

REVIT®

ARCHITECTURE 2008

## Revit Architecture 2008 Feature Summary

This Feature Summary provides an overview of the new functionality in Revit® Architecture 2008 software.

Here are the main themes of the enhancements that were made on Revit Architecture 2008:

- **Workflow and Usability**
  - Groups Workflow Improvements
  - Links Improvements
  - Dependent Views for Split Drawings
  - Visibility Control per Element or category and the Reveal Mode
- **Enhanced Functionality**
  - Color Coded Plans
  - Graphic Overrides per Element and Category per View
  - Transparent Fill Patterns
  - Masking Tool
  - Annotation Improvements
  - Slabs and Roofs shape editing
- **Interoperability**
  - Improved interoperability with Autodesk® 3ds Max®/Autodesk® VIZ applications
  - DWF™ sheet size improvements
- **Quality**
  - Bug fixes, stability and performance improvements
- **Compatibility**
  - File format compatibility with Revit® Structure 2008 and Revit® MEP 2008

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## ***Graphic and Visual Control***

### **Element and Category graphic overrides**

#### **Overriding Visibility and Graphic Display of Individual Elements**

You can override visibility and graphic display of individual element instances in a project view.

#### **Overriding Cut and Surface Lines and Patterns**

In the Visibility/Graphics dialog, you can now override cut and surface lines and patterns for model categories. You will also be able to preview the colors and patterns with which certain category has been overridden.

#### **Applying Transparency to Faces of Model Elements**

Each Revit element has a new “Transparency” property. This allows the element to stay visible and yet allow for elements behind it to be visible.

### **Element and Category visibility control**

#### **Permanent Hide of Elements or Categories in a View**

You can hide individual elements or categories of elements in a view. When you hide an element that is used as a reference for a tag or dimension, the tag or dimension is also hidden. Hiding a revision cloud does not affect the revision table. Hidden elements can be revealed with the new Reveal Mode and unhidden in a view.

#### **Reveal Mode**

Hidden elements can be revealed with the new Reveal Mode functionality. This mode will allow visibility of both temporary and permanently hidden elements. When activated, a magenta border on the draw screen indicates the reveal mode active state and all hidden elements appear in strong color (magenta for permanently hidden and cyan for temporary hidden). The reveal mode allows adding or removing elements from the selection on the fly.

#### **Temporary Hide/Isolate Enhancements**

A cyan border displays around the drawing area to indicate when you are in temporary hide/isolate mode. In addition, when you temporarily hide an element or element category, you can make it permanent.

### **New Filter Dialog**

Formerly, filters were configured in several different and separate dialog boxes of which Revit Architecture 2008 has combined them into one single dialog box. A list of all filters in the project is shown on the left side of the box. If an existing filter is chosen from that box, the category box will display all categories that are selected for that particular filter. You can modify any filter’s categories and/or rules through this box, as well as rename, delete or create new filters.

## ***Project Views***

### **Dependent views – split big floor plates**

You can create multiple duplications of a view that are dependent on the original View and reflect not only all model changes of the original view but also all annotation changes. All copies, known

as dependent views, remain synchronous with the original view and all other dependent views so that when a change is made in one view, it is reflected in all views. Creating duplicate dependent copies of a view will be useful for cases with extensive floor plate or placing view on multiple sheets.

## Matchlines

Dependent views display in the Project Browser under the primary view. You can insert matchlines (to indicate where the view is split) and view references (to link views) in dependent views.

## Annotation Crop Region

In addition to the model crop region, there is an annotation crop region for all graphical project views except perspective 3D views. Annotation elements are fully cropped when the annotation crop region touches any portion of the element. The annotation crop is by default checked OFF, you can turn it ON in the Visibility Graphics of a view.

## Panning View on a Sheet

You can pan views within their crop boundary once they have been added to a sheet. Activate the view on a sheet and find the pan option in the context menu. You can move the visible portion of the view within the crop regions that defines it while the crop region does not move.

## Rotating Viewports on a Sheet

When you select a viewport on a sheet, the rotate options are now available on the Options Bar.

## Section Box Enhancements

In Revit Architecture 2008, when you enable a section box in a 3D view it is always visible in the view. After you enable the section box, you can modify its extents from other views, for example a plan or elevation view. Section box extents are no longer cropped by the view's crop region.

## Legend Views

You can now enter the legend name and view scale when you begin creation of a new legend view.

## Groups

### Group Editor

The workflow for creating and editing groups has been improved. When you create or edit a group, you use the group editor. In addition, while you are creating or editing a group, you can use the element creation tools on the Design Bar to place additional elements (such as a window or door). Elements that you place while in group edit mode are automatically added to the respective group.

When you edit a group using the group editor, the background color of the drawing area is pale yellow, and the group editor toolbar initially displays in the upper left corner. The pale yellow background color is ignored when you print from the group editor.

## Loading a Revit Project or Family as a Group

You can load Revit project files (.rvt) into a project as a group, and you can load Revit family files (.rfa) into the Family Editor as a group.

## Editing Groups Externally

You can now edit groups independently of a project or family and then load (or reload) the group into the project or family.

## Excluding Elements from Group Instances

In this release you can exclude elements from a group instance. This may be useful when, for example, you place a hotel unit group defined with 4 bounding walls adjacent to a similar unit and the walls overlap. You can exclude the overlapping wall from the group instance. If that wall is hosting any elements (for example, a wall hosted tub or a door) Revit Architecture attempts to rehost those elements on the remaining wall.

## Converting Groups to Linked Revit Models

You can convert groups to linked Revit models. You can also convert linked Revit models to groups.

## Saving Groups

You can save a group as a Revit project file (.rvt) if you are working in a project, or a Revit family file (.rfa) if you are working in the Family Editor. Since groups are saved as RVT or RFA files, they can be edited independent of the project they are loaded in. Groups are no longer saved as Revit group files (.rvg). You can still load existing RVG files into projects for use as groups.

## Viewing Groups in the Project browser

In the Project Browser, attached detail groups and nested groups now appear under the group they belong to. Nested groups also appear in the group list with other model or detail groups.

## .RVG is obsolete file format

The file format of the groups has been changed from .rvg to .rvt making the .rvg file format obsolete. You can however still import/open .rvg files created in previous releases.

## *Links*

### Including Linked Revit Model Names and File Names in a Schedule

When you have multiple copies of linked Revit models in a project, you can specify a different name for each instance of the linked model and then include the name in a schedule. Names for linked model instances are automatically generated, and you can change them through the linked model properties.

### Applying a Color Scheme to Rooms and Areas in Linked Models

You can now apply the host model color scheme to rooms and areas in a linked model.

## Showing Areas and Area Boundaries in Linked Models

You can show (or hide) areas and area boundaries in linked Revit models.

## Showing Nested Linked Models

When you import a Revit model that contains a linked model, links become nested. You can show (or hide) nested linked models in the host model. (attach / overlay)

## Controlling Visibility and Graphic Override Settings for Nested Linked Models

Nested linked models can use the visibility and graphics override settings specified for the host model, the parent linked model, or the top-level nested linked model.

## Viewing Linked Revit Models in the Project Browser

Linked Revit models (including visible nested linked models) are now listed in the Project Browser. You can add links and access basic link functionality from the shortcut menu in the Project Browser. You can also drag a linked Revit model from the Project Browser into a project view to create a new instance of the linked model.

## Converting Linked Revit Models to Groups

You can convert linked Revit models to groups. You can also convert groups to linked Revit models.

## Copying Linked Revit Models Between Projects

You can copy a linked Revit model to the clipboard and paste it in a different project file. The link path, shared positioning settings, visible nested links, and the link instance name are copied to the new project. If the link instance name already exists in the project, the link is automatically renamed. Partially loaded files are maintained as partially loaded. Visibility and graphic override settings are not preserved.

## Copying Elements from Linked Revit Models

You can copy elements from linked Revit models to the clipboard and then paste them in the host model.

## Creating Constraints Between the Host Model and Linked Models

You can now create constraints between elements in the host model and elements in a linked model.

## *Details and Annotations*

### Masking region

Masking regions provide a way for an element to obscure other elements in a view. Masking regions may be useful when you need to obscure elements in a project.; when you are creating a 2D detail component family or a 3D family and need the background of the element to mask the model and other detail elements when it is loaded into a project; when you need to create a 3D family from imported 2D DWG™ files that will obscure model elements when placed in a view. You can create masking regions in 2D and 3D families as well as in a project environment.

## Transparent Filled Regions

In a project environment you can create a filled region that has a solid fill pattern and a transparent background.

## Upgrading Projects or Families that Contain Filled Regions

When you upgrade a project or family to Revit Architecture 2008, all filled regions that have the Background type parameter set to “Opaque” and the Pattern Type parameter set to “No pattern”, become Masking regions. In addition, the following options are no longer available for filled regions:

- The Filled Region: Solid White type is no longer available as an option in the Type Selector when you select a filled region in the drawing area.
- The No pattern fill pattern.

## Dimension Line Tick Mark Display Behavior

When you set the tick mark for a dimension as an arrow type, dimension arrows recognize when a dimension segment is too small to accommodate the arrows on the interior of the dimension line. When this occurs, dimension arrows automatically flip to the exterior of the dimension line. This occurs for linear, angular, and radial dimensions. For radial dimensions, arrows flip when the dimension line (the radius) is shorter than the length of the arrow.

## Spot Dimension Enhancements

- The Spot Dimension button in the Design Bar now results in a fly-out with the choice of Spot Elevation or Spot Coordinates.
- The spot elevation tool has been improved to allow placement on flat and sloped planar surfaces as well as non-planar edges. The tool also provides a preview of the elevations prior to placement. New Spot Elevation types have been added to the default templates to take advantage of spot elevations ability to reference levels instead of just the project datum.
- The spot coordinate tool has been improved to provide a preview of the coordinates prior to placement.

## Keynote Leader Option Persistence

When you place an element or user keynote, you can indicate whether you want a leader for the keynote. Leader options are Attached and Free End. Now when you select a leader option, the selection is retained for the Revit session. For example, you place an element keynote and select the Free End option for the leader. If you exit the Keynote command and make other changes to the model, when you activate the Keynote command again, Revit remembers your leader selection (Free End), so it is not necessary to specify it again.

## *Rooms and Areas*

### Color Schemes

The Color Fill command has been renamed and enhanced. To apply color fill to a room or area, you now create color schemes and apply them to a plan view. Previously, color fill and color legends were combined in the Color Fill command. Now, color schemes are a view property so you can apply different color schemes to different views, and color scheme legends are an annotation tag. When you apply a color scheme to a plan view, you can include a color scheme legend. You can customize a color scheme legend, resize the swatches or change their graphic appearance, modify the order of items in the legend, add a title.

## Number Instance Parameter for Areas

The area element has a new instance parameter called Number. This parameter is accessible from the Element Properties dialog for areas.

## *Modeling*

### Shape Editing for Slabs, Roofs and Floors

The geometry of horizontal (flat) Slabs, Roofs and Floors can be edited to allow sloping for drainage. The workflow the Structural Engineer and Architect go through typically involves subdividing an existing horizontal slab into smaller regions. Low points and high points are then created to make the slab slope for drainage.

You can sketch on the existing slab top face by using the “Draw Split Lines” and “Draw Points” tool, located in the option bar when the Slab is selected. The “Pick Supports” tool can also be used to select beams and other supports to make new points.

Points and edges can be selected and moved vertically or laterally using the “Modify Sub-Elements” tool or by tabbing into the object and selecting the shape handle. The geometry of the slab will start to slope to conform to the new shape. The slab will be either constant thickness (where both top and bottom both slope) or only the top face will slope (if slab is set to variable thickness).

Warped or flat regions are then created as part of the roof geometry. A surface will warp when bound by four non-planar boundary edges or user-created split lines. If you do not desire this behavior, you can add a split line between opposite vertices.

### Variable Thickness for Slabs, Roofs and Floors

Slabs may be created with variable thickness by specifying a single variable layer in the floor or roof type compound structure. In this case, the geometry stays flat on the bottom face. Layers are also created in detailed views.

There is a new 'Thickness' instance parameter in floor and roof instances now. If the instance has variable thickness, this parameter is editable in the properties dialog

## *Interoperability*

### DWF

You can output 2D and 3D views of a Revit project to the DWF file specification. Revit Architecture 2008 includes the following enhancements to DWF functionality:

- The File menu./Export DWF menu option has been changed to File menu./Publish DWF.
- When publishing 2D DWF, the default zoom setting (on the Print Setup dialog) is now Fit To Page. This setting avoids the (usually) undesired result of getting a cropped portion of the 2D view in the DWF file.
- You can now make custom sheet sizes for DWF publishing.

## Autodesk 3ds Max and Autodesk VIZ

You can export a 3D view from a Revit project for use in Autodesk 3ds Max or Autodesk VIZ software. Interoperability between Revit Architecture 2008 and 3ds Max or VIZ has been improved in the following ways:

- When you export a 3D view for use with 3ds Max or VIZ, you can use a section box to limit the content that is exported. This strategy reduces the amount of data being exported and improves the performance of the export and import processes. In this release, section boxes have been enhanced to better support this use. For example, when changing the size of the section box for the 3D view to export, you can switch to a 2D view to refine the size and location of the section box.
- An object that has different materials applied to interior and exterior surfaces (such as a wall) in a Revit project may be exported as a 3D view using ACIS® solids. When the imported geometry is brought into 3ds Max or VIZ, those applications now show the different materials on each surface of an ACIS solid. (In previous releases, 3ds Max or VIZ only showed one material for the entire ACIS solid.)
- In the previous release, when files were exported from Revit Architecture and imported to 3ds Max or VIZ, 3ds Max and VIZ displayed the acdbMaterial names instead of the more readable RevitMaterial Names. Revit Architecture 2008 has been enhanced so that, when exported files are imported, 3ds Max and VIZ now display the RevitMaterial names.

## Structure

### z-Direction Justification and Offset Value

The vertical justification and geometry offset of beams are combined into a single parameter. Beams can be vertically justified to Top, Center, Bottom and Other, where Other allows user to enter a numeric value.

### Cross-Section Rotation

Rotating a beam about its axis is controlled by the system. We recommend user not to use the previous family parameter Angle for new projects.

### Stick Symbol Location

Stick symbol for beams can be positioned at the Top of Geometry, Center of Geometry, Bottom of Geometry, or Location Line.

### Adding an Opening to a Structural Beam, Brace, or Column

User can add openings to structural beams, braces, or columns using the Opening > Opening by Face command from the Modeling tab of the Design Bar. The user can select either the vertical face or a horizontal face of the structural framing family.

### Two-pick Face-based families

Two-pick families have been enhanced to support face-based and workplane-based creation mechanisms. Users can now create their custom two-pick face-based families (ex. stiffeners) around openings in structural framing.

## ***Fit and Finish***

### **Scheduling Wall Sweeps**

You can now schedule wall sweeps. When you create a new schedule, there is a wall sweeps category in the New Schedule dialog. Note that integral wall sweeps, which are part of the wall type definition, are not schedulable.

### **Communication Center**

Communication Center provides quick access to resources at Autodesk, including the following:

- Live Update Maintenance Patches. Receive automatic notifications whenever new maintenance patches are released from Autodesk.
- Subscription Information and Extension Announcements. Receive announcements and subscription program news if you are an Autodesk subscription member (available in countries/regions where Autodesk subscriptions are offered).
- Articles and Tips. Be notified when new articles and tips are available on Autodesk websites.
- Product Support Information. Get breaking news from the Product Support team at Autodesk.
- Use the Welcome wizard to set Communication Center for your country/region, and for the frequency you prefer for updates and the information channels you want displayed. To start the Welcome wizard or to open Communication Center, click the Communication Center icon in the tray on the right side of the status bar.

### **Documentation**

Revit Architecture 2008 software now includes a New Features Workshop which is an interactive animation that combines simple text, graphics and animations to help users learn the software more quickly and effectively.

The documentation for Revit Architecture 2008 has also been restructured and revised to improve usability. In addition, images have been added to illustrate and clarify important concepts. Look for further improvements to the documentation in future releases.

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