in Figure 2–27. The *Manage Links* dialog box shows both linked and imported CAD files.

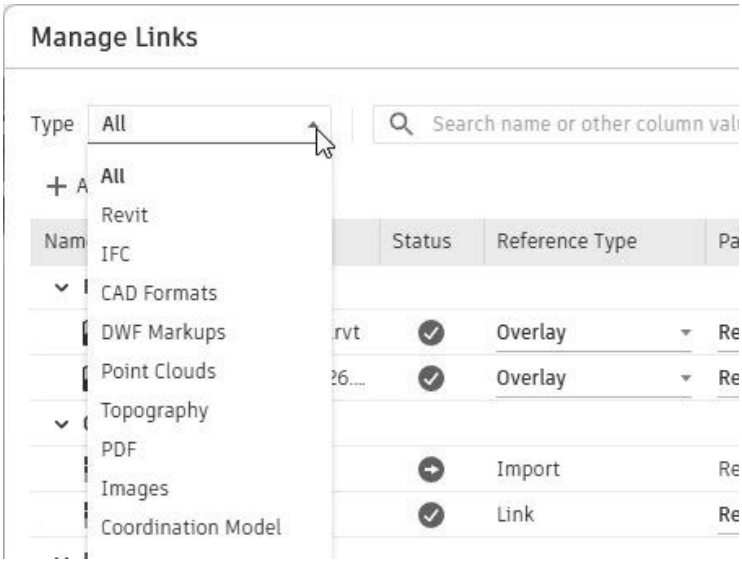


Figure 2–27

2. Search Bar

At the top of the *Manage Links* dialog box is a search bar to narrow down the list of linked and imported files that display. As soon as you start typing in the search bar, the list of files below will automatically update. It will only show the files that match the letters or words you are typing. Click the X in the search bar (shown in Figure 2–28) to clear the search and return to the full list.

Figure 2–28

3. Show Columns List

To choose which columns you want to see in the *Manage Links* dialog box, click the gear icon to expand a list of all available columns, as shown in Figure 2–29. You can check the boxes for the columns you want to show, and uncheck the ones you do not need. When you are done, click the gear icon again to close the list.

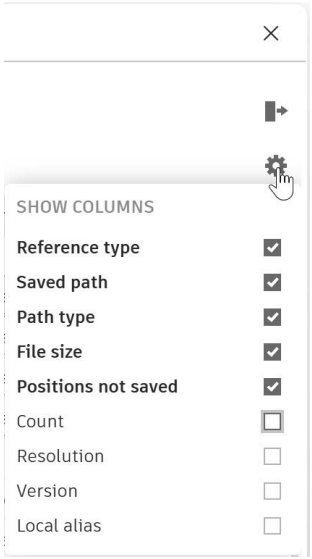


Figure 2–29

4. File Detail Panel

When you select a file in the file list, the file detail panel displays information about the file. This panel can be expanded and collapsed by clicking the icon in the upper-right corner. Depending on the file that is selected, you can modify things like *Path type* and *Reference type*, as shown in Figure 2–30.

- You can also select multiple files in the file list and change the *Reference type* and/or *Path type* in the file detail panel.

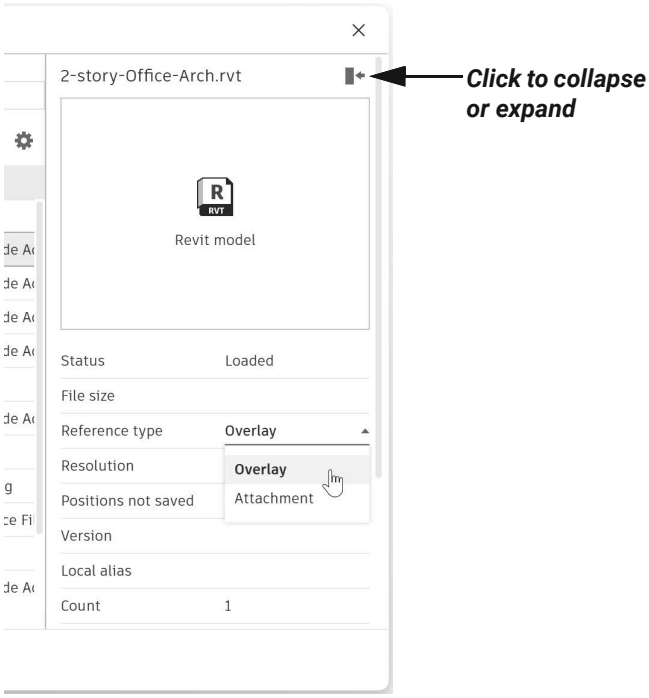


Figure 2–30

5. Add Menu

At the top of the *Manage Links* dialog box is the **Add** menu. When you click to expand it, as shown in Figure 2–31, a list displays of file types that you can add, including **Revit**, **CAD Formats**, **PDF**, and **Images**. When you select a type, it will open the respective import or link dialog box, where you can navigate to the file to bring it into the model. For file types that allow you to position the file manually, the manual options will not be available in the link or import dialog box. For example, if you select **Revit**, the *Link Revit* dialog box's *Positioning* options will not include any manual options.

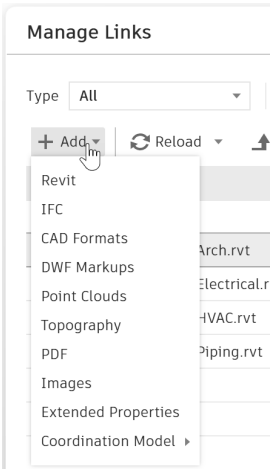


Figure 2–31

6. File List

By default, imported and linked file types display in the *Manage Links* dialog box within a tree structure that organizes the file types into their respective categories. When you select a file, operation tools display along the top of the dialog box, depending on which file type was selected. The tools are also available by right-clicking on a file or expanding the more menu at the end of the file. Figure 2–32 shows the operation tools that display when a Revit file is selected.

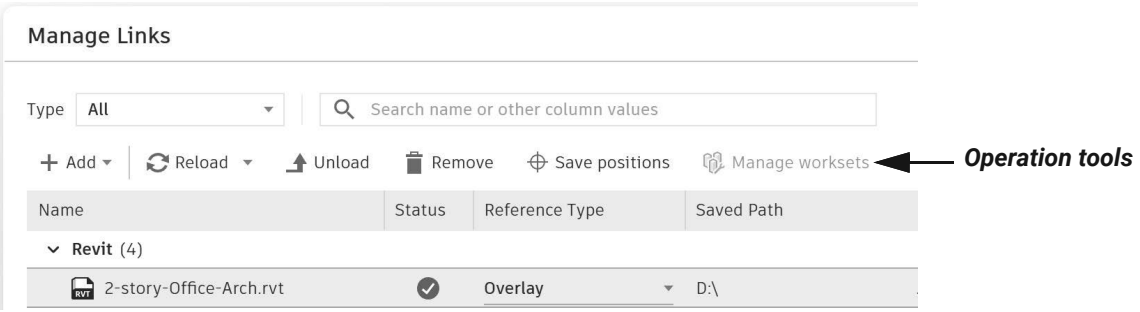


Figure 2–32

The *Saved Path* column shows the location where the file is stored on your computer or network. To copy the saved path for a file, hover your cursor over the file's saved path, as shown in Figure 2–33, triple-click on the path name to select the full path, and press <Ctrl>+<C> to copy the information.

Figure 2–33

The following options are available:

- **Reload:** Reloads the file without additional prompts.
- **Reload From:** Opens the *Add Link* dialog box, which enables you to select the file you want to reload. Use this if the linked file location or name has changed. This is accessed by expanding **Reload**.
- **Unload:** Unloads the file so that the link is kept, but the file is not displayed or calculated in the project. Use **Reload** to restore it.

  Note: *For Revit links, some of these options are also available in the Project Browser. Expand the Revit Links section, then right-click on the Revit link and select* ***Reload****,* ***Unload****, or* ***Reload From…****.*

- **Remove:** Deletes the link or imported file from the host model.

- **Import:** Converts the linked file to an imported file.

Links can be nested into one another. How a link responds when the host project is linked into another project depends on the option in the *Reference Type* column.

- **Overlay:** The nested linked model is not referenced in the new host project.
- **Attach:** The nested linked model displays in the new host project.

The option in the *Path Type* column controls how the location of the link is remembered.

- **Relative**
  - Searches the root folder of the current project.
  - If the file is moved, the software still searches for it.
- **Absolute**
  - Searches the entire file path where the file was originally saved.
  - If the original file is moved, the software is not able to find it.
- Other options control how the linked file interfaces with worksets and shared positioning.

Unresolved Reference

When opening a project with linked files that have been moved or deleted, an *Unresolved References* dialog box will appear after the project opens in Revit, as shown in Figure 2–34. This message will only display for files that have been linked into the project and not for imported files. At the bottom of the dialog box, click **Show details** to view a list of the files that have unresolved issues.

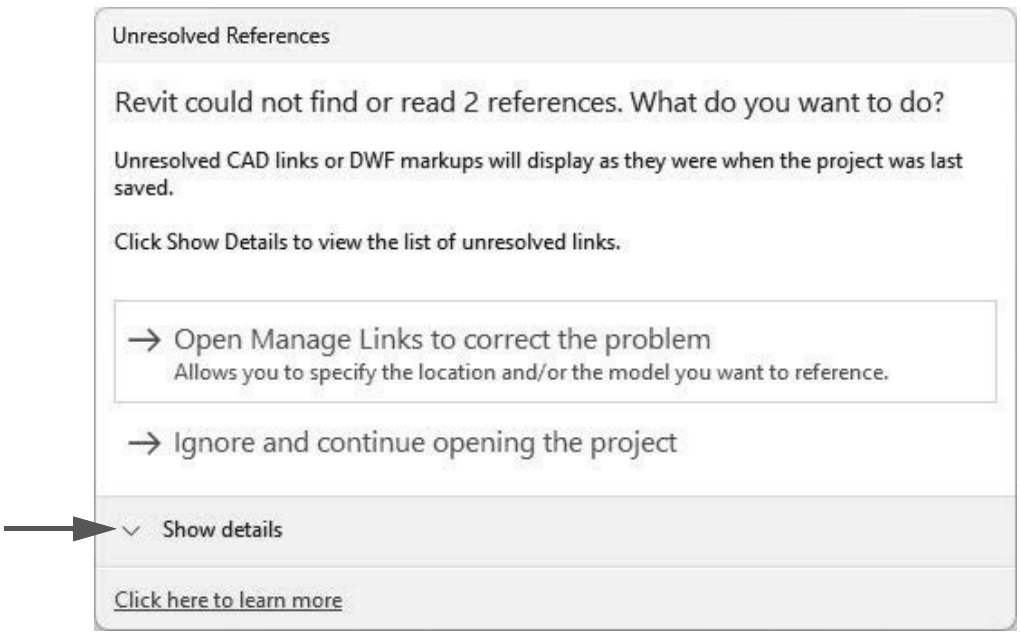


Figure 2–34

How To: Fix Unresolved References

1. After you open a Revit project that contains linked files, the *Unresolved References* dialog box displays.
2. In the *Unresolved References* dialog box, click **Open Manage Links to correct the problem**.
   - Alternatively, if you click **Ignore and continue opening the project**, you can open the *Manage Links* dialog box and resolve the issues at a later time. Note that if any elements in the project are hosted to a surface or element in a linked Revit model, the hosted elements will be orphaned or disassociated, potentially causing further issues.
3. In the *Manage Links* dialog box, any file that is missing will have a warning symbol in the *Status* column, as shown in Figure 2–35.

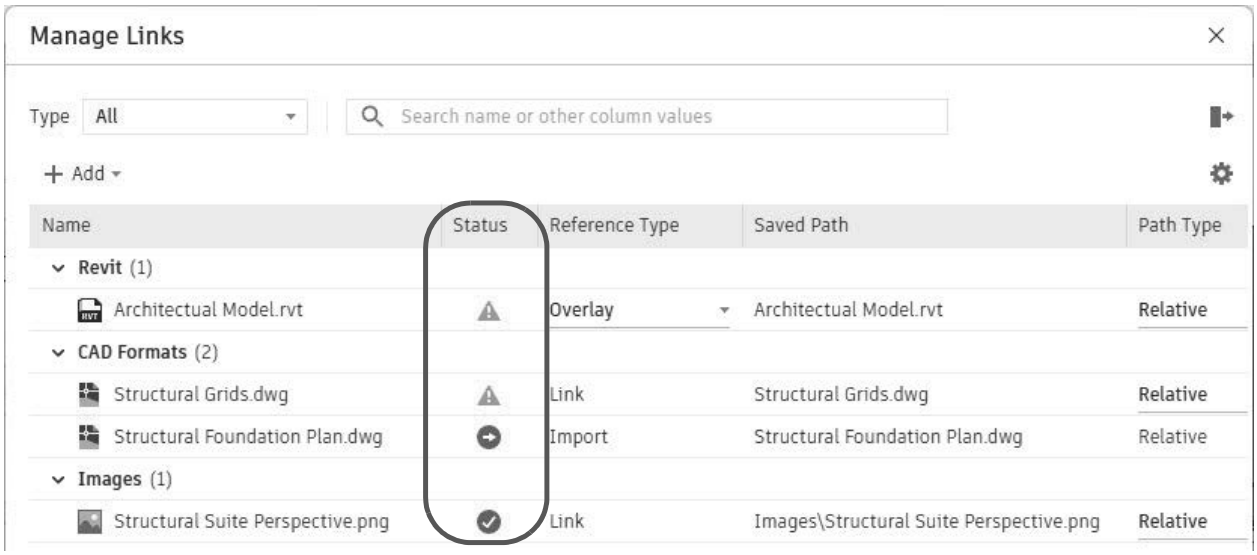


Figure 2–35

4. Click on the file in the *Name* column. The operation tools display at the top of the columns, as shown in Figure 2–36. Expand **Reload** and select **Reload from...**.

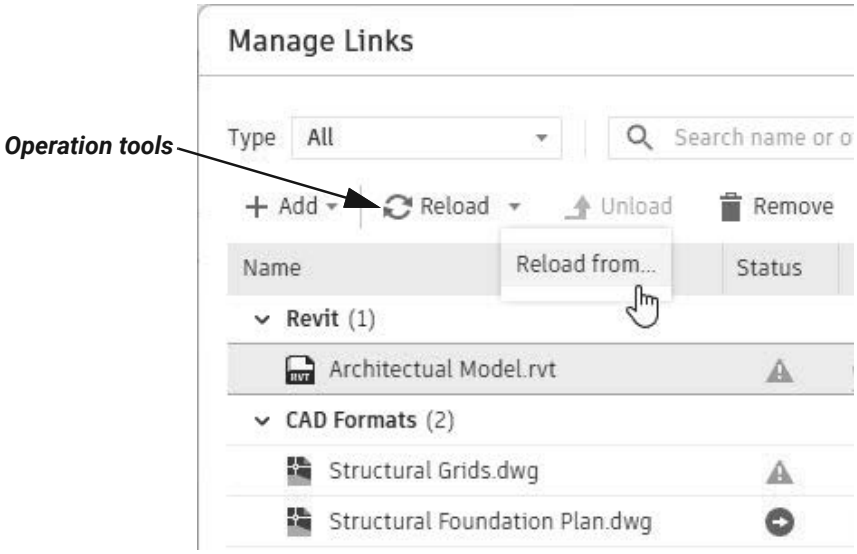


Figure 2–36

5. In the file browser dialog box, navigate to the file and click **Open**.

Practice 2a
Start a Project and Link Files

Practice Objectives

- Start a Revit project.
- Link a CAD file.
- Link a Revit file.
- Modify the linked files in a view.

In this practice, you will start a Revit project, then import floor plans created in AutoCAD and use them as a base layout for the first floor lobby and for a typical guest floor. You will then link in a Revit model that includes a standard poolhouse and platform for the building. Figure 2–37 shows the completed practice.

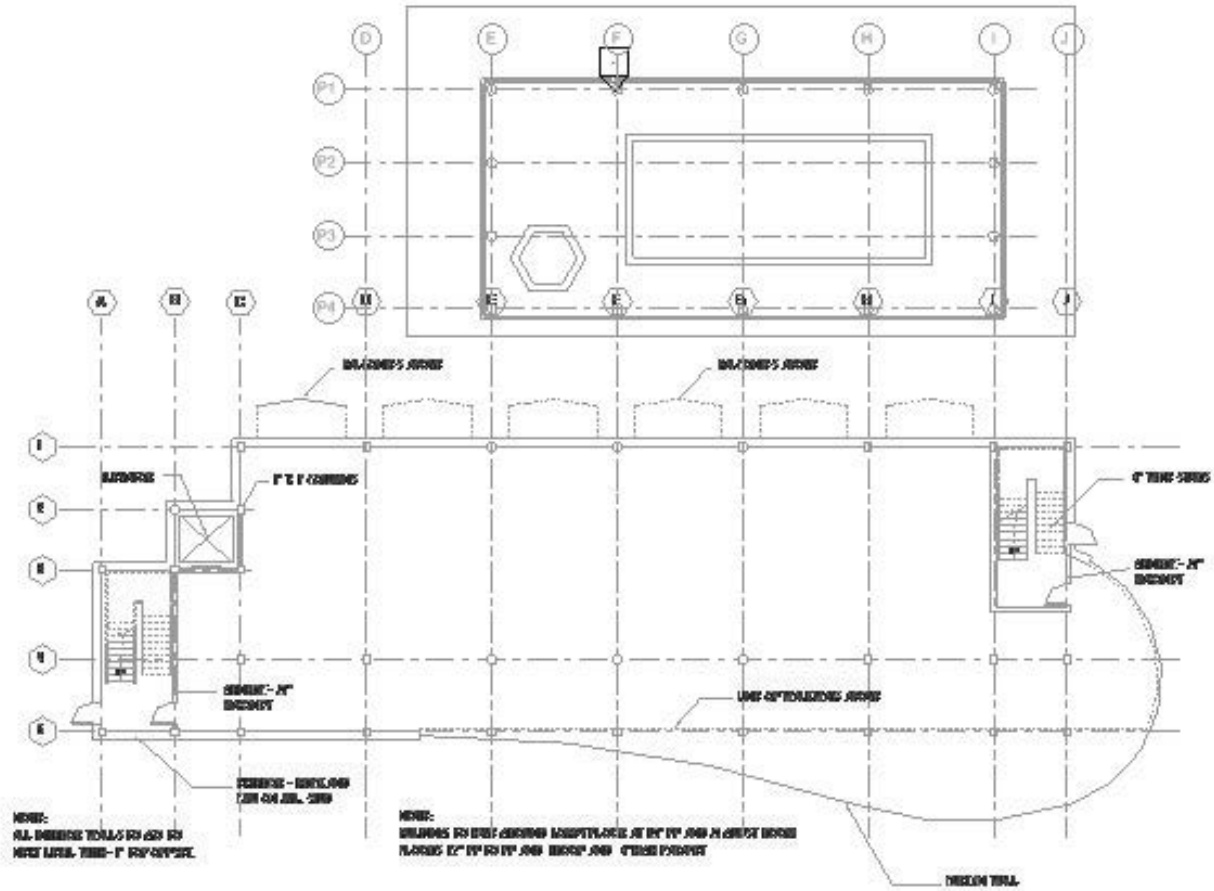


Figure 2–37

Task 1: Start a project.

1. On the Home screen, in the *Models* section, click **New**. Alternatively, in the *File* tab, expand (New) and click (Project).
2. In the *New Project* dialog box, click **Browse...**.
3. In the *Choose Template* dialog box, navigate to the practice files *Templates* folder, select **Imperial-Arch Template**, and click **Open**.
4. In the *New Project* dialog box, click **OK**. (There are no elements in this file, only datums and basic views.)
5. In the *File* tab, expand (Save As) and select (Project). In the *Save As* dialog box, navigate to the practice files folder and name the project as **Hotel-Start.rvt**. Click **Save**.
6. Review the Project Browser and note that the project has default floor plan, ceiling plan, and elevation views. By default, the **Floor Plans: Level 1** view is open and displays in bold in the Project Browser, as shown in Figure 2–38.

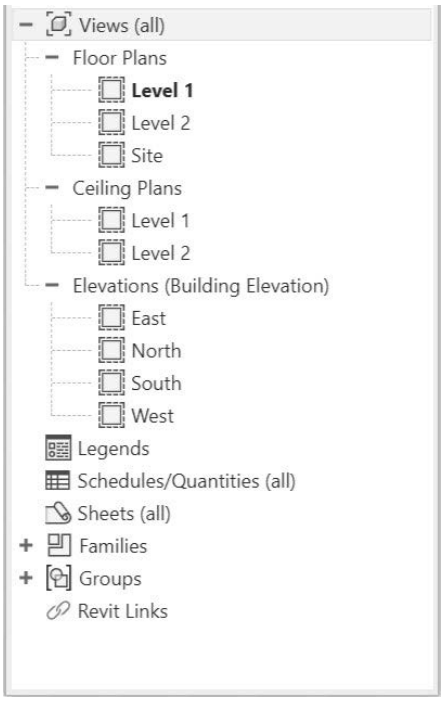


Figure 2–38

Task 2: Link a CAD file.

1. Verify you are in the **Floor Plans: Level 1** view. In the *Insert* tab>*Link* panel, click (Link CAD).
2. In the *Link CAD Formats* dialog box, navigate to the practice files *CAD Files* folder and select the file **Hotel-Level-1.dwg**, then set the following options, as shown in Figure 2–39:
   - Check the checkbox next to **Current view only**
   - *Colors:* **Black and White**
   - *Layers/Levels:* **All**
   - *Import Units:* **Auto-Detect**
   - *Positioning:* **Auto - Origin to Internal Origin**

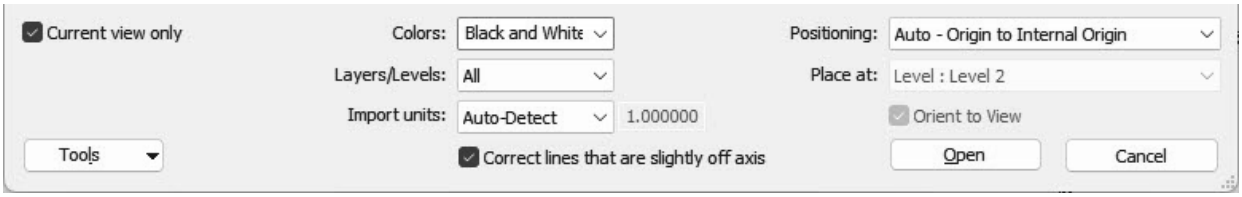


Figure 2–39

3. Click **Open**. The linked CAD file is placed in the project on the **Floor Plans: Level 1** view.
4. Select the linked CAD file. In Properties, note that it displays as **Import Symbol** and is pinned in place because it was imported origin to internal origin.
5. With the linked CAD file still selected, in Properties, in the *Other* section, change the *Draw Layer* to **Foreground**. Alternatively, this can be set in the *Modify | Hotel-Level-1.dwg* tab> *Arrange* panel.

   Note: *As you are drawing walls, floors, ceilings, and roofs within your project, you will want to change how the DWG is displaying in your view from Foreground to Background, depending on what you need to see.*

6. With the CAD file still selected, right-click in the draw area and select **Override Graphics in View>By Category...**.
7. In the *View Specific Category Graphics* dialog box, select **Halftone** and click **OK**.

8. Click in an empty space in the view to release the selection. The linked file displays in halftone, as shown in Figure 2–40.

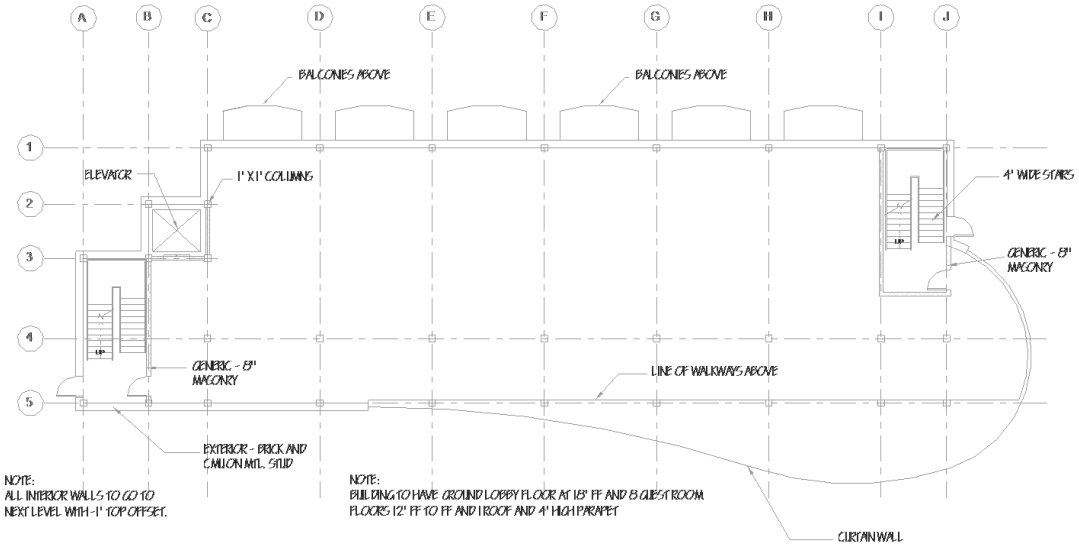


Figure 2–40

9. From the Project Browser, open the **Floor Plans: Level 2** view. The CAD file linked in Level 1 does not display because you specified to link the CAD file with **Current view only** selected.
10. Link the CAD file **Hotel-Level-2.dwg** using the options that were used for Level 1. Set the *Draw Layer* to **Foreground**.
11. Override the graphics and set the linked file to **Halftone**.
12. Save the project.

Task 3: Link in a Revit model.

1. In the Quick Access Toolbar, click (Default 3D View). Neither of the linked CAD files display in this view.
2. In the *Insert* tab>*Link* panel, click (Link Revit).
3. In the *Import/Link RVT* dialog box, navigate to the practice files *Revit Link Files* folder and select **Hotel-Pool.rvt**. Verify that the *Positioning* is set to **Auto - Internal Origin to Internal Origin** and click **Open**.
4. In the View Control Bar, change the *Visual Style* to (Shaded).
5. In the *View* tab>*Graphics* panel, click (Visibility/Graphics), or type **VG** or **VV** to open the *Visibility/Graphic Overrides* dialog box.

6. Select the *Annotation Categories* tab, then scroll down to **Levels** and uncheck it, as shown in Figure 2–41. Click **OK**.

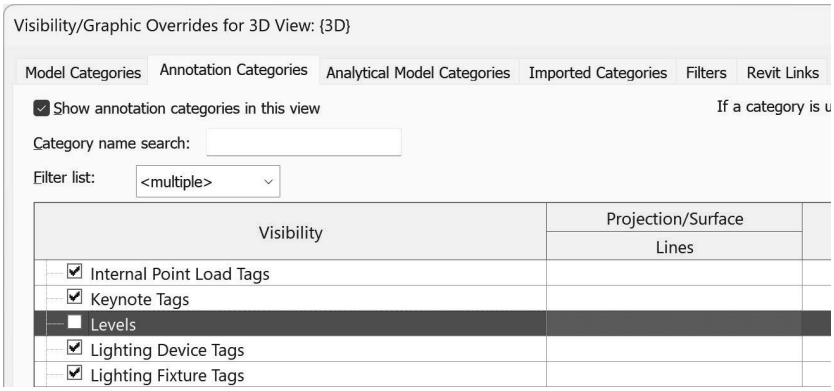


Figure 2–41

7. Type **ZF** to zoom to fit all visible objects.
8. Along the top of the view window, select the *Level 1* view tab to switch back to this view. Both the linked CAD file and linked Revit model display in this view. If needed, type **ZF**.
9. Type **VG** or **VV** to open the *Visibility/Graphic Overrides* dialog box.
10. Select the *Revit Links* tab. Next to **Hotel Pool.rvt**, check the checkbox for **Halftone**, as shown in Figure 2–42.

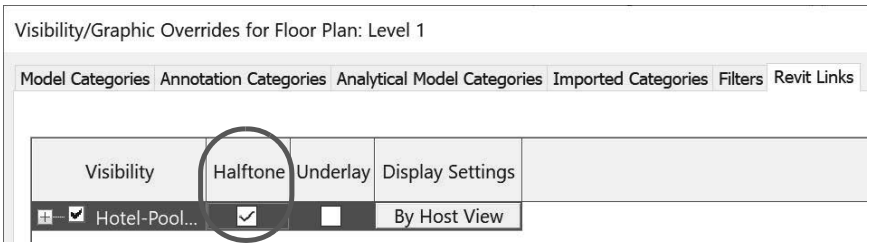


Figure 2–42

11. Select the *Imported Categories* tab and note that the linked **Hotel-Level-1.dwg** is set to *Halftone*. This is because you used **Override Graphics in View>By Category...** to set the file to halftone and did not use **By Element**.

    ***Note:** If you set the DWG to halftone using **By Element**, you would need to select the DWG, right-click, and select **Override Graphics in View>By Element**, then uncheck **Halftone** to turn it off.*

12. Click **OK**.
13. Select the *Level 2* view tab and note that the linked Revit model displays, but is not halftone in this view. This is because the *Visibility/Graphic Overrides* dialog box modifies per view.
14. Save and close the project.

End of practice

2.8 Setting Up Levels

Levels define floors and vertical heights in a project, like the first and second floor. The default template starts with two levels, but you can add as many as needed, including negative heights for things like basements or footings, as shown in Figure 2–43. Levels must be created in an elevation or section view, and once an element is attached to a level, it will move with that level if it changes. Levels can be shown or hidden in the default 3D view, where they can be modified and copied, but not created.

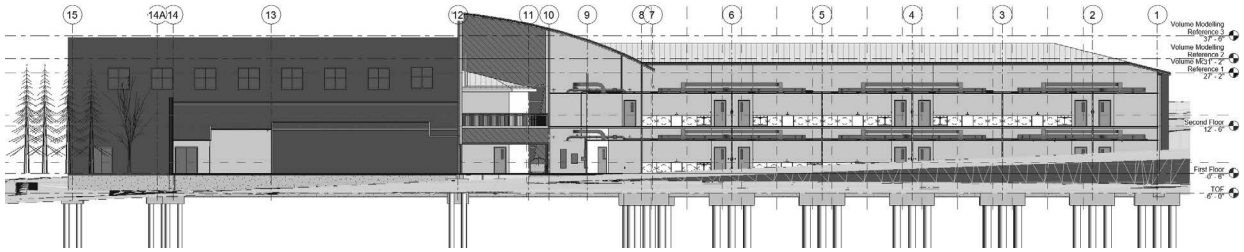


Figure 2–43

There are tools that you can utilize while drawing levels, such as modify tools, sketch tools, and drawing aids like temporary dimensions, preview lines, and alignment lines. You will learn more about these tools in ***Chapter 5 Basic Sketching and Modify Tools***.

How To: Create Levels

1. Open an elevation or section view.
2. In the *Architecture* or *Structure* tab>*Datum* panel, click (Level), or type **LL**.
3. In the Type Selector, set the level head type, if needed.
4. In the *Modify | Place Level* tab>*Plan Views* panel, check **Create Plan View**, as shown in Figure 2–44. If left unchecked, no plan view will be created when a level line is added to the project.

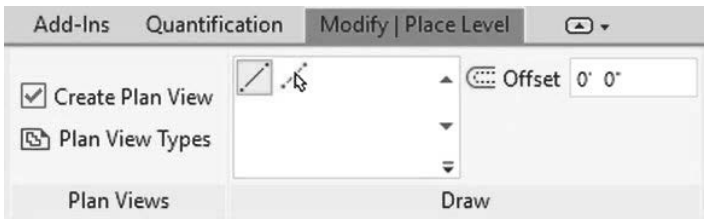


Figure 2–44

5. Click **Plan View Types** to open the *Plan View Types* dialog box (shown in Figure 2–45) to select or unselect the types of views to create when you place the level. When finished, click **OK**.

   Note: *If you have* ***Structure tab and tools*** *turned off in the Options dialog box>User Interface tab, you will not see* ***Structural Plan*** *in the Plan View Types dialog box.*

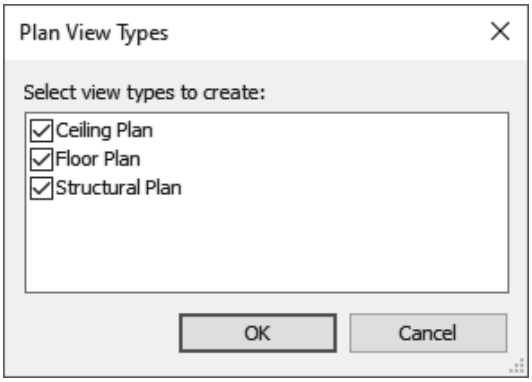


Figure 2–45

6. In the *Modify | Place Level* tab>*Draw* panel, click either (Pick Lines) to select an element or (Line) to sketch a level.

Pick Lines Option

A fast way to create multiple levels is to use the **Pick Lines** option.

1. In the *Modify | Place Level* tab>*Draw* panel, click (Pick Lines).
2. Set the (Offset) and press <Enter>. This ensures you do not place the new level on top of an existing one.
3. Hover over an existing level and verify the offset preview line is in the right location, as shown in Figure 2–46, then click to place the new level.

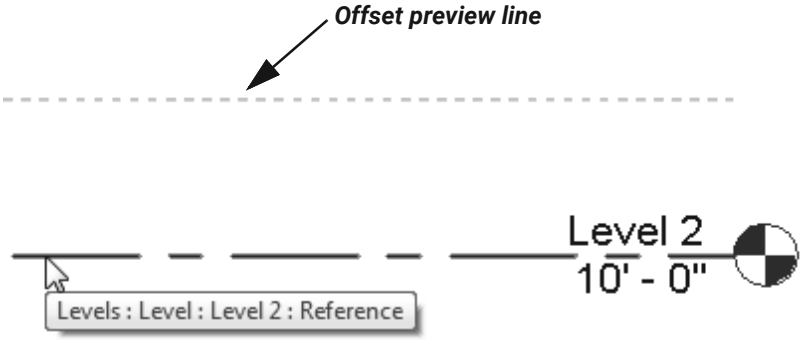


Figure 2–46

Line Option

1. In the *Modify | Place Level* tab>*Draw* panel, click (Line).
2. Sketch the level lines in a consistent direction, either from left to right or right to left. Alignment lines and temporary dimensions can help you place the level line correctly, as shown in Figure 2–47.

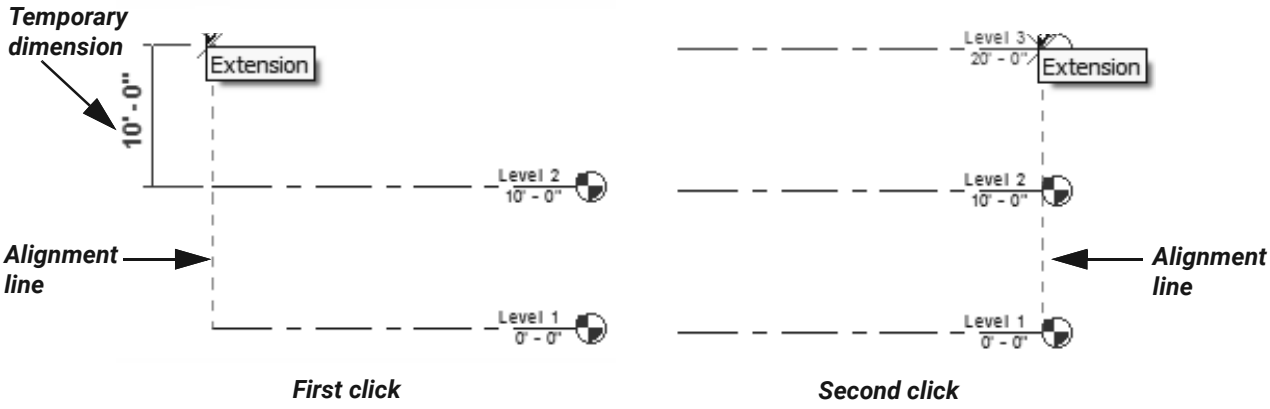


Figure 2–47

- When using the **Line** option, you can set the (Offset) and pick a point along an existing level as the start point. A grayscale preview level line displays to show where the new level will be in reference to the existing level, as shown in Figure 2–48. Click a second point along the existing level to finish the command. The level line becomes permanent.

Note: *Before clicking the second point, if the preview of the level is not in the correct position (i.e., above or below the existing level), press <Spacebar> to toggle the offset of the new level.*

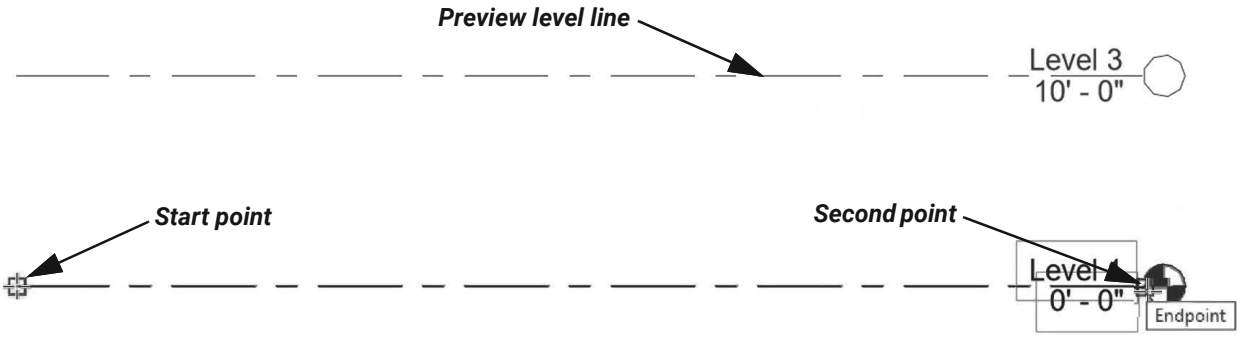


Figure 2–48

- Use tools in the *Modify* panel like (Copy) to duplicate level lines. The level names are incremented but plan views are not created. These are called **reference levels**.
- Level names are automatically incremented as you place them. This automatic numbering is most effective when you use names such as Floor 1, Floor 2, etc. (as opposed to First Floor, Second Floor, etc.). In addition, this makes it easier to find the view in the Project Browser.

Modifying Levels

You can change levels using standard controls and temporary dimensions, as shown in Figure 2–49 to the levels' appearance. You can also make changes to the name and height of the level by selecting on the individual items in the view as well as change these in Properties. You can change just the name of the level in the Project Browser but not the height.

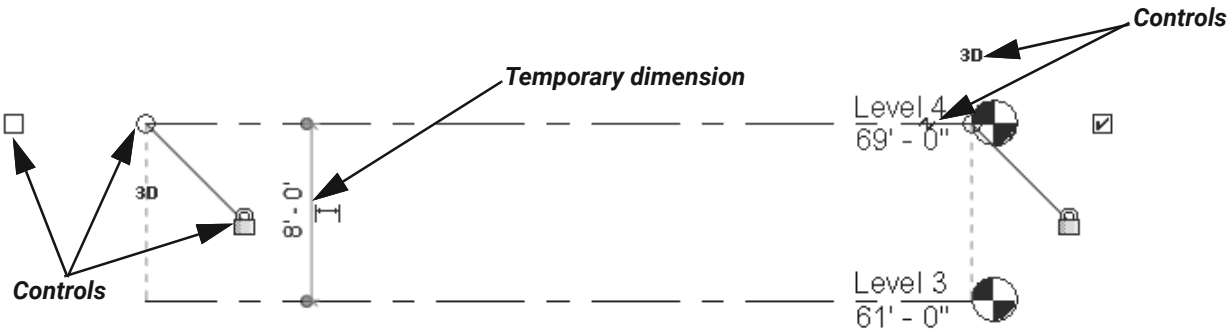


Figure 2–49

- ☑ ☐ (Hide/Show Bubble) displays on either end of the level line and toggles the level head symbol and level information on or off.
- 2D 3D (Switch to 3d/2d extents) controls whether any movement or adjustment to the level line is reflected in other views (3D) or only affects the current view (2D).
- (Modify the level by dragging its model end) at each end of the line enables you to drag the level head to a new location.
- (Create or remove a length or alignment constraint) controls whether the level is locked in alignment with the other levels. If it is locked and the level line is stretched, all of the other level lines stretch as well. If it is unlocked, the level line stretches independent of the other levels.
- Temporary dimensions let you change the height of level lines.
- Click (Add Elbow) to add a jog to the level line, as shown in Figure 2–50. Drag the shape handles to new locations as needed. This is a view-specific change.

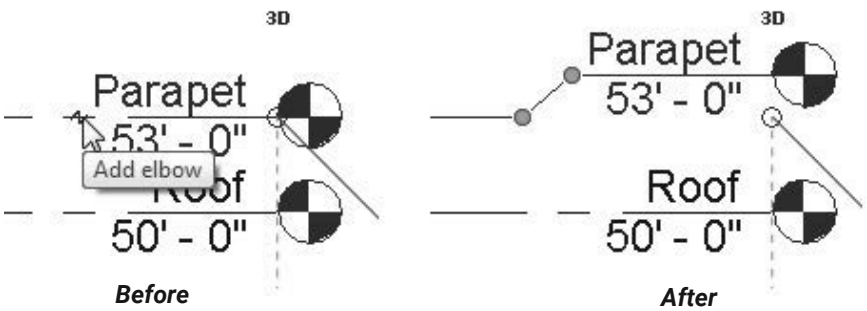


Figure 2–50

How To: Modify a Level's Name and Elevation

1. To change the level name or elevation, double-click on the information next to the level head, or select the level and modify the *Name* or *Elevation* fields in Properties, as shown in Figure 2–51.

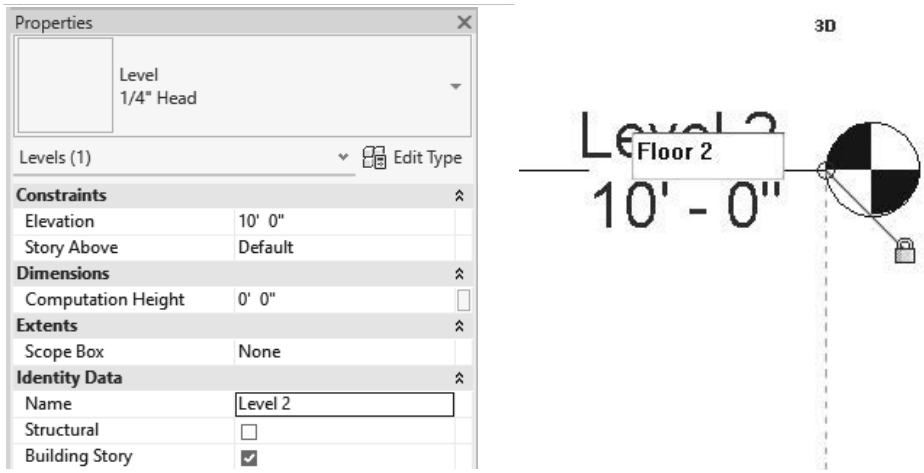


Figure 2–51

2. A *Confirm Level Rename* dialog box displays, prompting you to rename the corresponding views, as shown in Figure 2–52. Click **Yes** if you want to rename the view in the Project Browser.

   - If you change the name in the Project Browser, a *Confirm Plan View Rename* dialog box displays and you are asked if you would like to rename the corresponding level and views.

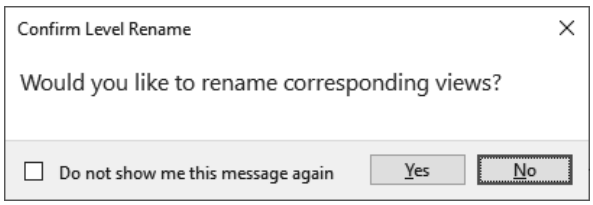


Figure 2–52

Hint: Modifying Measurements

For imperial measurements (feet and inches), the software uses a default of feet. For example, when you type **4** and press <Enter>, it assumes **4'-0"**. For a distance such as 4'-6", you can type any of the following: **4'-6"**, **4'6**, **4-6**, or **4 6** (the numbers separated by a space). To indicate distances less than one foot, type the inch mark (") after the distance, or enter **0**, a space, and then the distance.

- If you delete a level, the views related to that level are also deleted. A warning displays, as shown in Figure 2–53.

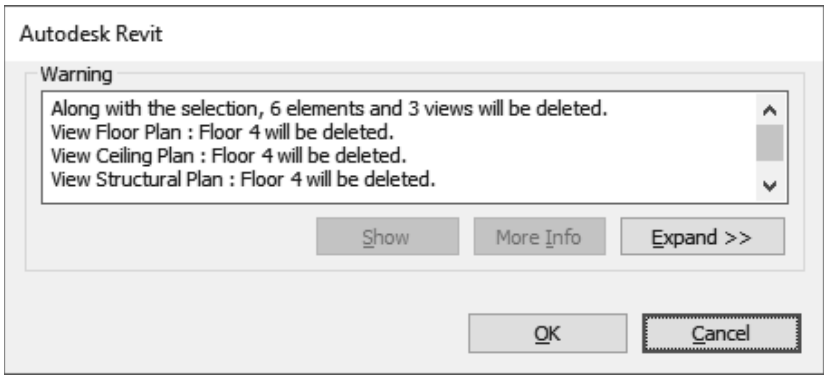


Figure 2–53

Hint: Copying Levels and Grids from Other Projects

Levels and grid lines can be added by drawing over existing levels or grids in an imported or linked file. They can also be copied and monitored from a linked Revit file. Some projects might require both methods.

Creating Plan Views

When you place a level, verify in the contextual tab that **Create Plan View** is selected. There may be instances where you do not need to create plan views for levels that only mark data points, such as the top of a storefront window or the top of a parapet. In these cases, either ensure the **Create Plan View** option is unchecked or copy the level. If needed, you can create a plan view manually. Level heads with views appear in blue, while those without views are black, as shown in Figure 2–54.

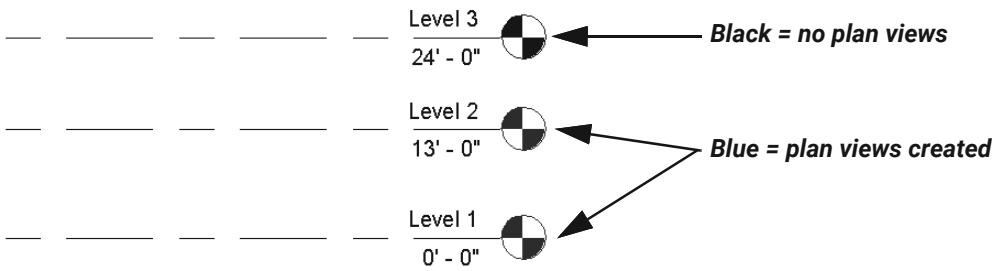


Figure 2–54

How To: Create Plan Views

1. In the *View* tab>*Create* panel, expand (Plan Views) and select the type of plan view you want to create, as shown in Figure 2–55.

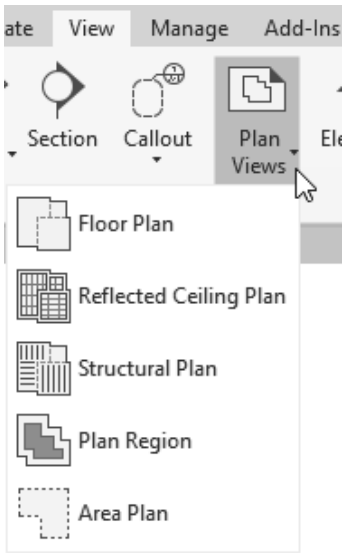


Figure 2–55

2. In the *New Plan* dialog box (shown in Figure 2–56 for a floor plan), select the levels for which you want to create plan views. Hold <Ctrl> to select more than one level.
   - Clear **Do not duplicate existing views** to create a copy of an existing view.

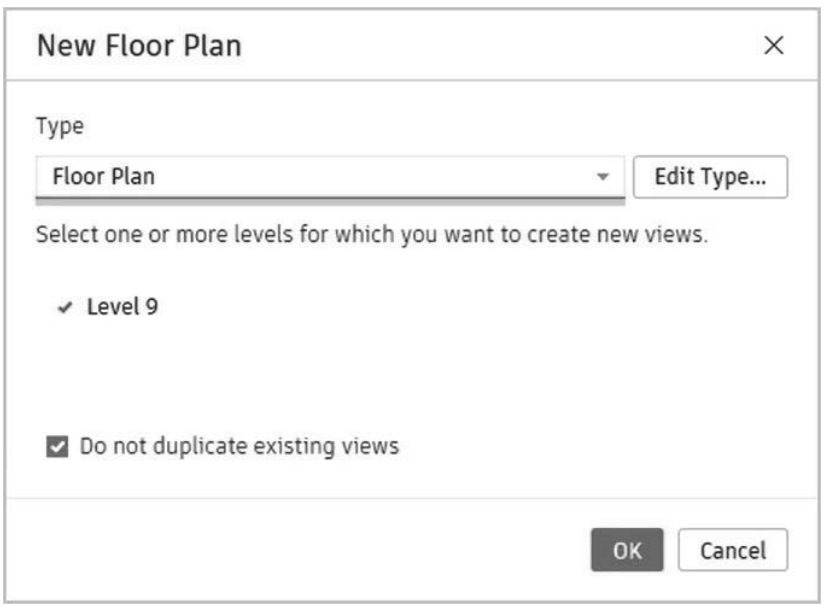


Figure 2–56

3. Click **OK**.

- Once a plan view is made from a level, you can double-click on the level head to open the related floor plan view. You create other plan views similar to creating a floor plan. Ceiling plans are typically created by default when you add a level with a view and have not specified which views to create in the *Plan View Types* dialog box. If you do not want a level to have a ceiling plan, you can right-click on its name in the Project Browser and select **Delete**, as shown in Figure 2–57.

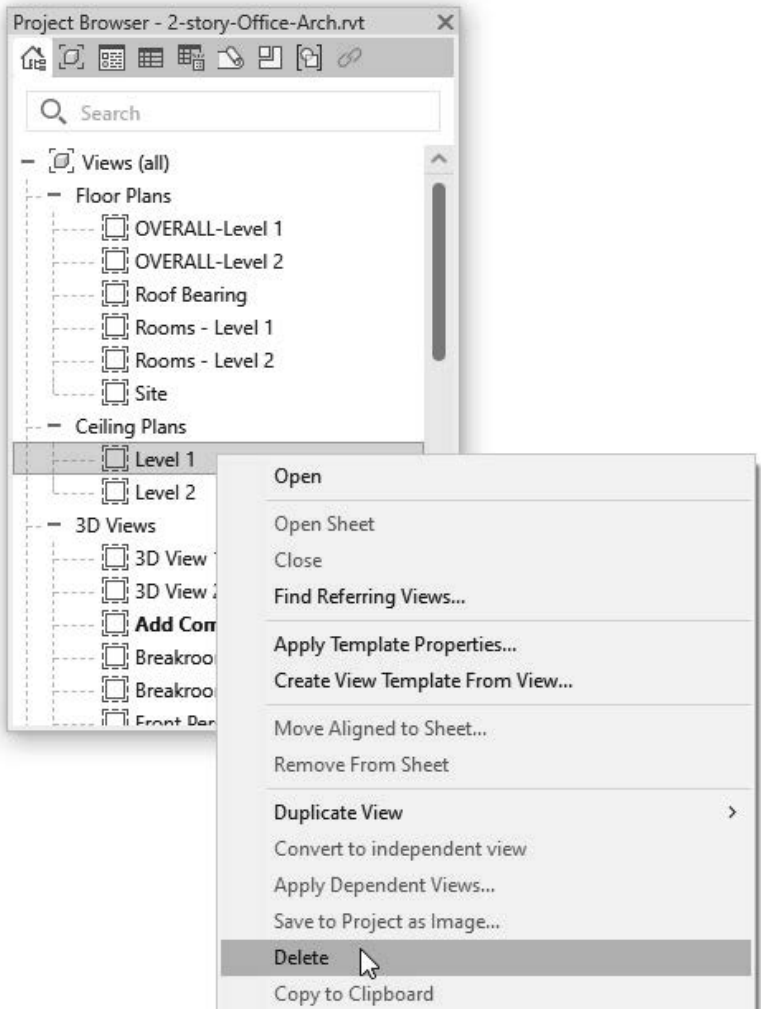


Figure 2–57

Practice 2b
Set Up Levels

Practice Objectives

- Add and modify levels
- Create a plan view.

In this practice, you will set up the levels required in the hotel project, including the floors, top of the footing, basement, and parapet levels. Figure 2–58 shows the completed practice.

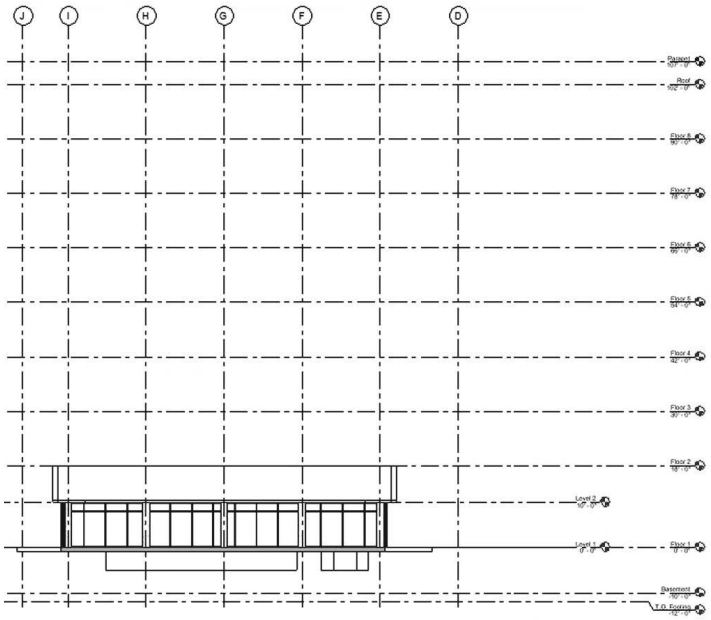


Figure 2–58

1. Open the project **Arch-Levels.rvt** from the practice files folder.
2. In the Project Browser, open the **Elevations (Building Elevation): North** view. You will see your project's **Level 1** and **Level 2** levels, as well as the Level 1 and Level 2 levels and grid lines that are part of the linked Revit file.
3. Select the linked Revit file.
4. In the View Control Bar, expand (Temporary Hide/Isolate) and select **Hide Element**. This toggles off the linked Revit file in the current view.
5. Zoom in on the level heads and names.

6. Slowly click twice on the name *Level 1* and rename it to **Floor 1,** as shown in Figure 2–59. Press <Enter>.

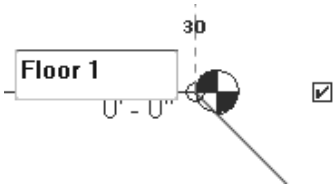


Figure 2–59

7. In the *Confirm Level Rename* dialog box, click **Yes** or press <Y> when prompted to rename the corresponding views and note that in the Project Browser, in the *Floor Plans* section, the view name has changed as well.
8. Repeat the process and rename *Level 2* as **Floor 2**. Press <Enter>. In the *Confirm Level Rename* dialog box, click **Yes** to rename the corresponding views.
9. Click on the height of Floor 2. Change it from **10'-0"** to **18'-0"** and press <Enter>.

   Note: *Instead of typing the hyphen, press <Spacebar> between the feet and inches. When doing this, you do not need to add the symbols for feet or inches as well.*

10. Click (Modify).
11. In the *Architecture* tab>*Datum* panel, click (Level).
12. In the *Modify | Place Level* tab>*Plan Views* panel, check **Create Plan View**, then click **Plan View Types**.
13. In the *Plan View Types* dialog box, uncheck **Structural Plan** to deselect it (so that only **Ceiling Plan** and **Floor Plan** are selected), as shown in Figure 2–60. Click **OK**.

    Note: *If you have **Structural tabs and tools** turned off in the Options dialog box>User Interface tab, you will not see **Structural Plan** in the Plan View Types dialog box.*

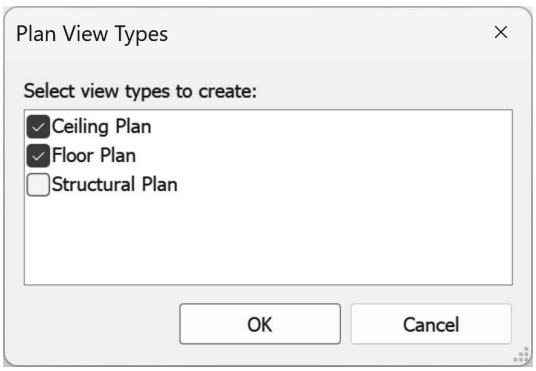


Figure 2–60

14. In the *Modify | Place Level* tab>*Draw* panel, click (Pick Lines). In the *Modify | Place Level* tab>*Draw* panel, set the (Offset) to **12'-0"** and press <Enter>.

15. Hover the cursor over the level line of **Floor 2** and move the cursor slightly upward until you see the dashed preview line display above the **Floor 2** level, as shown in Figure 2–61. Click to create the new level **Floor 3**.

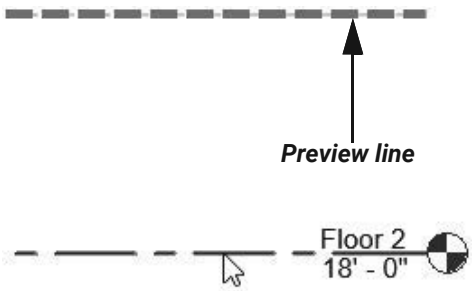


Figure 2–61

16. Create additional levels until there are a total of nine levels, all with the *Offset* of **12'-0"**.

    Note: *While in the* ***Level*** *command, you can press and hold your mouse wheel down and move the mouse to pan in the view.*

17. Click (Modify), then zoom to the **Floor 9** level so that you can see the entire level line and select it.
18. Rename *Floor 9* as **Roof** and press <Enter>. (Rename the corresponding views.)
19. Click (Modify).
20. Start the **Level** command again.
21. In the *Modify | Place Level* tab>*Draw* panel, click (Line).
22. In the *Plan Views* panel, uncheck the **Create Plan View** option. (This level does not need a plan view.)
23. In the *Draw* panel, set the (Offset) to **5'-0"** and press <Enter>.
24. Create one additional level above the **Roof** level by clicking the far-left end of the Roof level line as the start point, then clicking the right-hand endpoint of the Roof level head as the second point, as shown in Figure 2–62.

    Note: *You will see a grayed-out preview of Floor 10. Once the second point is selected, Floor 10 becomes a level.*

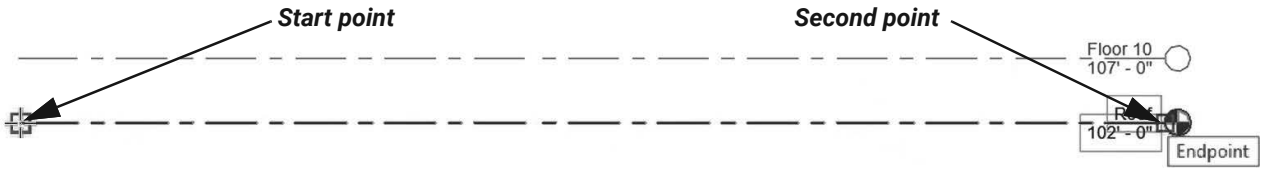


Figure 2–62

25. Click (Modify).

26. Rename the top level as **Parapet**.

Note: *You do not get the request to rename corresponding views because you unchecked* ***Create Plan View****, so no view was created when the level was placed in the view. The Parapet level head is black, as shown in Figure 2–63, as opposed to blue like the rest of the levels. A black level head means that there are no views created for this level.*

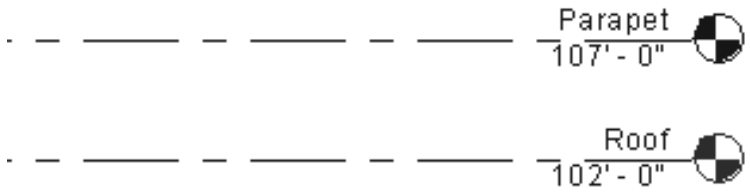


Figure 2–63

27. Click (Modify).

28. Zoom and pan to the Floor 1 level.

29. Select the Floor 1 level line. In the *Modify | Levels* tab>*Modify* panel, click (Copy).

30. In the *Modify | Copy* tab>*Copy* panel, verify **Multiple** is selected, as shown in Figure 2–64.

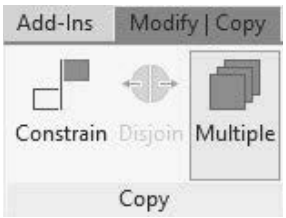


Figure 2–64

31. In the view, click Floor 1's level line for the copy start point. For the second point, click below Floor 1 (the distance does not matter right now as you will set this in the next few steps).

32. Click again below the level you just placed to make another new level. There should now be two new levels below Floor 1.

33. Click (Modify).

34. Select the new level below Floor 1. In Properties, in the *Identity Data* section, type **Basement** next to *Name*. In the *Constraints* section, set the *Elevation* to (negative) **-10'-0"**, as shown in Figure 2–65.

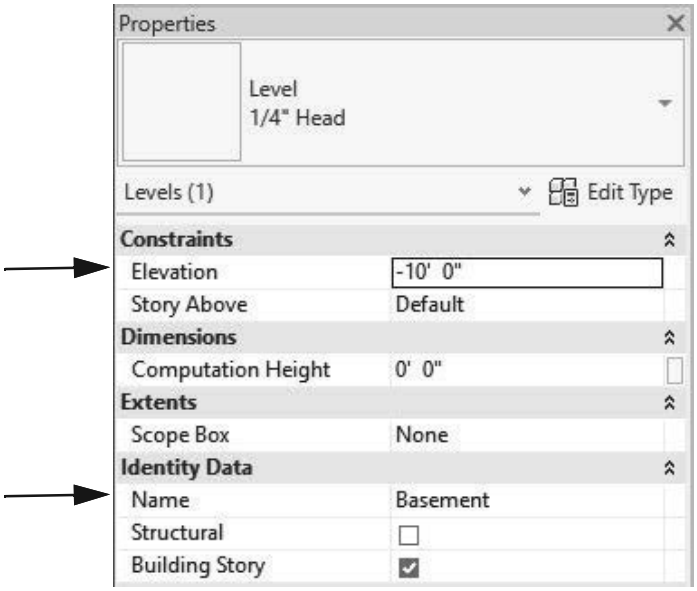


Figure 2–65

35. In Properties, click **Apply**, or move your cursor into the drawing area to apply the changes.

36. Rename the level below Basement to **T.O. Footing** and set the *Elevation* to (negative) **-12'-0"**, as shown in Figure 2–66.

37. Click (Modify).

38. The **Basement** and **T.O. Footing** level names are overlapping in the view. Select the **T.O. Footing** level and click the (Add elbow) control between the level name and height. Use the **Drag** circle grips (shown in Figure 2–66) to adjust the level line so it does not run through the text.

    Note: *Zoom in if you cannot see the* ***Add elbow*** *control on the level line.*

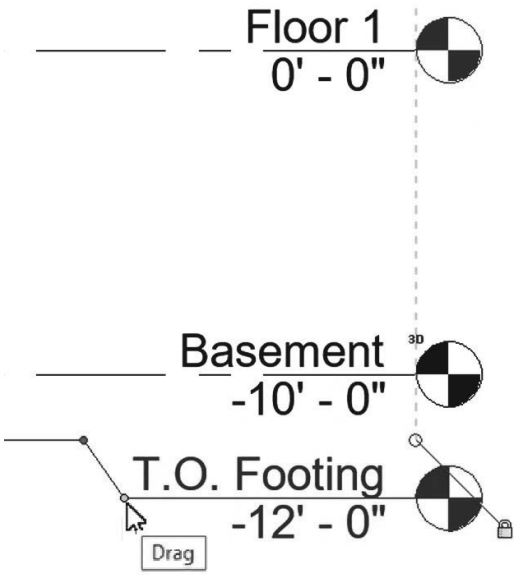


Figure 2–66

39. In the View Control Bar, select (Temporary Hide/Isolate) and select **Reset Temporary Hide/Isolate**.
40. Select the Floor 1 level line, then select the (Drag the extents of the level in the model) control and drag the level over until it is far enough away from the linked model levels. The other levels will follow because of the alignment constraint. If some levels do not follow, drag them to meet up with the others.
41. Zoom out to display the entire project.

    Note: *Because the Basement and T.O. Footing were copies of Floor 1, you need to create floor plan views. Note that these two views' level heads are black as opposed to the rest of the levels that have views created that have blue level heads.*

42. In the *View* tab>*Create* panel, expand (Plan Views) and select (Floor Plan).

43. In the *New Floor Plan* dialog box, select **Basement** and **T.O. Footing**, as shown in Figure 2–67. (Hint: Use <Ctrl> to select the two levels.)

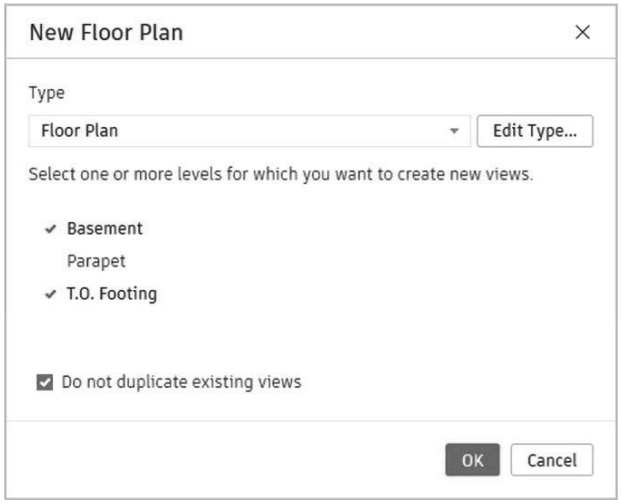


Figure 2–67

44. Click **OK**. The floor plan views now show in the Project Browser and the T.O. Footing view (or the last view to be created) becomes the active view.
45. Switch back to the **North** elevation view and note that the **Basement** and **T.O. Footing** level heads are now blue.
46. To create a new ceiling plan view, in the *View* tab>*Create* panel, expand (Plan Views) and select (Reflected Ceiling Plan).
47. In the *New RCP* dialog box, select **Basement** and click **OK**.
48. Select the *Floor 1* view tab to make it the active view.
49. Close any open views by clicking (Close Inactive Views) in the Quick Access Toolbar.
50. Open the **Default 3D** view.
51. Because you hid the levels when linking in the models, you need to unhide them. In the View Control Bar, click (Reveal Hidden Elements).
52. Using your mouse wheel, zoom out so you can see the level lines.
53. Select one level and in the *Modify | Levels* tab>*Reveal Hidden Elements* panel, click (Unhide Category).
54. In the View Control Bar, click (Close Reveal Hidden Elements).
55. In the Project Browser, select the **Roof** view in the *Ceiling Plans* section. Right-click and select **Delete** to delete the view.
56. Save and close the project.

End of practice

2.9 Creating Grids

Grids are annotation elements that display in most views, including plan, ceiling, section, elevation, and 3D views. They help organize your design when developing a layout and describe the pattern and location for columns, as shown in Figure 2–68. Grids can be multi-segmented, arcs, or straight lines, and they can be hidden in the view if needed. Each line or arc in a grid is a separate entity and can be placed, moved, and modified individually. Grids cannot be drawn in a 3D view but grids can be displayed in a 3D view, perspective view, or in a 3D view with a selection box, and when you click on a grid, the surface contour displays.

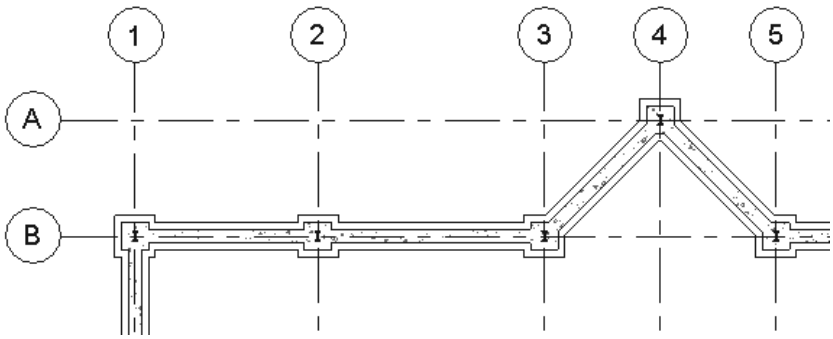


Figure 2–68

How To: Create a Grid

1. In the *Architecture* or *Structure* tab>*Datum* panel, click (Grid), or type **GR**.
2. In the Properties, in the Type Selector, select the grid type, which will control the size of the bubble and the linestyle.
3. In the *Modify | Place Grid* tab>*Draw* panel (shown in Figure 2–69), select the sketch tool you want to use.
4. Depending on the tool selected, you can enter a value for (Offset), or to set the radius, click (Radius) and enter the radius value. To toggle radius off, click (Radius) again.

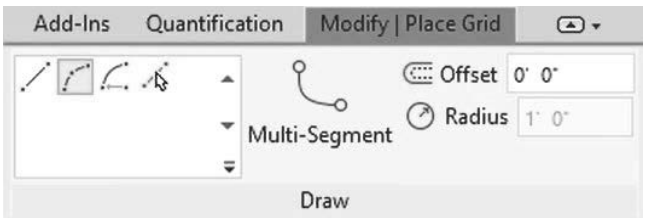


Figure 2–69

5. Start drawing grid lines. Grids can be sketched at any angle, but you should ensure that all parallel grids are sketched in the same direction (e.g., from left to right or from bottom to top).

How To: Create a Multi-Segment Grid

1. In the *Architecture* or *Structure* tab>*Datum* panel, click (Grid), or type **GR**.
2. In the *Modify | Place Grid* tab>*Draw* panel, toggle on (Multi-Segment). You are put into Edit Sketch mode.
3. In the *Modify | Edit Sketch* tab>*Draw* panel, select a sketch tool, as shown in Figure 2–70.
   - Depending on the tool selected, you can set a value for an (Offset), or to set the radius, click (Radius) and enter the radius value.
   - You can toggle (Chain) on or off, as shown in Figure 2–70 toggled on with the **Line** tool selected.

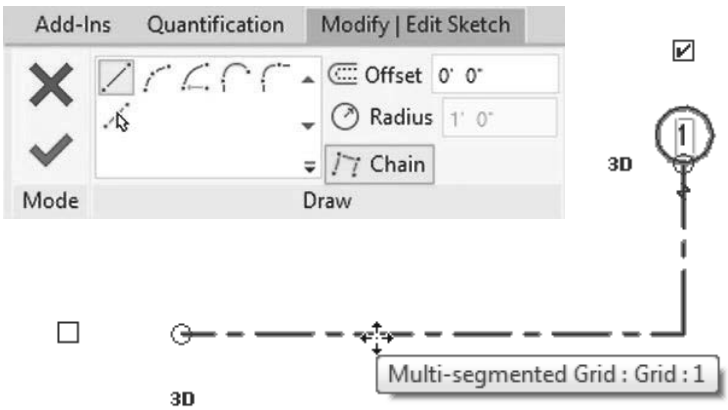


Figure 2–70

4. When finished, click (Finish Edit Mode) in the *Mode* panel to complete the command. Alternatively, if you need to cancel the Edit Sketch mode, click (Cancel Edit Mode). In the *Sketch Discarded* dialog box, read the message and click **Yes**.

How To: Turn On or Off Grids in 3D

1. Open a 3D or perspective view and click (Modify) to verify nothing is selected.
2. In Properties, click **Edit...** next to *Show Grids*, as shown in Figure 2–71.

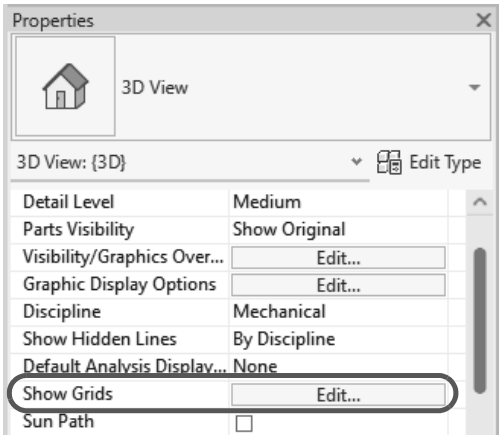


Figure 2–71

3. In the *Show Grids* dialog box, select the level(s) that you want the grids to display at in the 3D view, as shown in Figure 2–72.

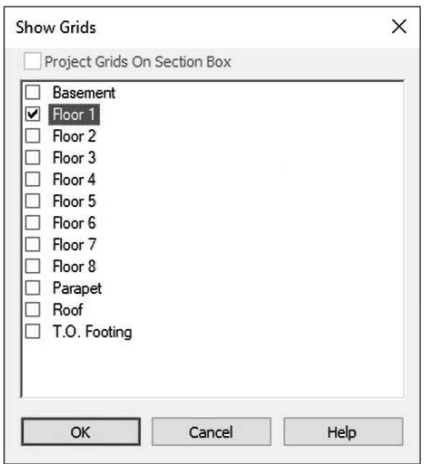


Figure 2–72

4. Click **OK**.

How To: Display Grids on Section Box

1. To display the grids on the bottom of a section box, in Properties, verify that **Section Box** is selected and click **Edit...** next to *Show Grids*.

2. In the *Show Grids* dialog box, select only the **Project Grids On Section Box** option, as shown in Figure 2–73, and click **OK**. Note that you can display the grids at a specific level as well as project the grids on the section box by also selecting a level in the *Show Grids* dialog box.

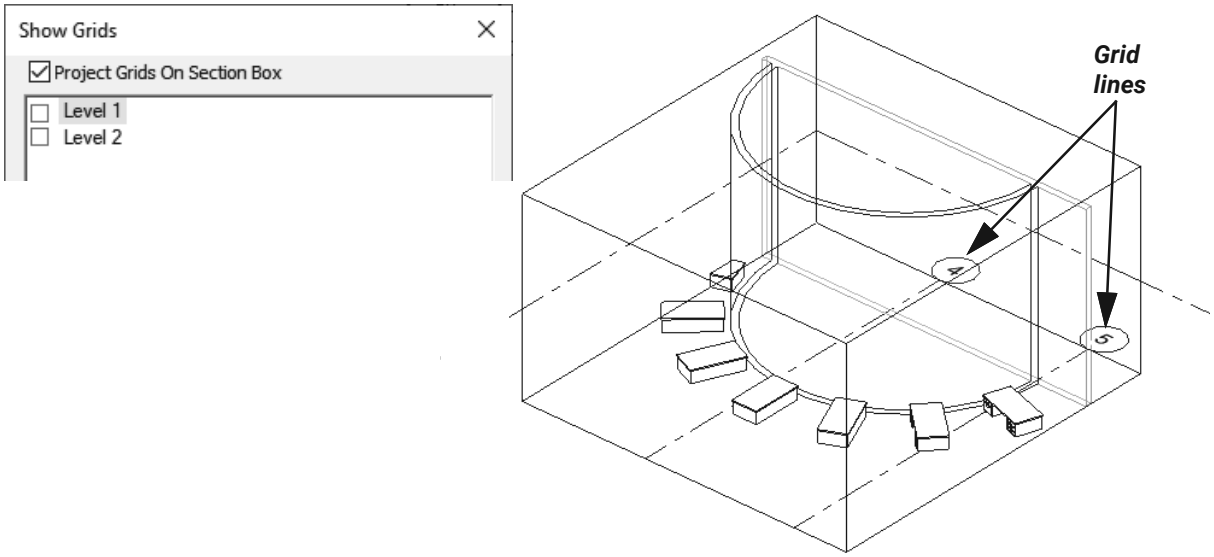


Figure 2–73

Modifying Grid Lines

Grid lines, like levels, are datum elements that you can adjust using controls, alignments, and temporary dimensions in the view, as shown in Figure 2–74. You can change the type using the Type Selector, and grid numbers can be letters, numbers, or a mix of both. To modify a grid number, double-click the bubble and type the new value, or change the *Name* in Properties. In MEP disciplines, grids serve as a reference guide to help align MEP elements with the architectural and structural models.

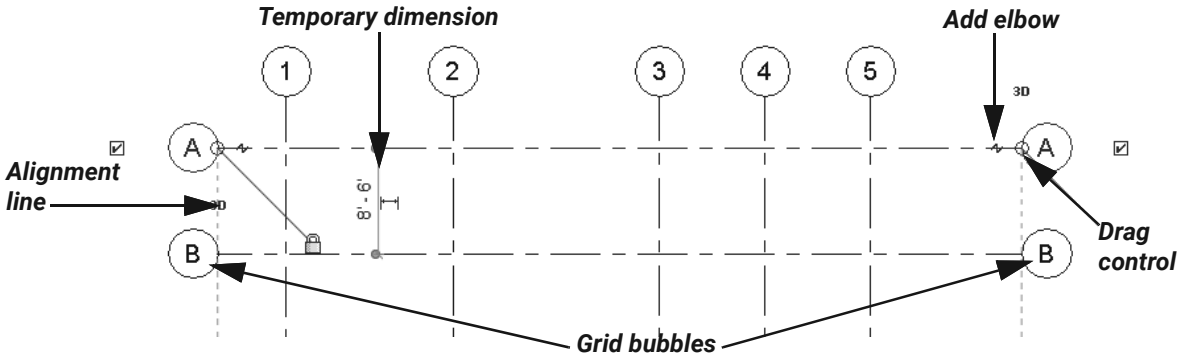


Figure 2–74

To modify the length of the grid line, select the grid line and click and drag the ⊕ (Modify the grid by dragging its model end) control to the new location, as shown in Figure 2–75.

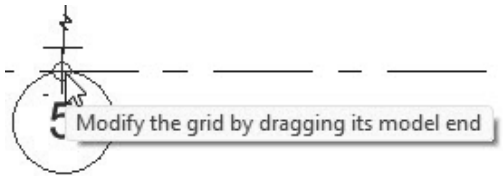


Figure 2–75

In 3D views, grid lines can be edited just like in plan views – you can rename them, adjust their length using the drag control, and change the spacing by modifying temporary dimensions. To change how the grid symbols appear at each end of the grid line, use the *Type Properties* dialog box, where the first pick point is *End 1* and the second is *End 2*, as shown in Figure 2–76.

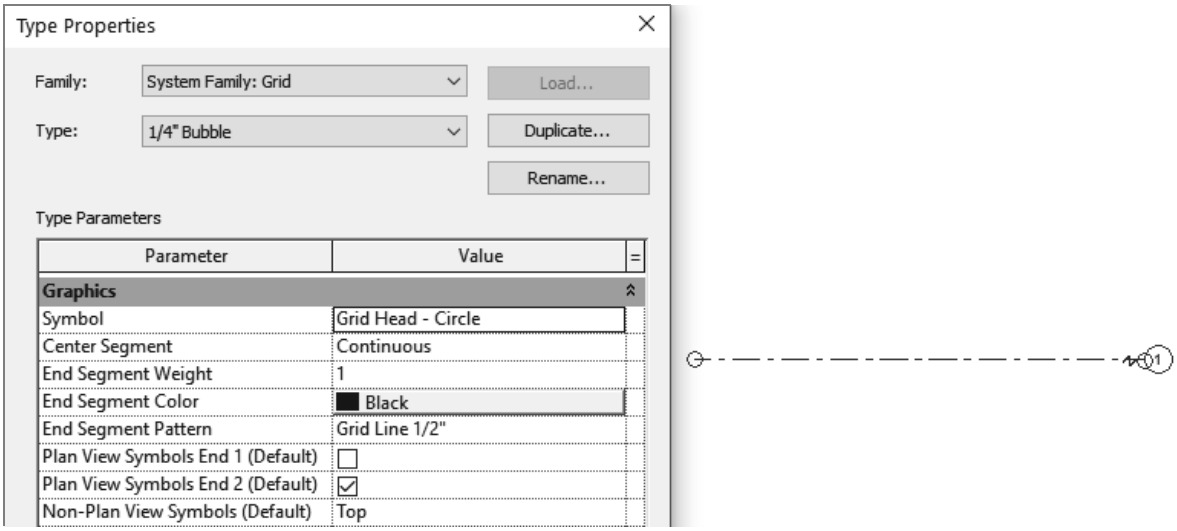


Figure 2–76

Hint: Propagating Datum Extents

If column grids do not display in a view, this might be due to adding a level after the grid lines were added. To display the grid lines in plan views, select the grid lines in a view in which they are displayed. In the *Modify | Grids* tab>*Datum* panel, click (Propagate Extents). In the *Propagate datum extents* dialog box (shown in Figure 2–77), select the views to project the grid lines to.

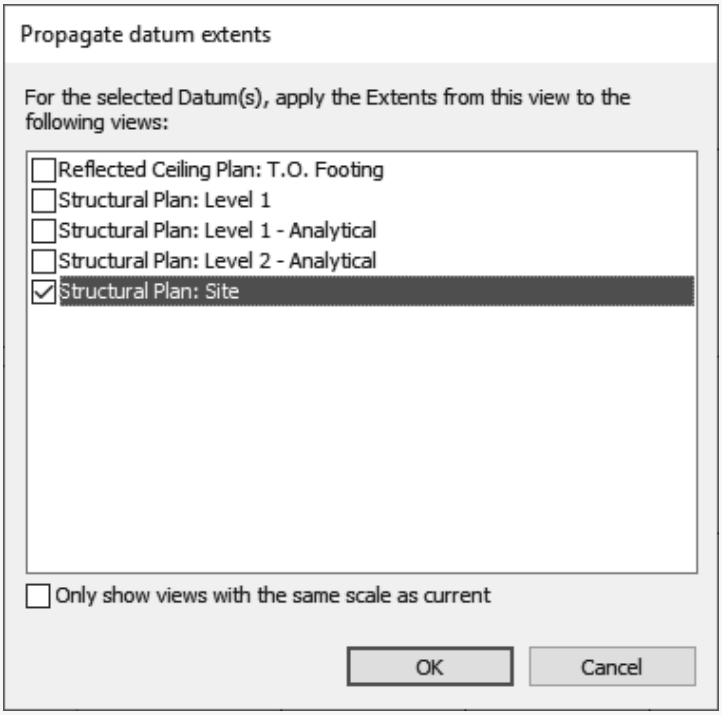


Figure 2–77

- This also works for levels.
- (Propagate Extents) is particularly useful to make grid lines display the same in all views.

Practice 2c
Add Grids

Practice Objectives

- Add and modify grid lines.
- Modify grid properties in a 3D view.

In this practice, you will place grid lines using the linked CAD model as a guide. You will then turn grid lines on in a 3D view.

1. Open the project **Arch-Grids.rvt** from the practice files folder.
2. From the Project Browser, open the **Floor Plans: Floor 1** view.
3. Select the linked Revit file with the pool (**Hotel-Pool.rvt**). In the View Control Bar, expand (Temporary Hide/Isolate) and select **Hide Element**.
4. In the *Architecture* tab>*Datum* panel, click (Grid).
5. In the *Modify | Place Grid* tab>*Draw* panel, click (Pick Lines).
6. Select grid line **A** from the linked DWG file to create a grid line in the Revit model.
7. Click (Modify) to end the command.
8. Zoom in to the new grid line bubble and click inside of it. Type **A** and press <Enter>.

   Note: *If you zoom in to the bubble and click on the number or letter, you can change the value without exiting the command.*

9. Start the **Grid** command again and use **Pick Lines** to continue selecting the vertical grid lines displayed in the imported file. The letters automatically increment.
10. Click to place the first horizontal grid line, then click (Modify). Change the letter in the bubble to **1** and press <Enter>.
11. Start the **Grid** command again and use **Pick Lines** to continue selecting the horizontal grid lines. The numbers automatically increment.
12. Click (Modify) to end the command.
13. Select the CAD file (**Hotel-Level-1.dwg**). In the View Control Bar, expand (Temporary Hide/Isolate) and select **Hide Element**.

14. Only the grids display, as shown in Figure 2–78.

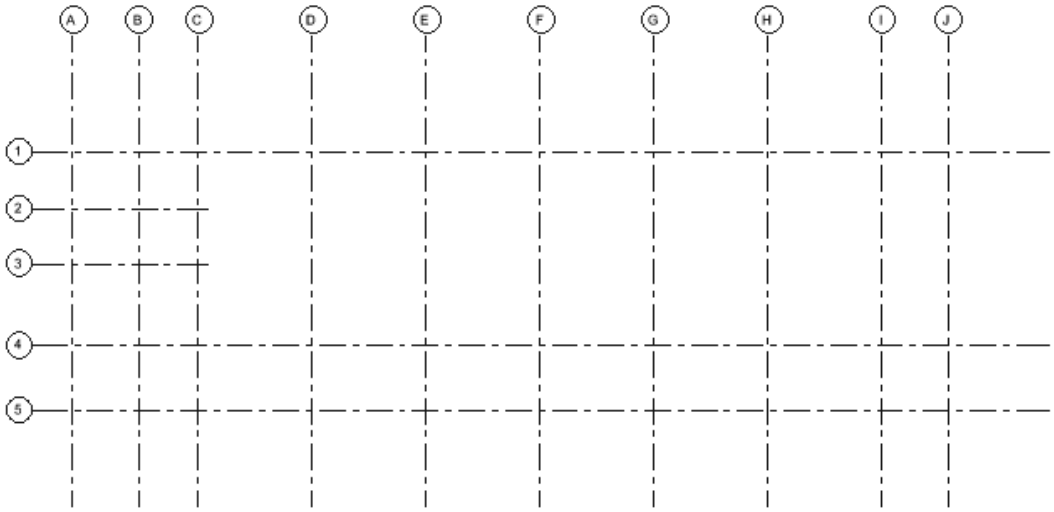


Figure 2–78

15. In the View Control Bar, select (Temporary Hide/Isolate) and select **Reset Temporary Hide/Isolate**. The imported DWG and linked RVT now display.

16. Open the default 3D view by selecting the view tab at the top of the view. Note that you do not see the grids.

17. Click (Modify) to verify nothing is selected in the view.

18. In Properties, in the *Graphics* section, click **Edit...** next to *Show Grids*.

19. In the *Show Grids* dialog box, select **Floor 1** and click **OK**.

20. The grids now display. Select the linked Revit file with the pool (**Hotel-Pool.rvt**).

21. In the View Control Bar, expand (Temporary Hide/Isolate) and select **Hide Element** to see the grids unobstructed as shown in Figure 2–79.

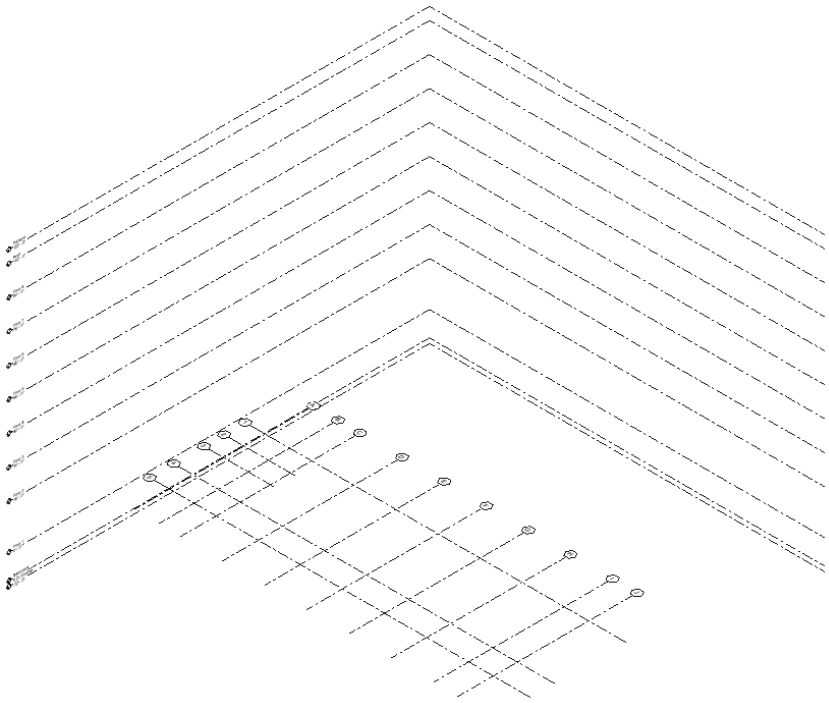


Figure 2–79

22. Select one of the grid lines. In Properties, click **Edit Type**.
23. In the *Type Properties* dialog box, in the *Graphics* section, check the checkbox next to **Plan View Symbols End 1 (Default)**.
24. Click **OK**. There are now grid bubbles on both ends of the grid line.
25. Click (Modify) to deselect the grid line.

26. Zoom in to grid lines 2 and 3. Select grid line **2** and uncheck the checkbox to turn off the grid bubble that is inside the building area, as shown in Figure 2–80.

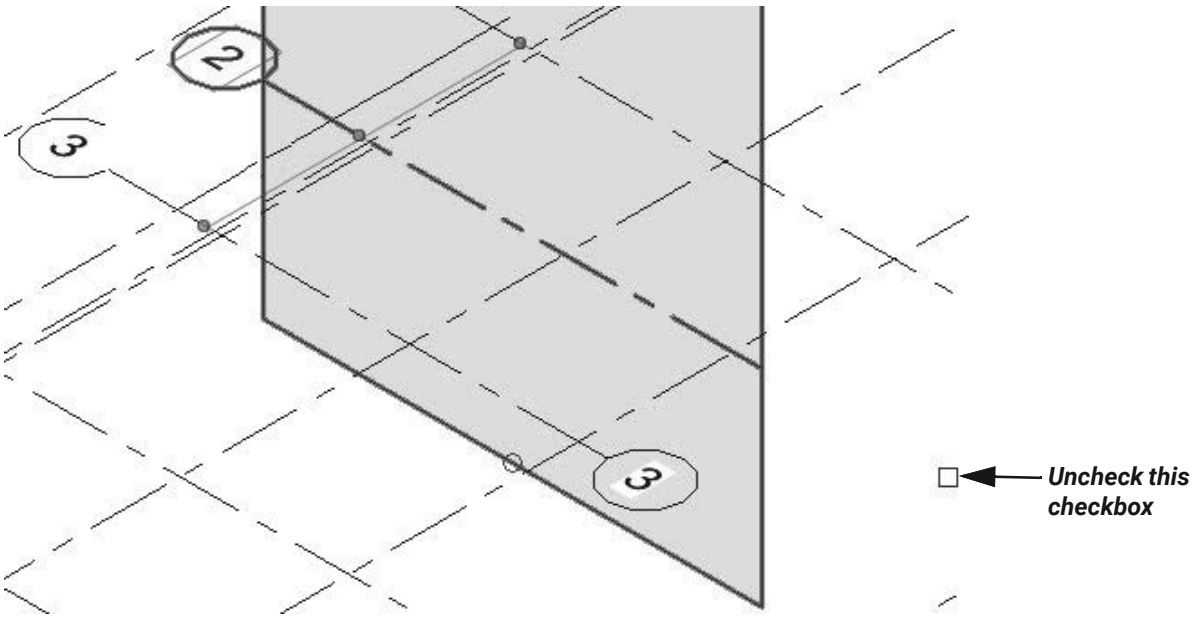


Figure 2–80

27. In the View Control Bar, select (Temporary Hide/Isolate) and select **Reset Temporary Hide/Isolate**.

28. Save and close the project.

End of practice

Chapter Review Questions

1. What type of view do you need to be in to add a level to your project?

a. Any 3D view.

b. As this is done using a dialog box, the view does not matter.

c. Any plan view.

d. Any section or elevation view.

2. How do you line up grid lines that might be different lengths, as shown in Figure 2–81?

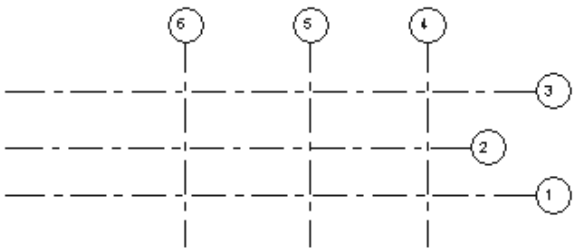


Figure 2–81

a. Delete and redraw the grid lines.

b. Select the grid line and use the drag control to line up with the other grid lines.

c. Select the grid line, right-click, and select **Auto-Align**.

d. In Properties, change the *Length* to get them into position.

3. Grids can be displayed in a 3D view.

a. True

b. False

4. Which of the following types of CAD formats can you import into Revit? (Select all that apply.)

a. .DWG

b. .XLS

c. .SAT

d. .DGN

5. To modify linked CAD files, you need to open what dialog box?

a. Type Properties

b. Link CAD

c. Manage Links

d. Insert from File

6. When linking a Revit model, what should be done to keep the linked model from moving?

a. Lock the model.

b. Pin the model.

c. Center the model.

d. Coordinate the model.

7. When creating a new level, you have to change all corresponding views.

a. True

b. False

8. Where can you change a level's name?

a. In the View Control Bar.

b. In a plan view by clicking on the level.

c. In the Project Browser, in Properties, or in an elevation view by clicking on the level's name.

d. You cannot change the name after the level has been placed in the view.

9. If imported with the **Current view only** option selected, you can set the imported DWG to be in the foreground or background throughout the project's life cycle.

a. True

b. False

Command Summary

Button	Command	Location
	**Grid**	• **Ribbon:** *Architecture* tab>*Datum* panel • **Shortcut:** GR
	**Import CAD**	• **Ribbon:** *Insert* tab>*Import* panel
	**Import PDF**	• **Ribbon:** *Insert* tab>*Import* panel
	**Level**	• **Ribbon:** *Architecture* tab>*Datum* panel • **Shortcut:** LL
	**Link CAD**	• **Ribbon:** *Insert* tab>*Link* panel
	**Link PDF**	• **Ribbon:** *Insert* tab>*Link* panel
	**Link Revit**	• **Ribbon:** *Insert* tab>*Link* panel
	**Manage Links**	• **Ribbon:** *Insert* tab>*Manage* panel or *Manage* tab>*Manage Project* panel • **Ribbon:** (with link selected) *Modify | RVT Links* tab>*Link* panel
	**Multi-Segment (Grid)**	• **Ribbon:** *Modify | Place Grid* tab>*Draw* panel
	**Offset**	• **Ribbon:** *Modify | Place Level* or *Modify | Place Grid* tab>*Draw* panel • **Ribbon:** *(Multi-Segment) Modify | Edit Sketch* tab>*Draw* panel
	**Propagate Extents**	• **Ribbon:** *Modify | Grids* or *Modify | Levels* tab>*Datum* panel
	**Radius**	• **Ribbon:** *Modify | Place Grid* tab>*Draw* panel
	**Temporary Hide/Isolate**	• **View Control Bar**