AUTODESK

What’s new in Revit 2023

Key themes and features

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C3A

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Key themes

Revit 2023

Design productivity

Simulation & analysis

Interoperability

Cloud & data

Design optimization

Documentation efficiency

New features and enhancements

Revit 2023

Design productivity

- Measure in 3D
- Pick a work plane
- Save placement for work plane-based families
- Duplicate material and its assets
- Server path to material textures and decals
- View reference search
- Enable cutting in views
- Additional cuttable categories
- Temporary dimensions for shared nested families
- Align couplers to create post-tensioning anchors
- Reinforced concrete non-bearing partition walls
- Updated AISC shape type tables
- British rebar shapes update
- Adaptive propagation for rebar
- Library-based connection design automation
- Cloud-hosted rebar display performance
- Elevation parameter improvements
- Elevation base options
- Flip controls for fabrication parts
- Elevation controls for fabrication parts
- Performance with large selections
- Optimized room performance
- View performance
- Performance for shape edited slabs
- Performance when linking DWG files
- Performance when copying large numbers of elements
- Performance when loading items in Type Selector

New features and enhancements

Revit 2023

Simulation & analysis

- New workflow for structural analysis
- Structural analytical modeling in BIM context
- Structural analytical model automation
- Electrical preliminary load analysis
- Interactive solar studies

Cloud & data

- Data Exchanges
- Fabrication Data Manager (FDM) technical preview
- Parameter Service technical preview
- Manage Cloud Models in Revit Home
- Remember last account for Revit Cloud Models
- Non-destructive model rollback

Interoperability

- FormIt Pro in Link CAD Formats
- FormIt Pro interoperability enhancements
- CAD file improvements
- IFC parameters and export mapping dialog
- Enhanced mesh capabilities
- DirectShape import placement

Design optimization

- UI improvements for Generative Design and Dynamo Player
- New input types for Generative Design and Dynamo Player
- New method names for Generative Design

New features and enhancements

Revit 2023

Documentation efficiency

- Floor folding lines and split lines
- Preserve area and room values in key schedules
- Conditional formatting for family and type in schedules
- Filter by sheet in schedules
- Rebar cover in schedules and tags
- Displace elements in 2D views
- Tag all displaced elements in 3D views
- Multi-leader tag enhancements
- Additional taggable categories
- Displaced rebar representation
- Effective solid rebar visualization in 3D views
- Maintain systems of demolished elements
- Circuit number info for electrical equipment
- Contour label direction
- Improved orientation behavior for generic annotation families
- Control filled region patterns with family parameters
- Swap views on a sheet
- View filter enhancements
- Project browser icon for views on sheets
- Edit label dialog improvement
- Common property for model group and RVT link
- Page order in PDF export and print output
- Performance in print, publish, and export functions
- View/sheet API

Design productivity

Revit 2023

Measure in 3D

Revit 2023

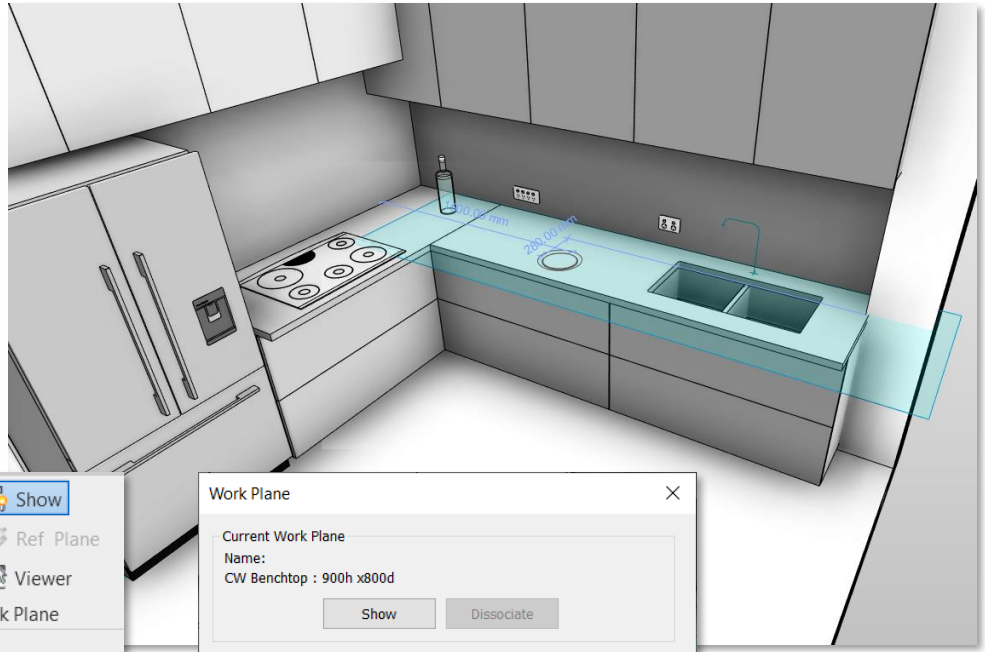
- Snap to any position in 3D without work plane restrictions
- Works in orthographic and perspective 3D views
- New hotkey (CTRL) to lock the measurement perpendicular to the start face
- Activate Perpendicular snap to measure the shortest distance

Enables fast and convenient measurements in any 2D or 3D view

Pick a work plane

Revit 2023

- Set a Work Plane using a shortcut (PK)
- New Work Plane drop-down menu

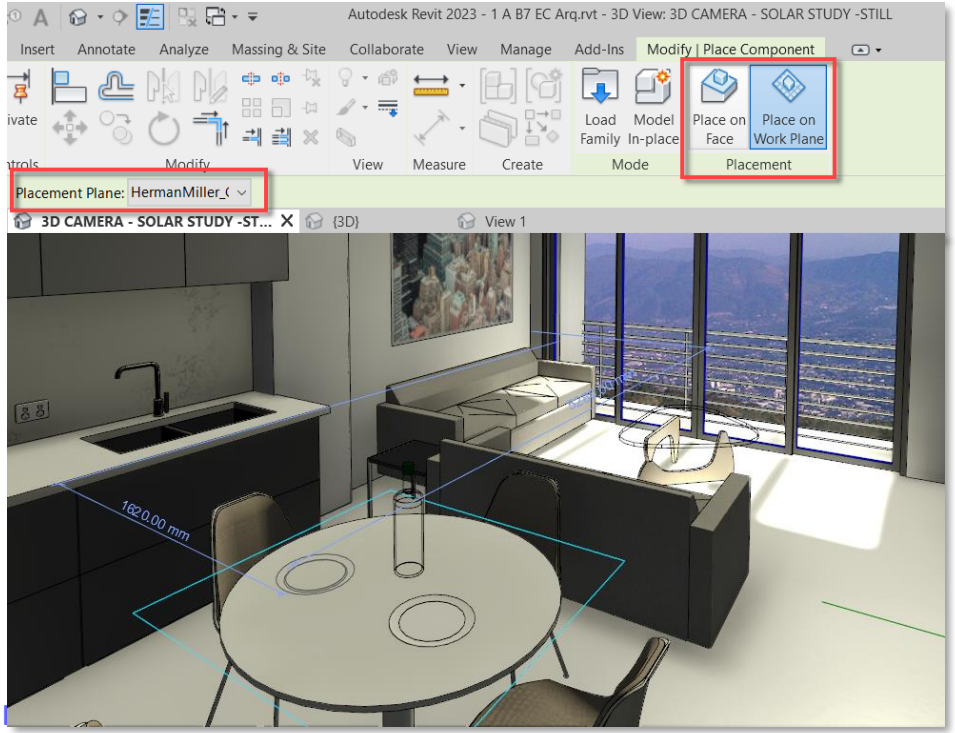


Model faster and more efficiently using work planes

Save placement for work plane-based families

Revit 2023

- Reactivate the last Work Plane used in the project when placing families
- The Work Plane is remembered until reset

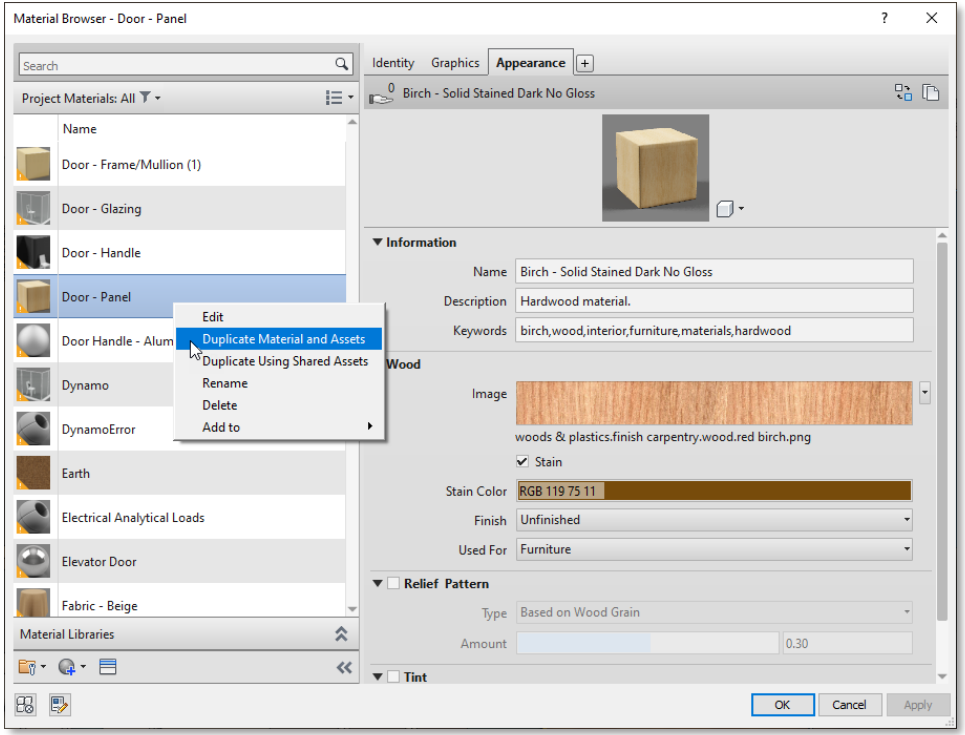


Load and place work plane-based componer
faster in your project

Duplicate material and its assets

Revit 2023

- Duplicate material and assets
- Duplicate using shared assets

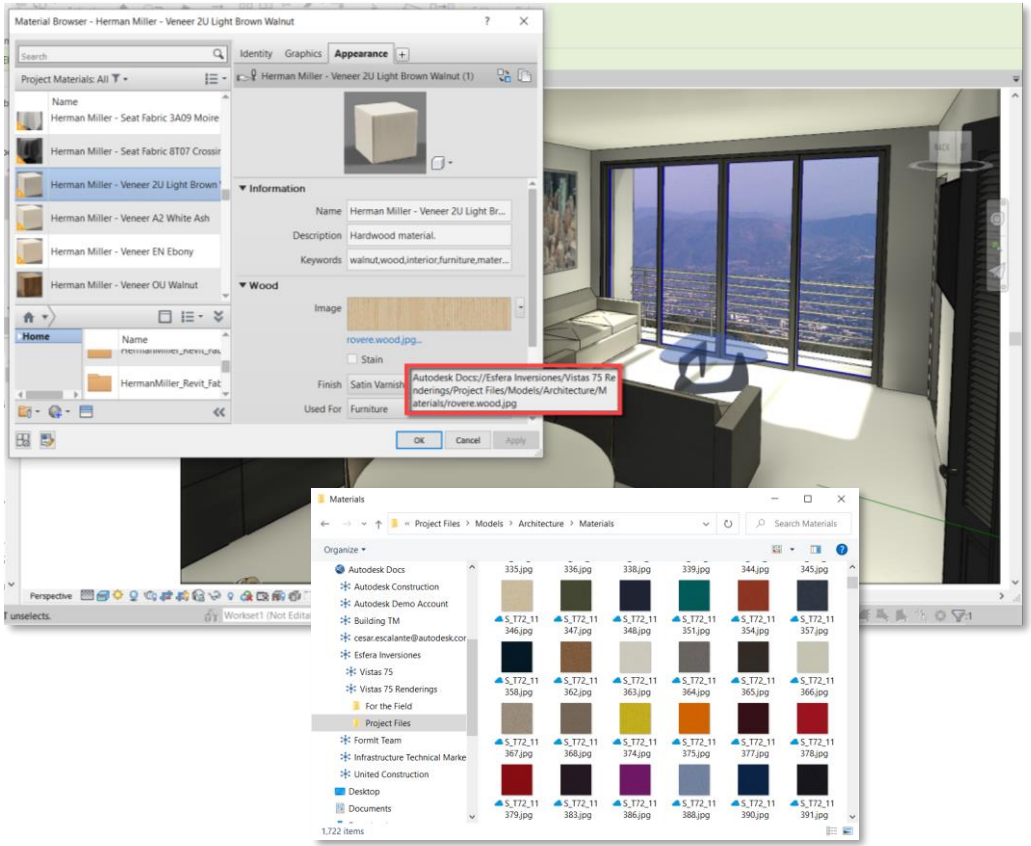


Easily create new materials with assets from similar existing materials

Server path to material textures and decals

Revit 2023

- Solves missing render appearance warnings in BIM Collaborate Pro and BIM 360
- Map custom texture images to an Autodesk Docs folder path
- Exchange and explore image assets with the Autodesk Desktop Connector
- Exposed API to build custom server connections

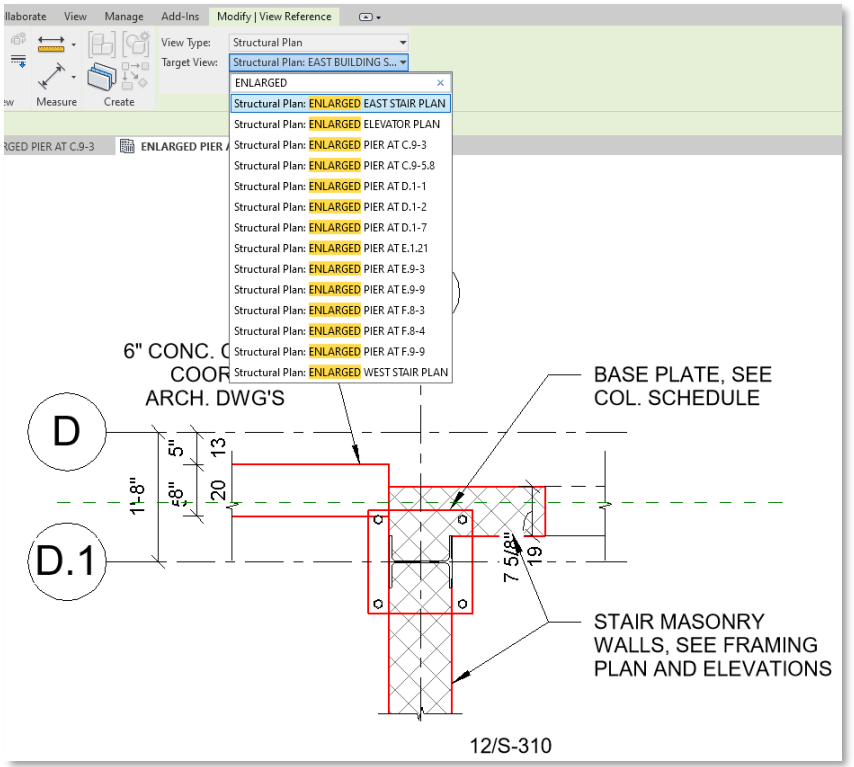


Manage render assets across distributed teams using Autodesk Docs

View reference search

Revit 2023

- Search functionality available for both View Reference parameters
  - View Type
  - Target View
- Consistent search and filter functionalities across the Revit UI



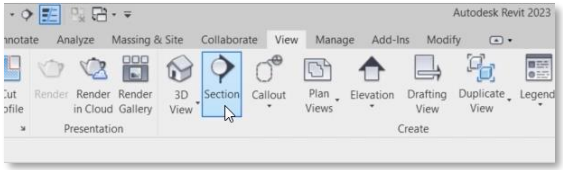
Quickly find the view you want to reference

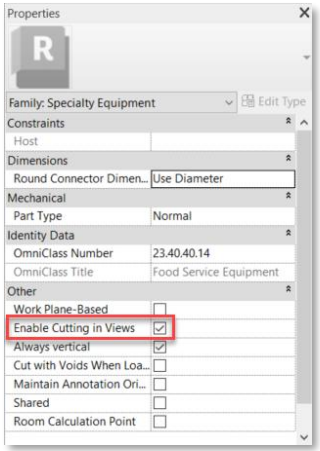
Additional cuttable categories

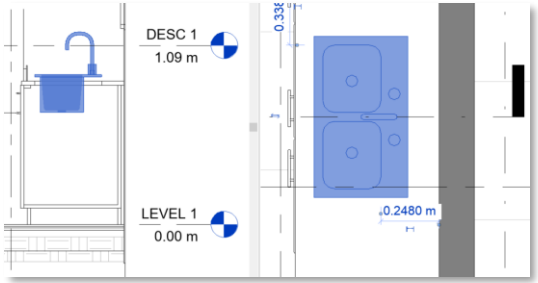
Revit 2023

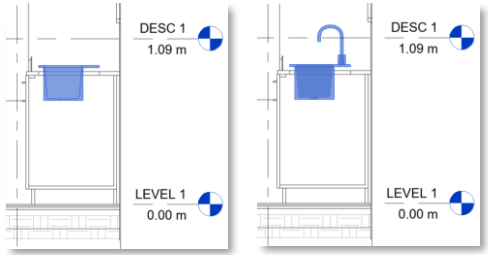
- Additional family types cuttable in section views
- Can be activated for each family by activating a new *Enable Cutting in Views* parameter
- Added to several categories such as Furniture, Furniture System, Casework, Specialty Equipment, and Plumbing Fixtures

Better control the display of your families in Revit views







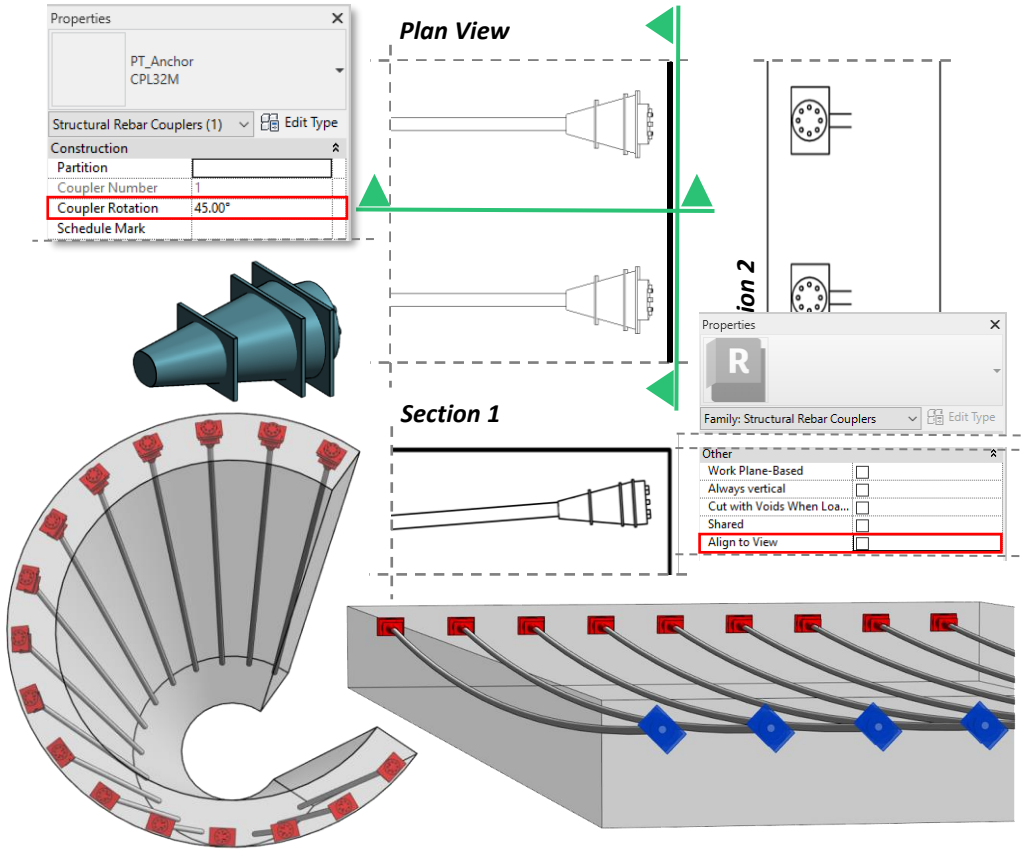


Align couplers to create post-tensioning anchors

Revit 2023

- Rotate couplers with respect to bar ends
- The default position of the free form rebar coupler is parallel to the host surface
- Uncheck *Align to View* in the coupler family to change how the geometry is displayed inside the project

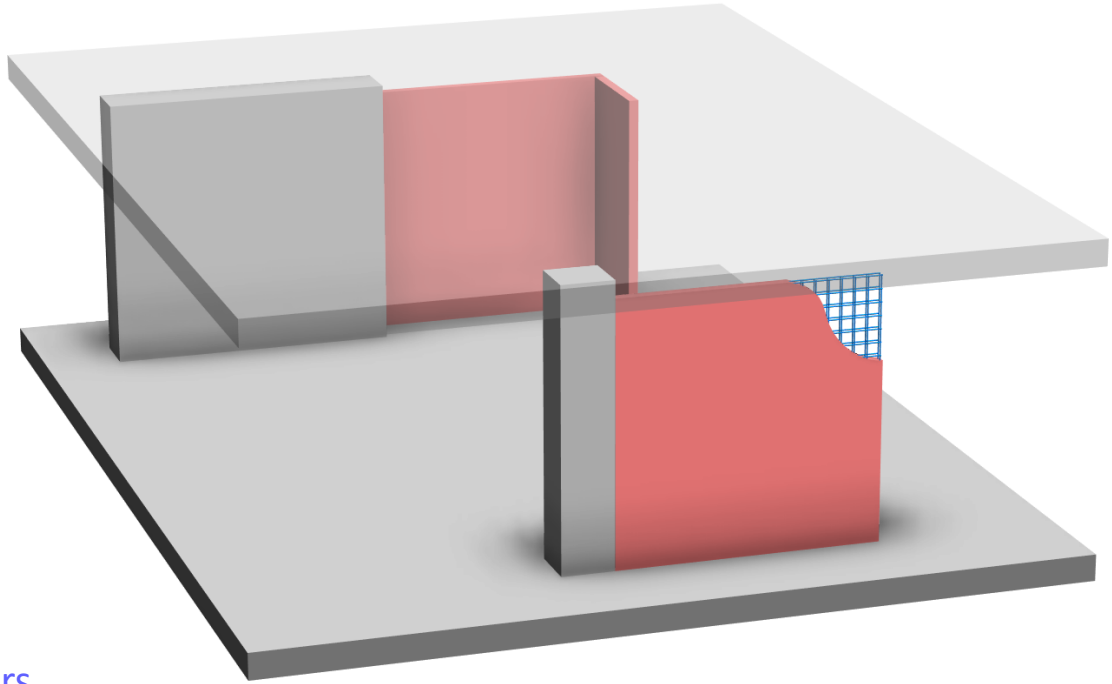
Create highly-detailed reinforcement models and documentation



Reinforced concrete non-bearing partition walls

Revit 2023

- Place rebar in walls that only support their self-weight
- Accurate IFC coordination for reinforced concrete partition walls

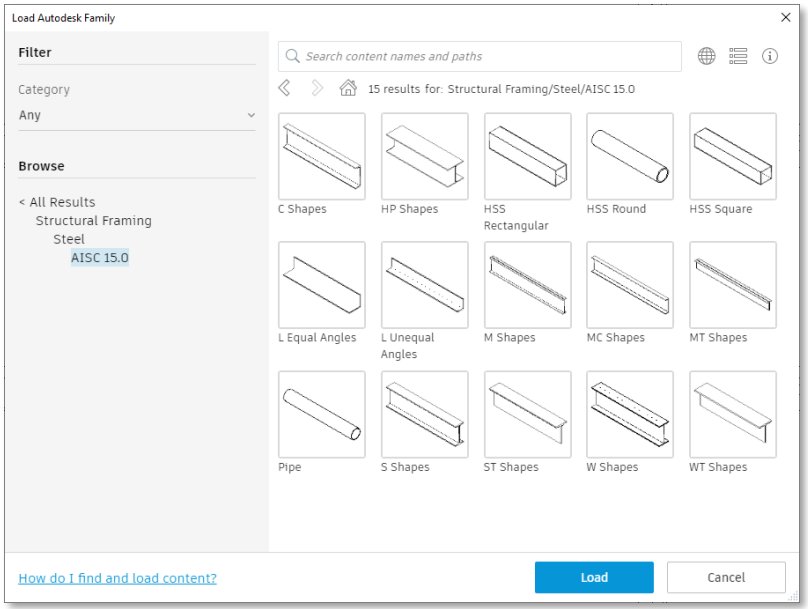


Improve coordination with contractors and fabricators

Updated AISC shape type tables

Revit 2023

- Profiles corresponding to AISC Shapes Database v15.0 have been added to Revit

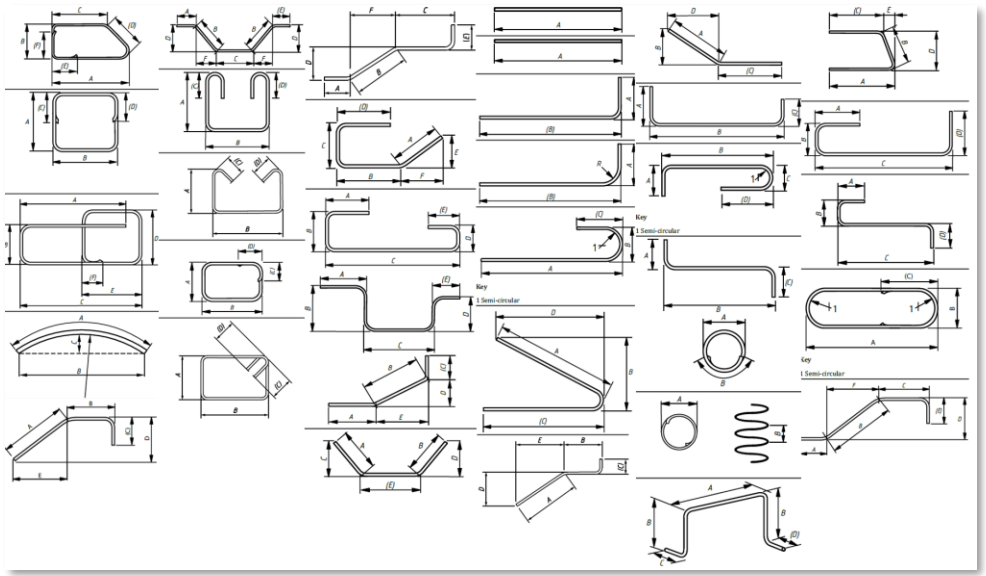


Use the latest steel profiles to design your steel structures

British rebar shapes update

Revit 2023

- Use the latest rebar shape definitions
- Create precise fabrication instructions

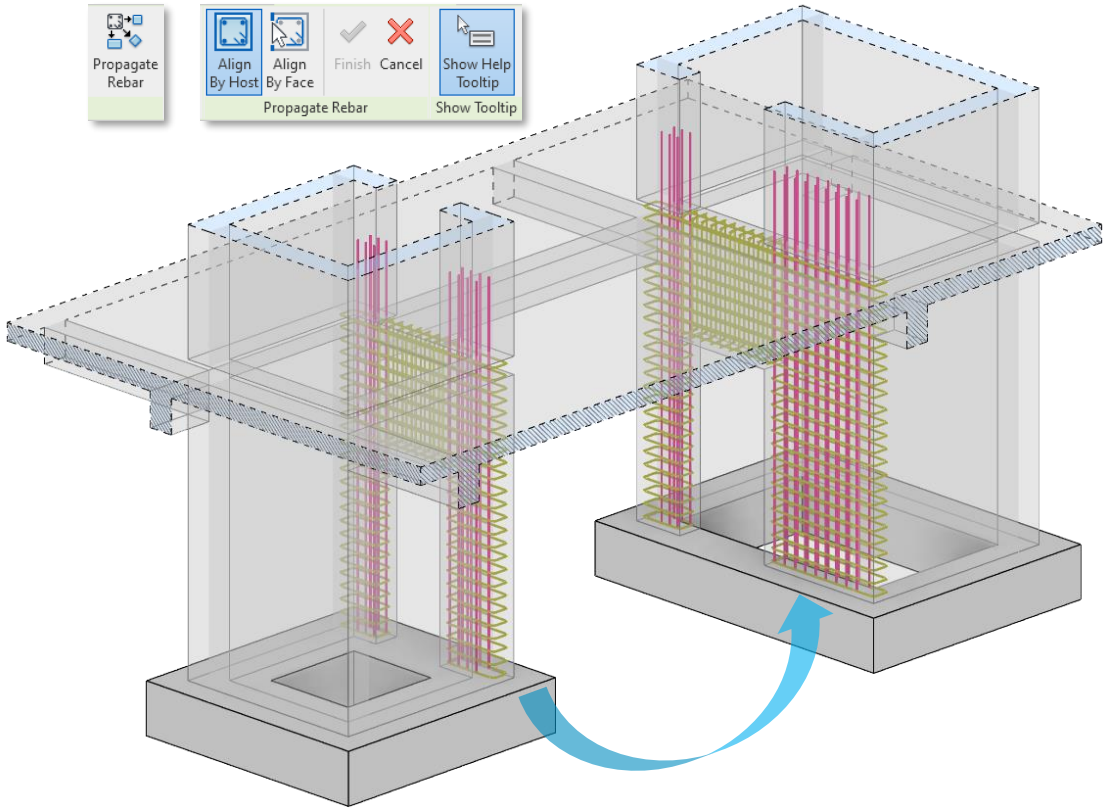


Use the latest shape codes to reinforce your concrete structures

Adaptive propagation for rebar

Revit 2023

- Applicable for shape driven and free form rebars
- Copy all rebars selecting their host or individual bars
- Propagate rebar by host or by face
- Concrete host elements need not be identical for the newly created bars to match their new host



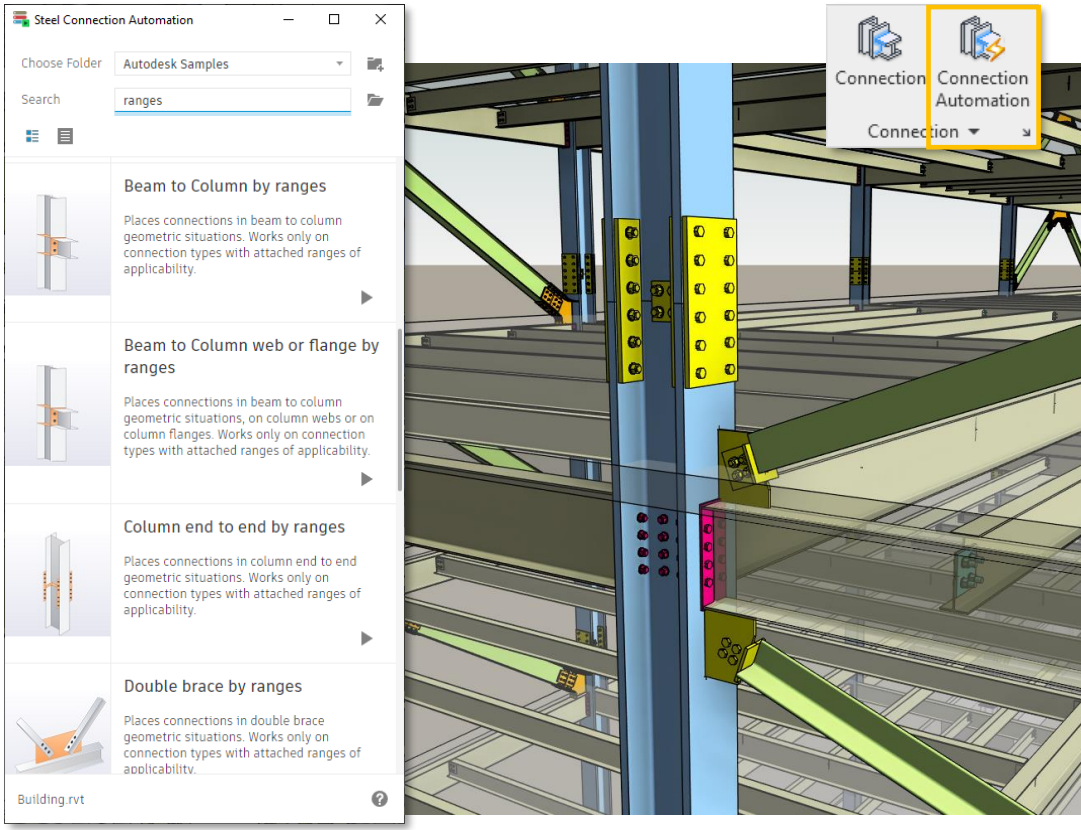
Model rebars faster and easier

Library-based connection design automation

Revit 2023

- Model design intent with connections more quickly and accurately
- Perform cost estimation earlier
- Reduce iterations using design and fabrication rules
- Automatically apply logic based on international standards
- Expand predefined libraries to create your own

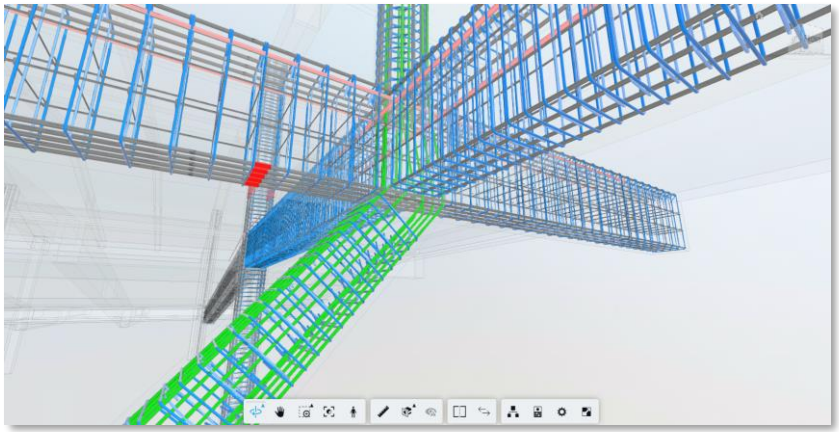
Design steel structures more quickly and accurately

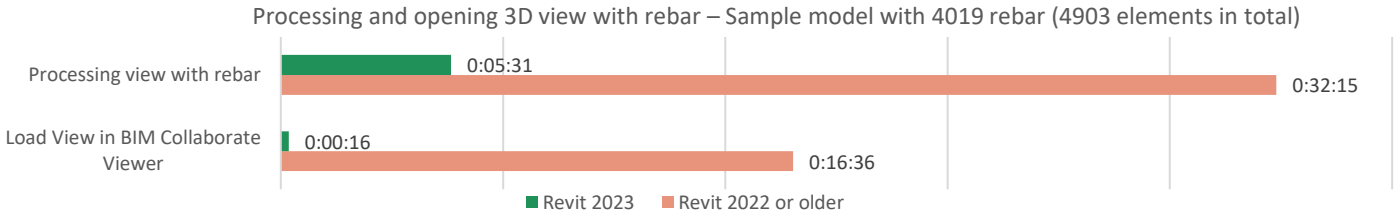


Cloud-hosted rebar display performance

Revit 2023

- Easily publish and open 3D rebar views in the cloud viewer
- Loading rebar models faster





Improved productivity for cloud-hosted projects containing rebar

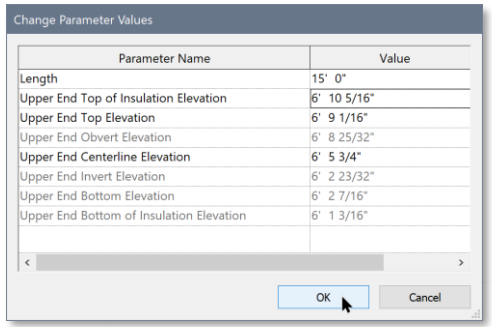
Elevation parameter improvements

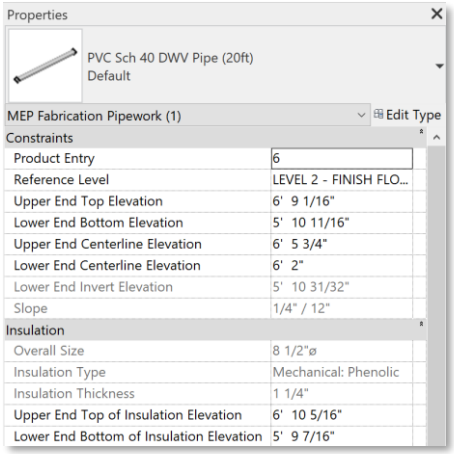
Revit 2023

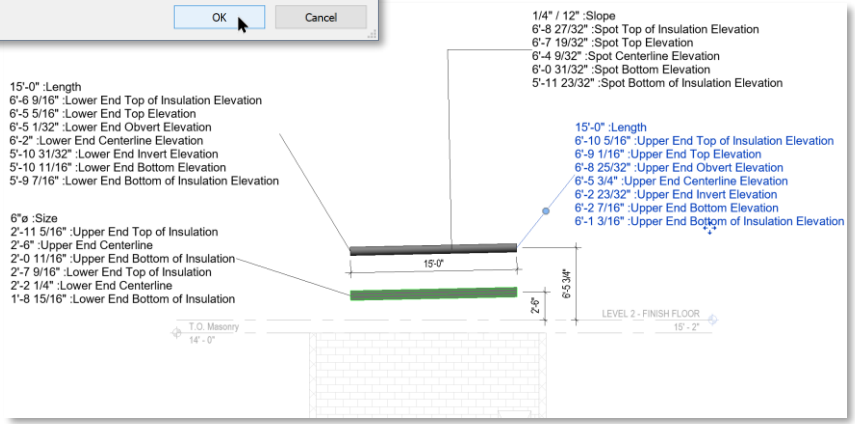
- Elevation base options for tagging sloped components now include:
  - Top of Insulation
  - Top
  - Centerline
  - Bottom
  - Bottom of Insulation

- Upper and lower elevations also include Obvert and Invert tagging options

Improvements to elevation parameters help document and schedule more efficiently





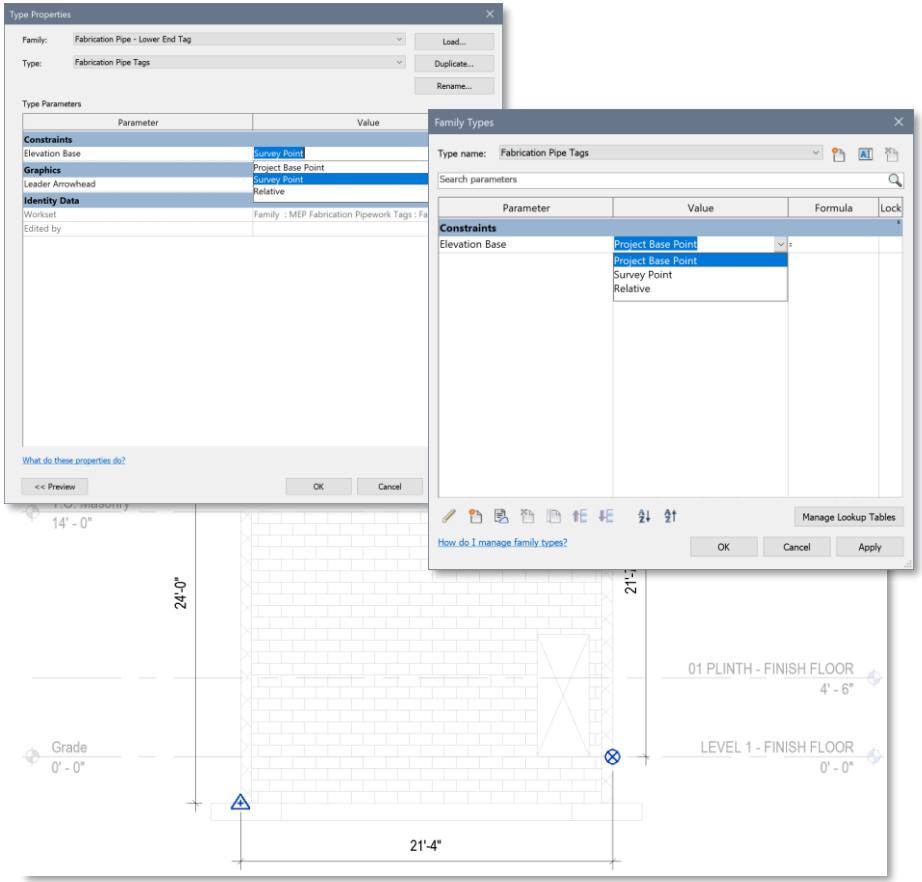


Elevation base options

Revit 2023

- New parameters for elevation base constraints on MEP segment tags:
  - Relative
  - Project Base Point
  - Survey Point
- For Design and Fabrication elevations
- Controlled from Family Types or Type Properties

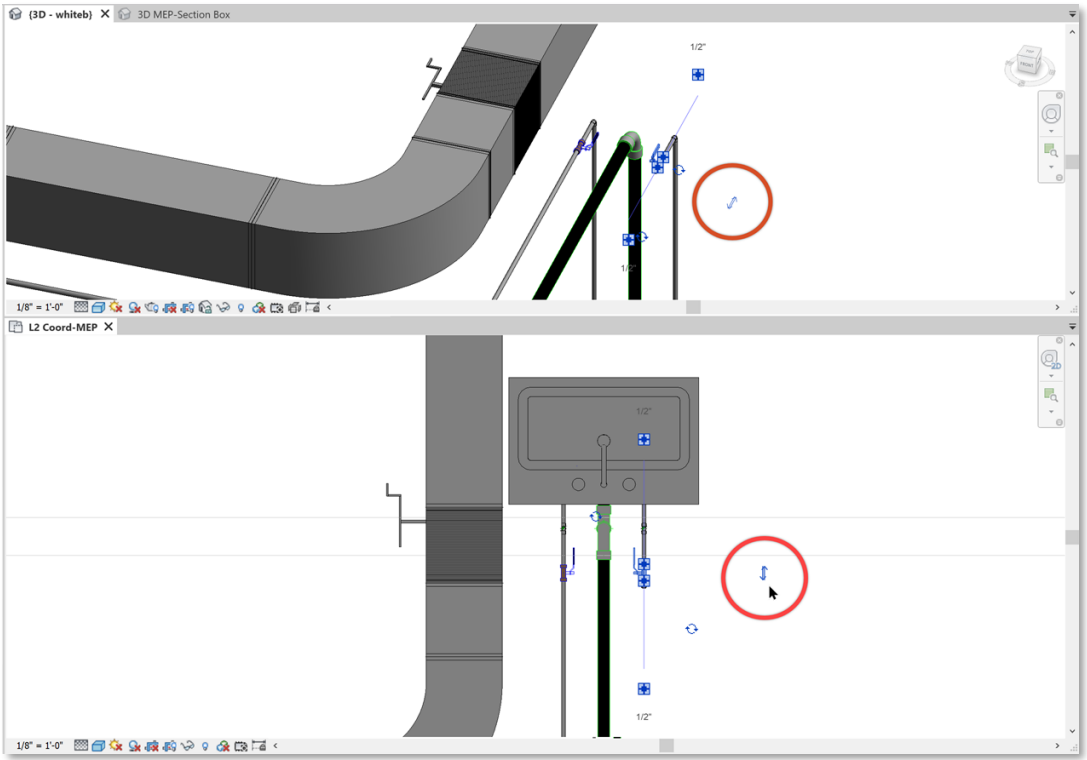
Improvements to help you design and document more efficiently



Flip controls for fabrication parts

Revit 2023

- Easily reorient the direction of fabrication parts
- Consistent with design parts

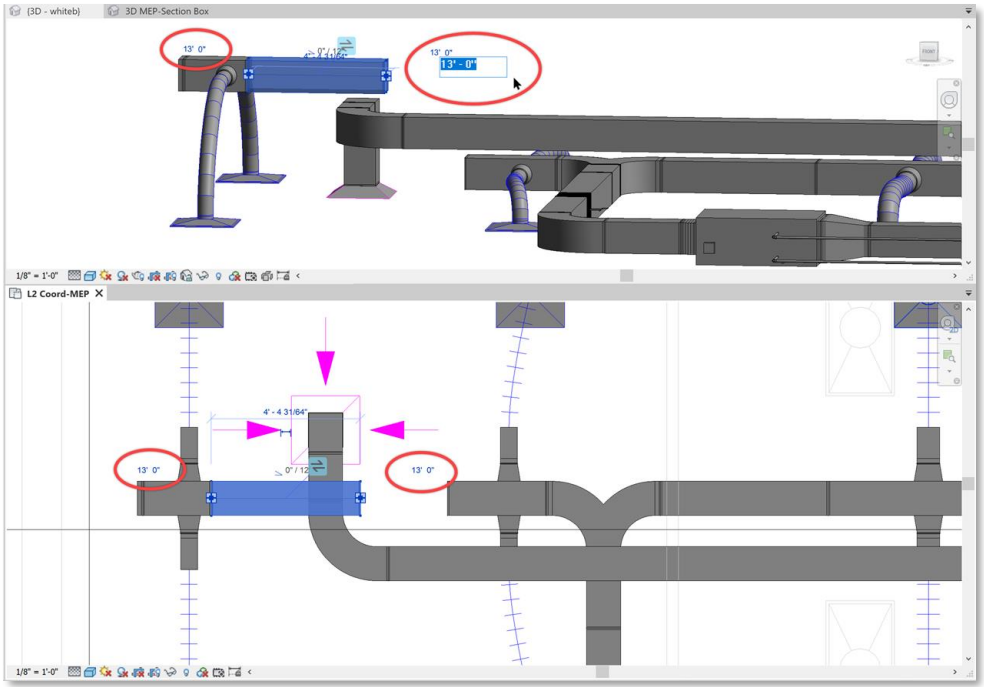


Improve design efficiency with easy-to-use flip controls

Elevation controls for fabrication parts

Revit 2023

- Editable elevation markers
- Changes the entire run elevation for fabrication parts

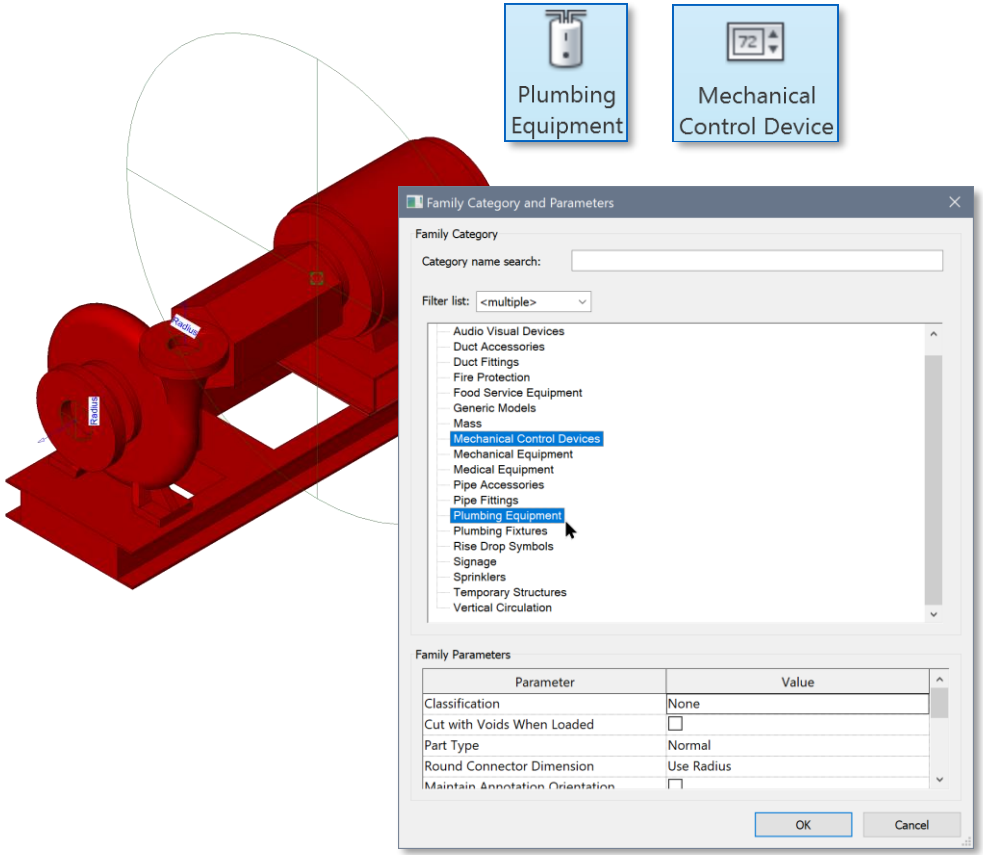


Improvements to help you design more efficiently with fabrication parts

New MEP categories

Revit 2023

- New family categories for Plumbing Equipment and Mechanical Control Devices
- New corresponding family parameters
- Ribbon tools for Plumbing Equipment and Mechanical Control Device
- Existing built-in Revit families moved to corresponding content libraries

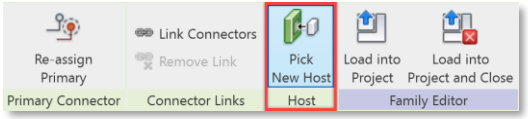


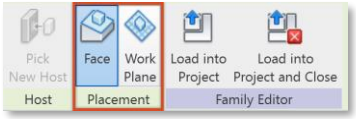
Better management for MEP disciplines

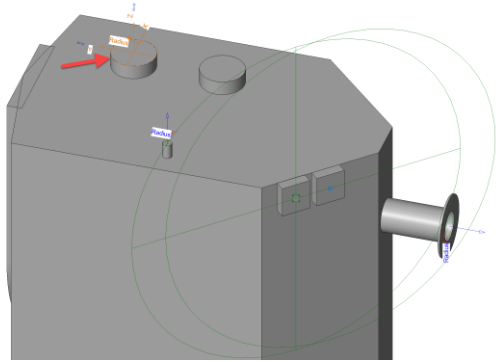
Rehost MEP connectors

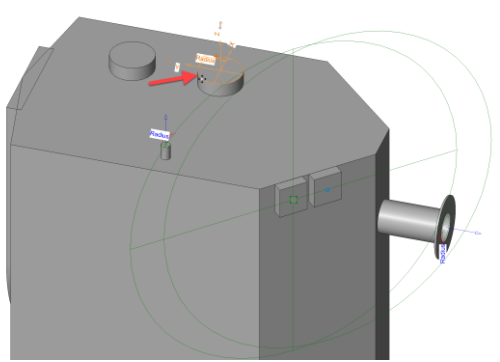
Revit 2023

- Family editor tools added:
  - Pick New Host
  - Face
  - Work Plane
- Rehost MEP connectors and retain the associated information
- MEP connector location moves content in project model







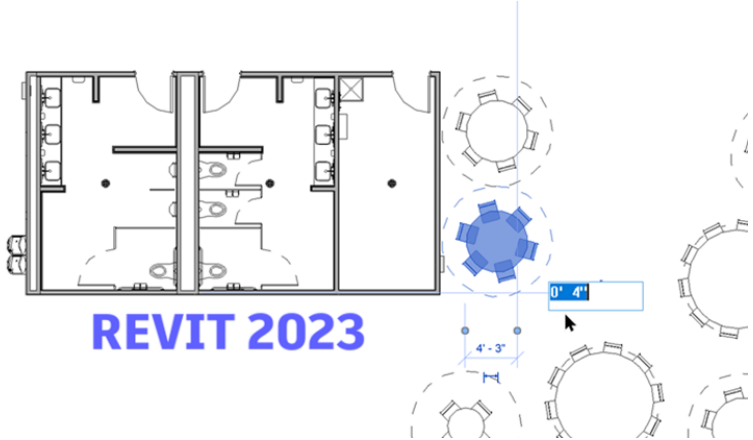


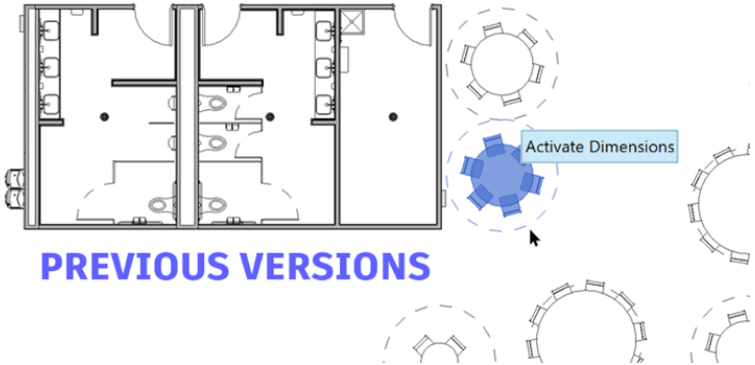
Easily modify MEP connector locations for design efficiency

Temporary dimensions for shared nested families

Revit 2023

- Shared nested families show temporary dimensions
- Activate dimensions has been removed from the Options bar



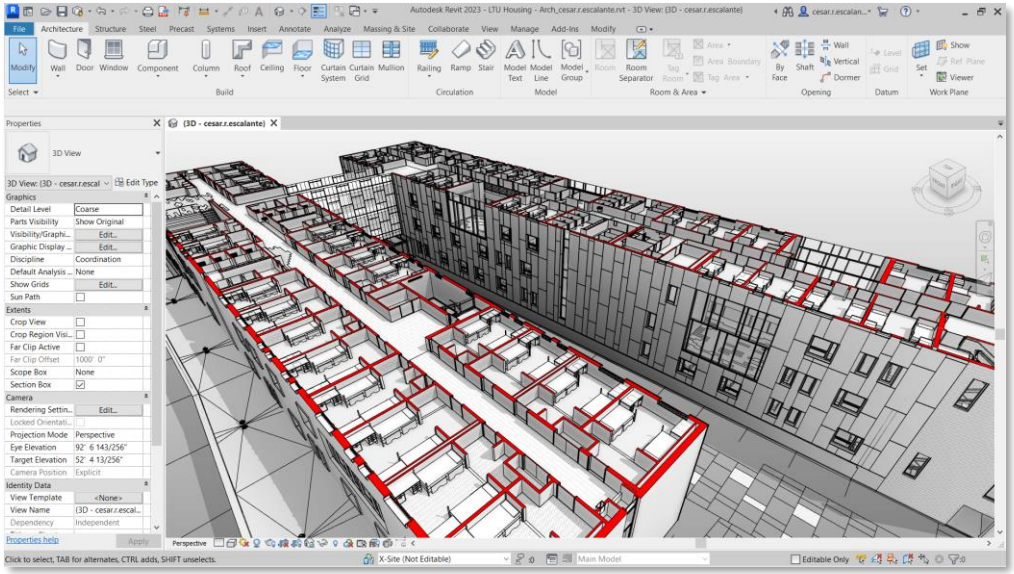


Temporary dimensions display without extra steps

Optimized room performance

Revit 2023

- Model performance has been improved by skipping the regeneration and calculation for redundant rooms
- Unload and reload links up to 20% faster
- Noticeable improvement in performance for models with Area and Volume computations enabled

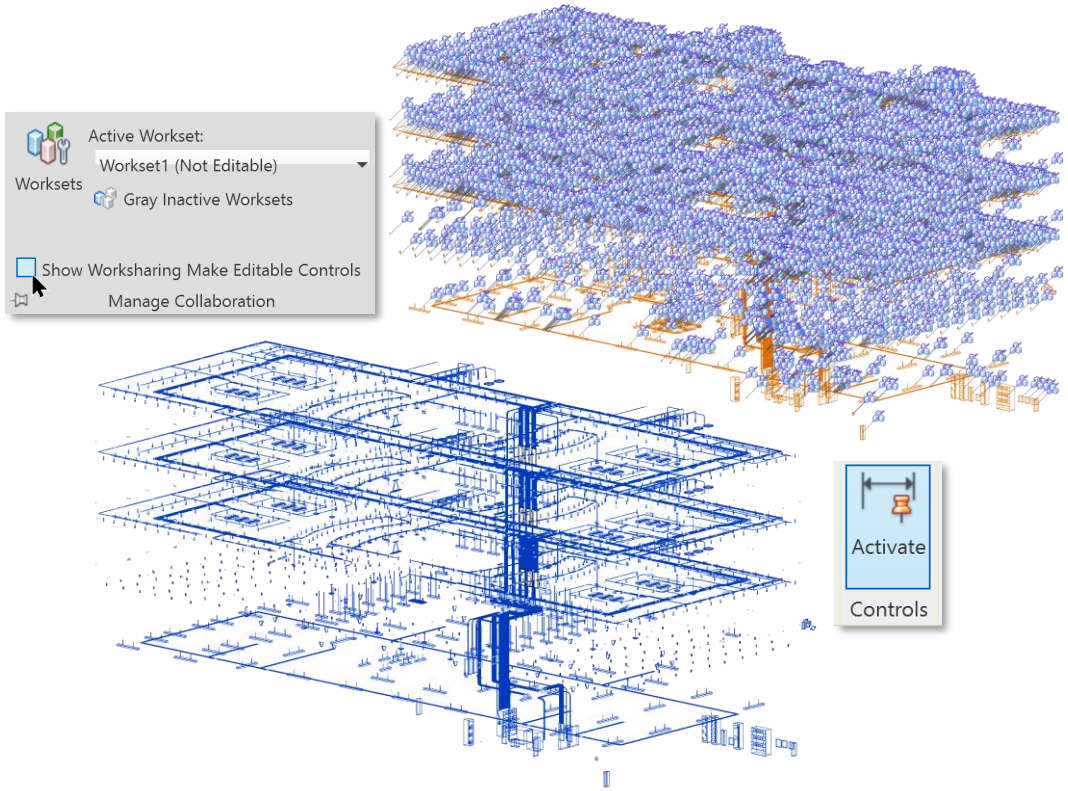


Faster performance of linked models with large numbers of redundant rooms

Performance with large selections

Revit 2023

- Improved display performance
- Tools to limit display of controls
- Turn off display of worksharing “Make Editable” controls
- Activate tool is now on the ribbon and has a keyboard shortcut (AC)

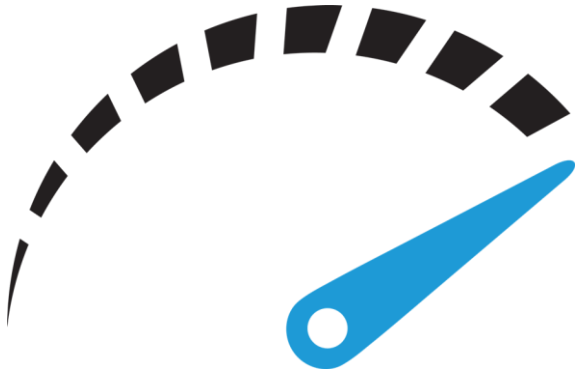


Display performance improvements to boost design productivity

Additional performance improvements

Revit 2023

- View performance
- Performance for shape edited slabs
- Performance when linking DWG files
- Performance when copying large numbers of elements
- Performance when loading items in Type Selector



Significant improvements to performance in user-requested areas to boost design productivity

Simulation & analysis

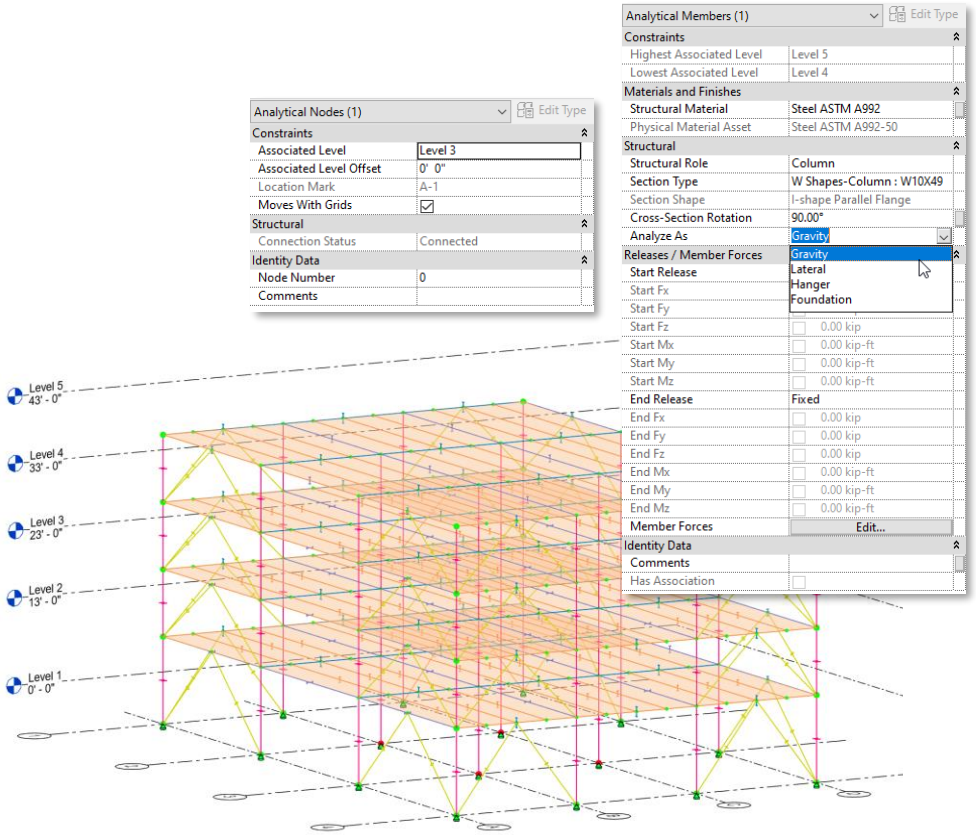
Revit 2023

New workflow for structural analysis

Revit 2023

- Create a structural analytical model in Revit without physical geometry
- Model fully parametric analytical elements
- Associate analytical model with grids and levels to control element positioning through datums
- Document analytical model data

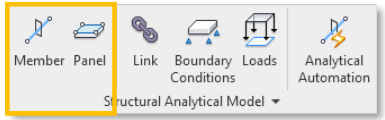
Engineering driven, analysis-centric Revit workflows

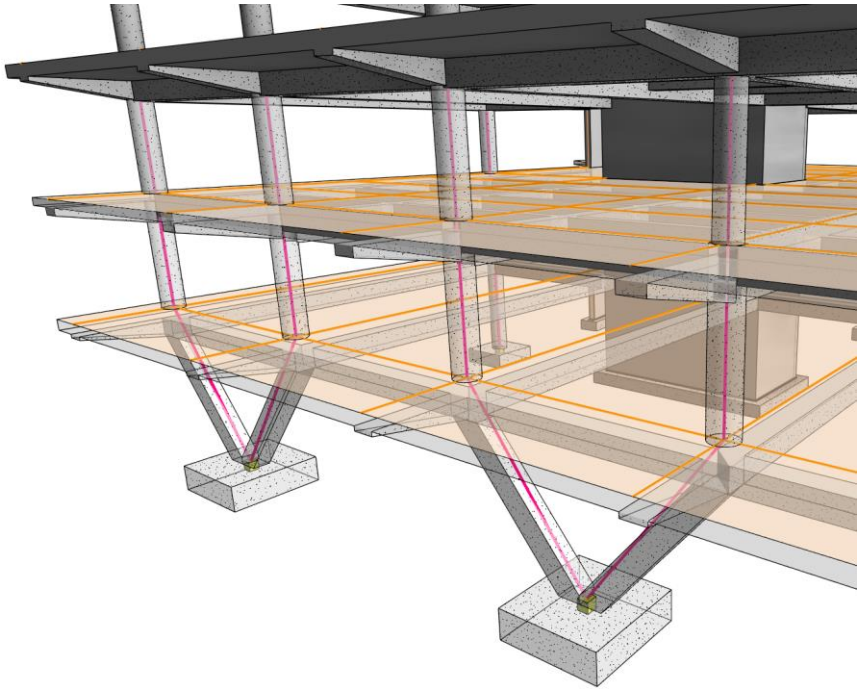


Structural analytical modeling in BIM context

Revit 2023

- Use new tools (Analytical Member & Panel) to create analytical models
- Leverage existing physical geometry as context
- Associate physical and analytical model elements for BIM quality control
- Control changes independently for analytical and physical objects
- Create multiple analytical models for a single physical representation





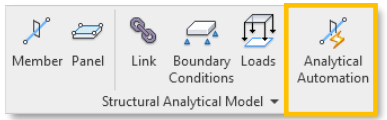
Improved efficiency, accuracy, and flexibility in developing analytical models

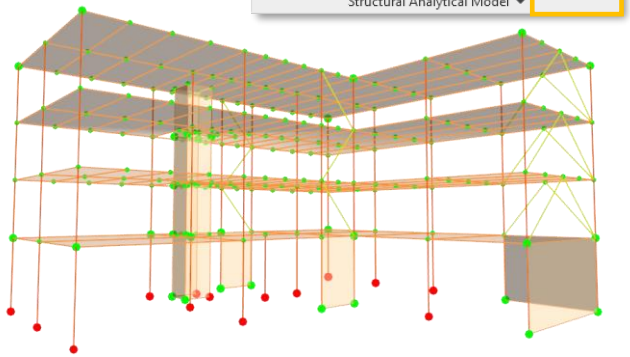
Structural analytical model automation

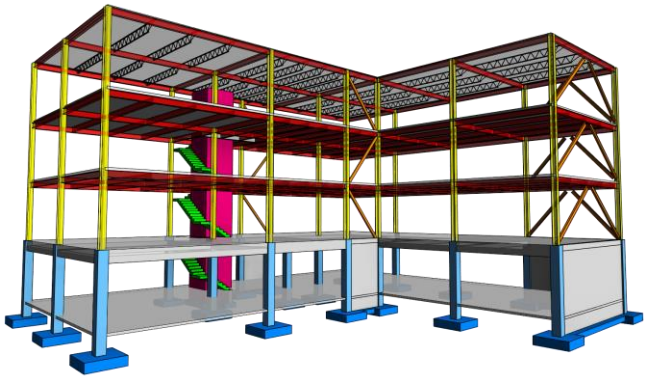
Revit 2023

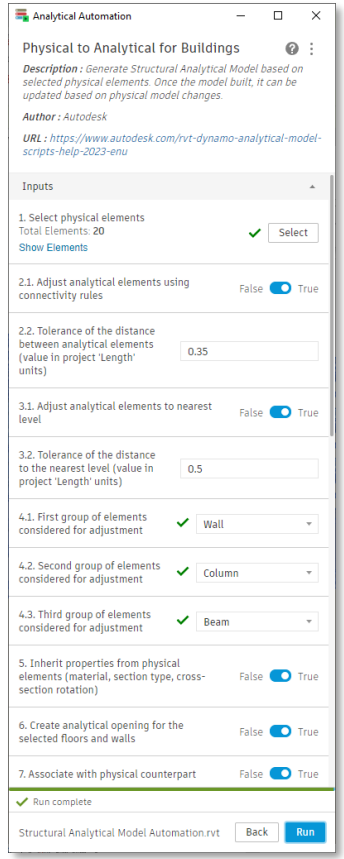
- Generate a connected and consistent structural analytical model automatically from selected physical geometry
- Customizable automation rules that can be optimized for specific project types
- Update easily analytical models based on physical model changes

Enhanced productivity with analytical modeling automation





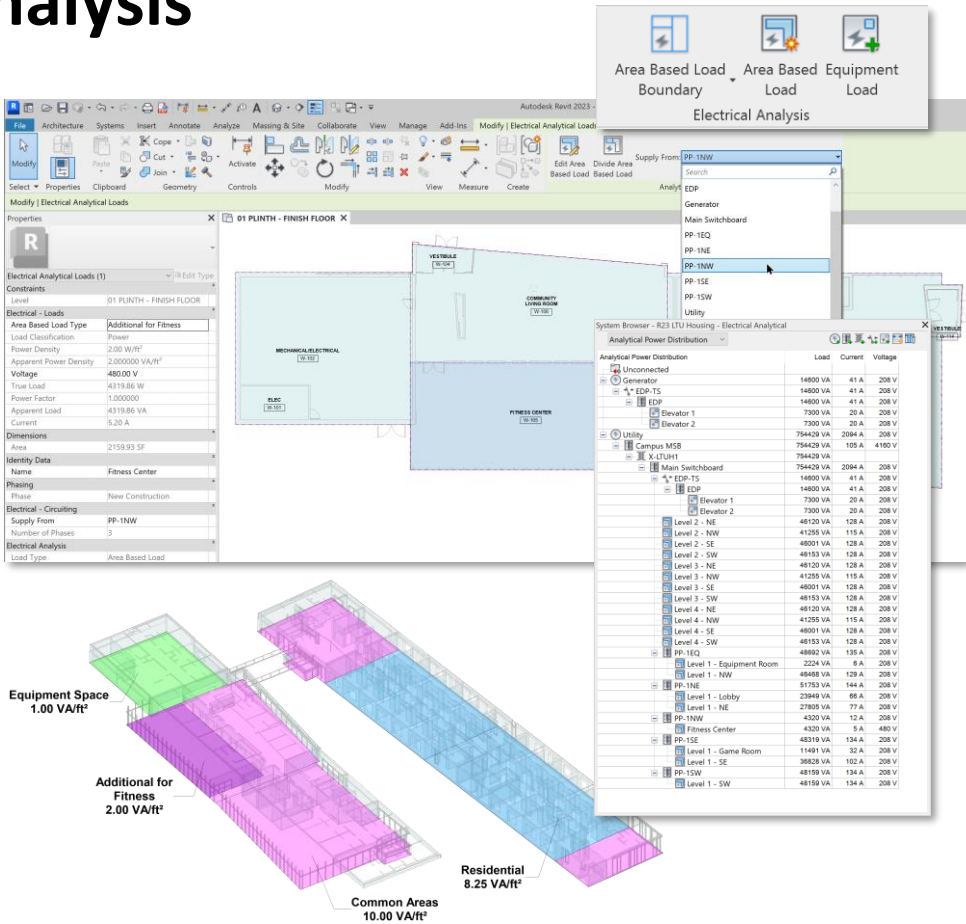




Electrical preliminary load analysis

Revit 2023

- Perform preliminary load calculations in Revit
- Define Equipment Loads
- Define boundary areas for Area Based Loads
- Specify Power Density, Load Classification, Power Factor, and Apparent Power Density for Area Based Loads
- Create an analytical power distribution system with the System Browser



Estimate building loads prior to placement of Revit electrical families

Interactive solar studies

Revit 2023

- Redesigned Solar Study Contextual Tab
- New Speed, Sunlight Intensity, and Shadow Intensity controls
- Switch solar study types on the fly
- Explore a scene under a different time and sun setting
- Display a preview at a specific frame

Better visualize the impact of sunlight and shadows

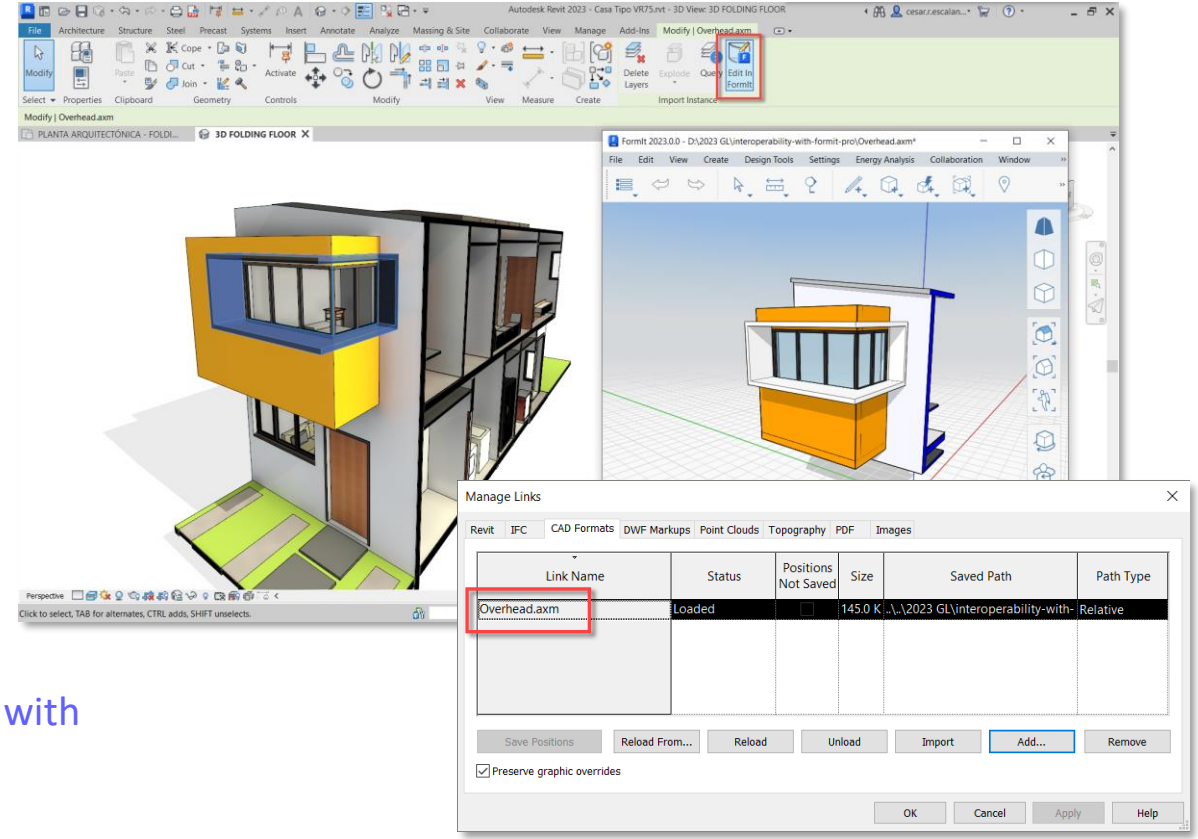
Interoperability

Revit 2023

FormIt Pro in Link CAD Formats

Revit 2023

- AXM in Link CAD Formats
- Edit in FormIt button

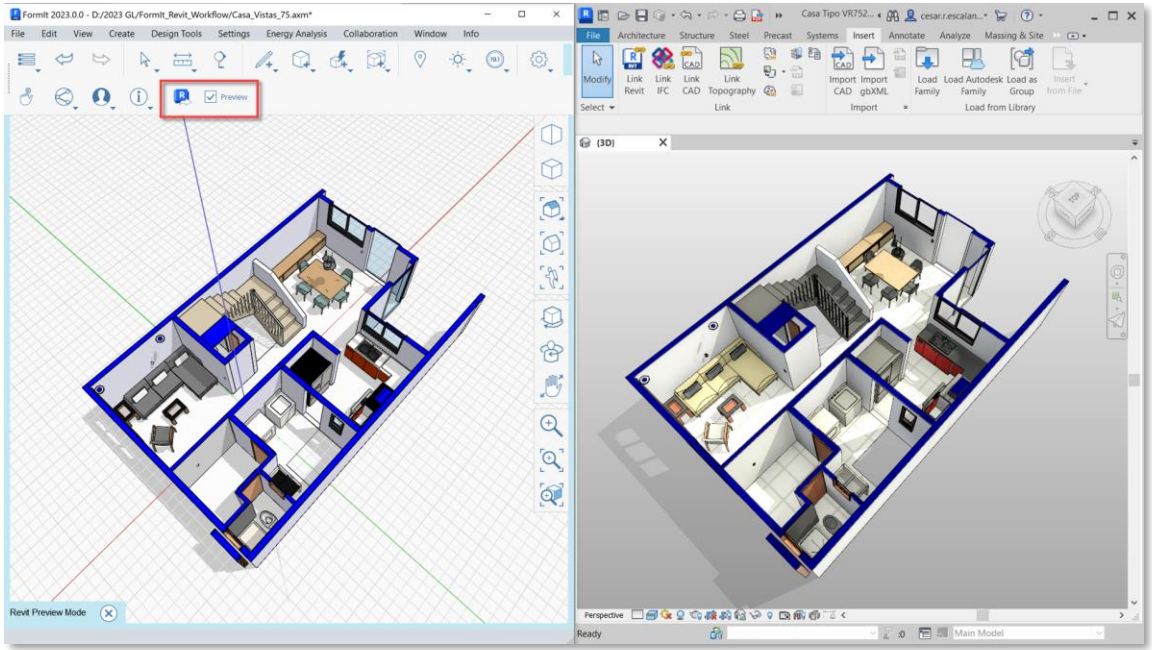


Iterate on conceptual designs faster with FormIt Pro and Revit

FormIt Pro interoperability enhancements

Revit 2023

- Updated 3D Sketch workflow
- Send to Revit as a CAD link
- Send to Revit Preview Mode in FormIt Pro

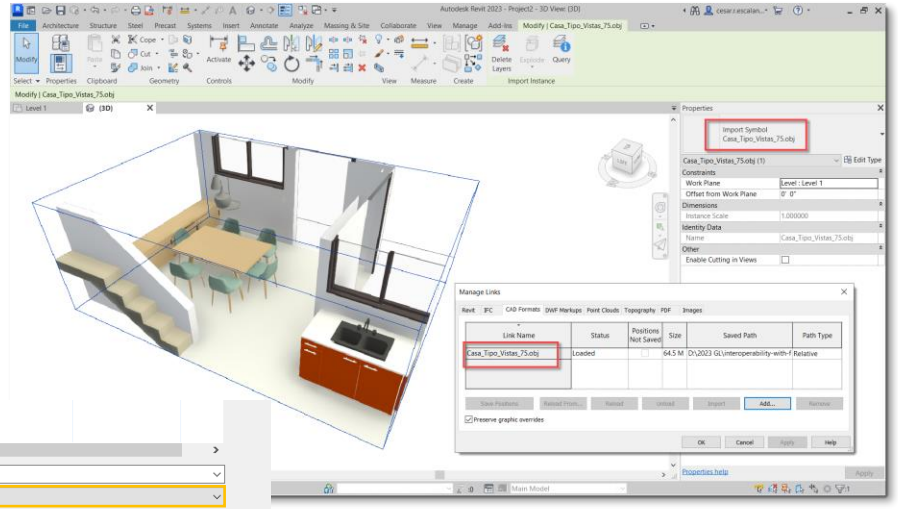


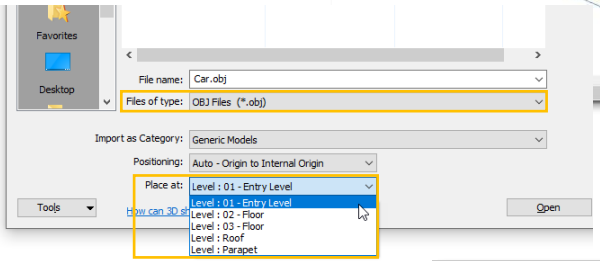
Iterate on conceptual designs faster with FormIt Pro and Revit

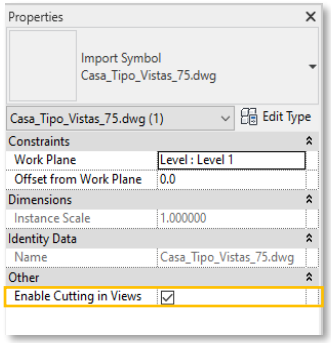
CAD file improvements

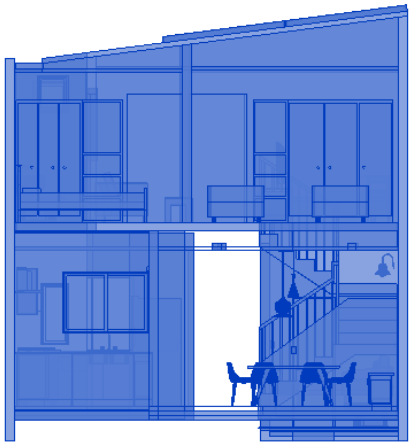
Revit 2023

- Link AXM, OBJ, and STL files in Revit
- Position CAD imports on levels or named horizontal reference planes
- Enable cutting 3D CAD elements in views









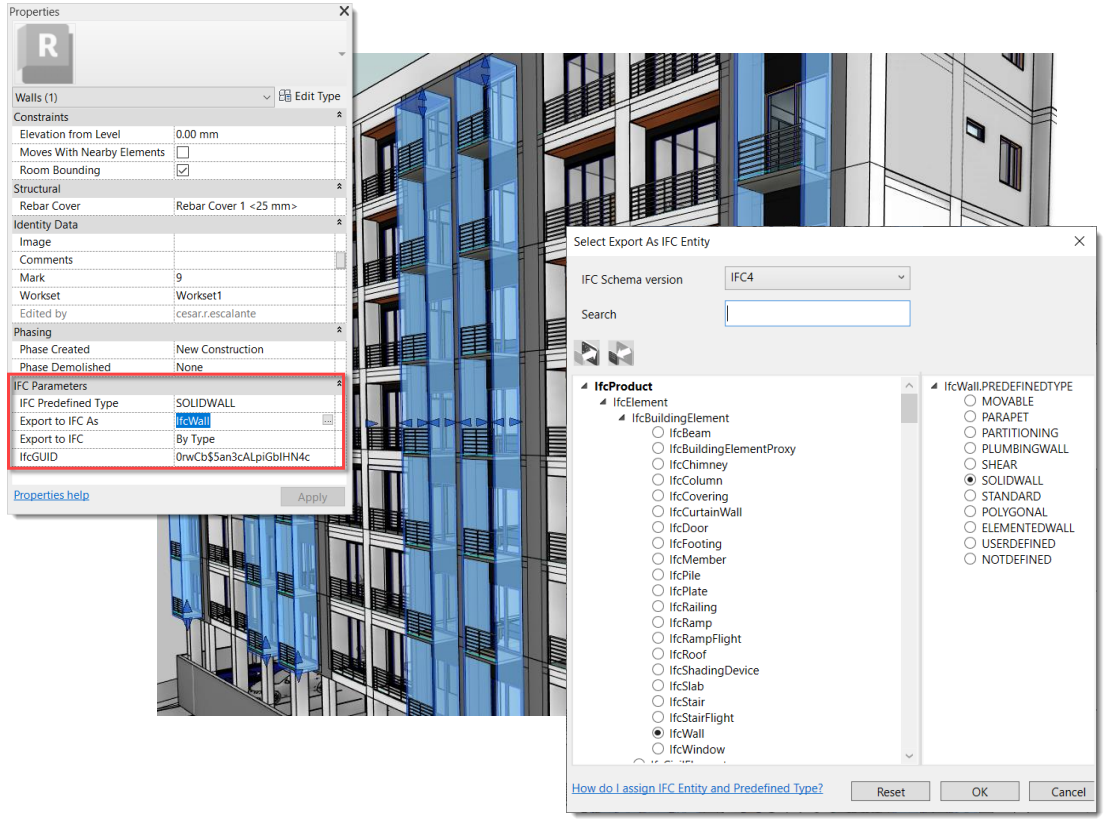
Better control the placement and appearance of CAD content in Revit

IFC parameters and export mapping dialog

Revit 2023

- New built-in IFC attributes for all model elements
  - Export to IFC
  - Export to IFC As
  - IFC Predefined Type
  - IFcGUID
- Export mapping dialog applies standard IFC container attribute values

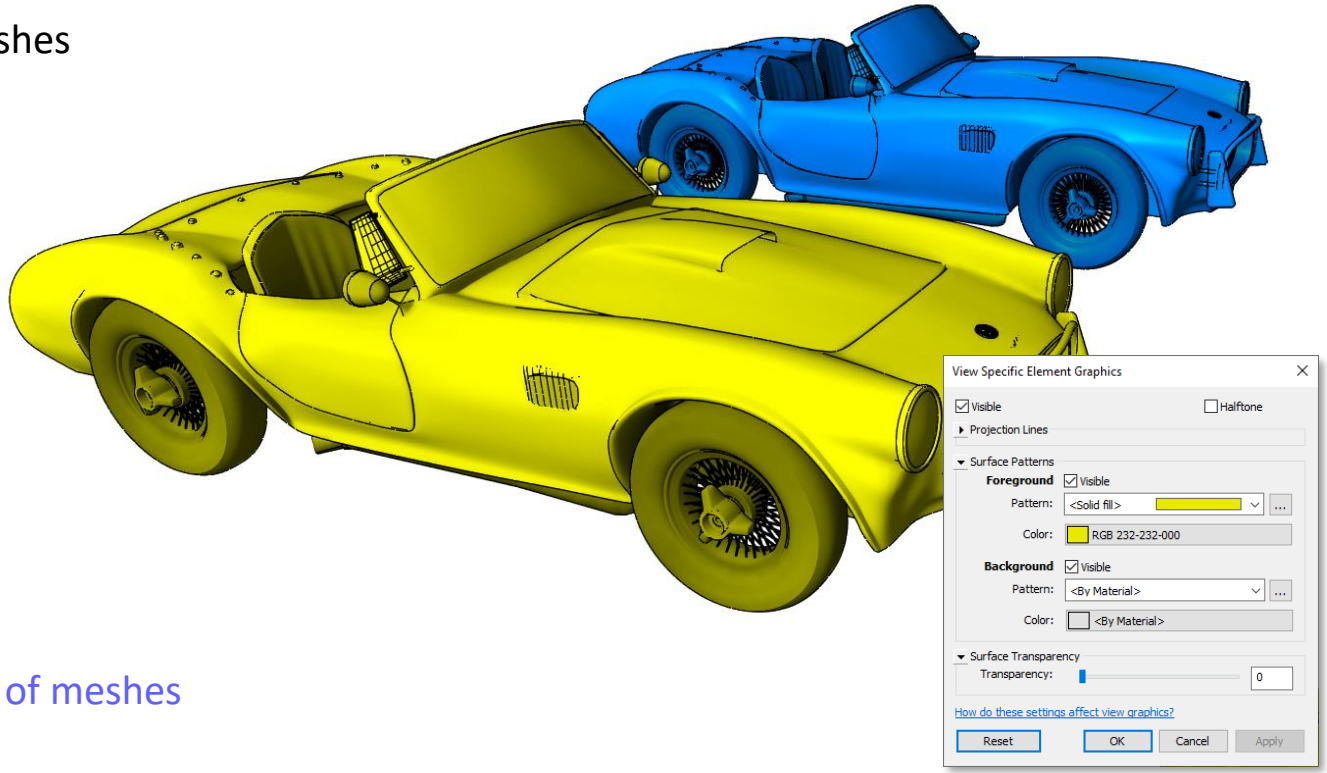
Improve the integrity of your IFC data exchanges



Enhanced mesh capabilities

Revit 2023

- Color overrides for meshes
- Hide mesh edges

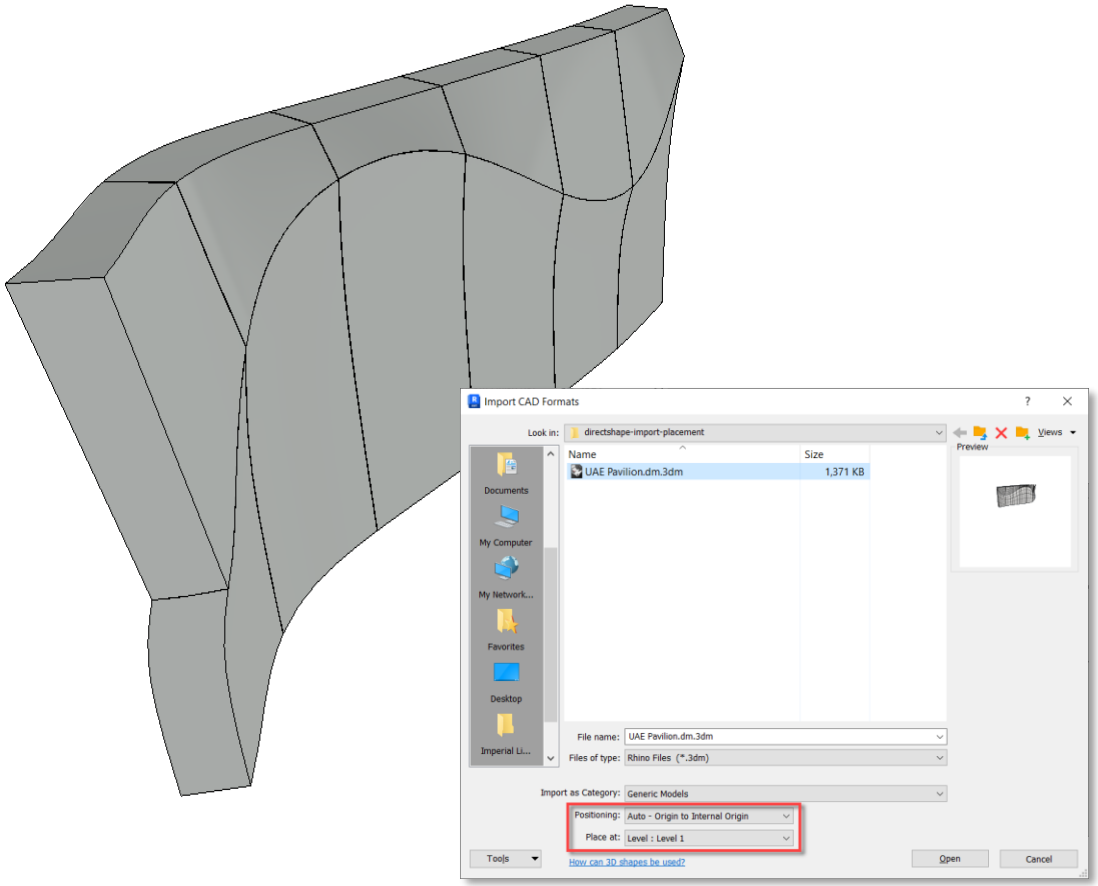


Better control the display of meshes
in your Revit projects

DirectShape import placement

Revit 2023

- DirectShape stores externally created geometric shapes of SAT, OBJ, Rhino 3DM, and STL files
- Place a DirectShape in the selected position
- Select a level or named reference plan for the incoming geometry.



Better control the placement of imported 3D shapes

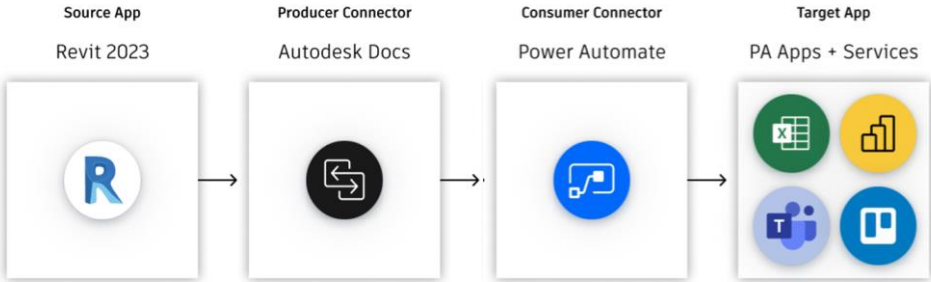
Cloud & data

Revit 2023

Data Exchanges

Revit 2023

- Share subset of model information across applications
- Automate information sharing processes
- New workflow examples:
  - DfMA - Revit to Inventor
  - Business Intelligence – Revit to Microsoft Power Automate*
  - Database Connectors – Revit to Microsoft Excel*



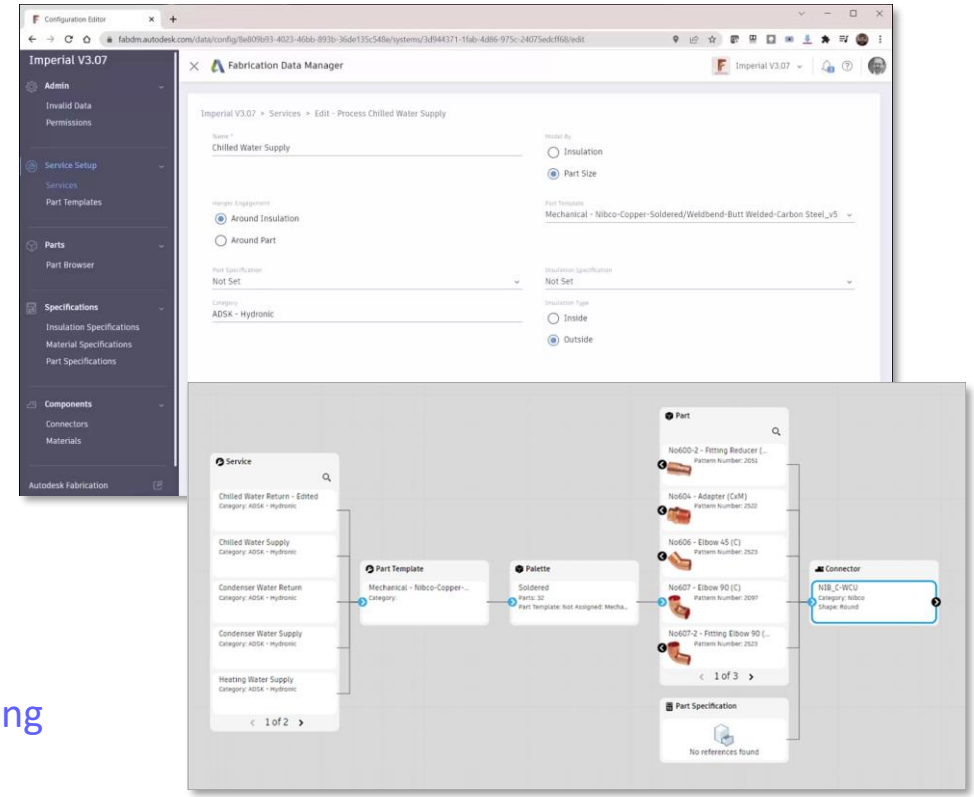
Connect information exchanges to automate data-driven workflows

**Microsoft integration coming soon*

Fabrication Data Manager (FDM) tech preview

Revit 2023

- FDM available for Revit 2022-’23
- Upload fabrication configuration to the cloud
- Built on Autodesk Forge
- Manage data relationships
- Easily share and manage content across project stakeholders

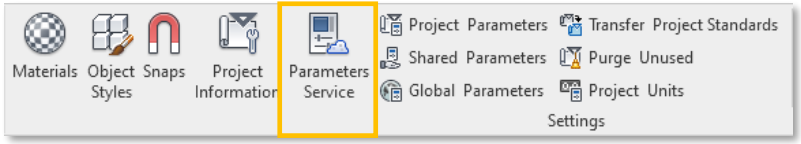


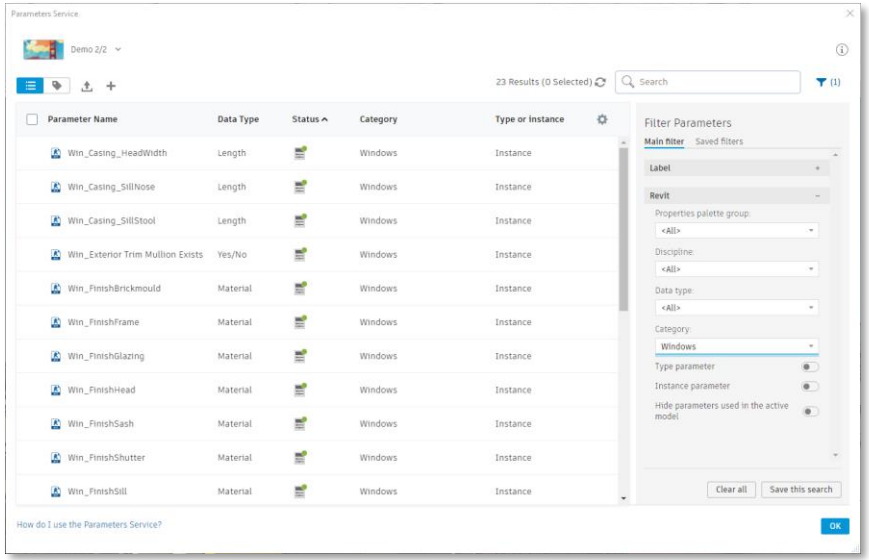
Powerful new features for hosting and managing fabrication parts in the cloud

Parameters Service tech preview

Revit 2023

- Create a library of parameters on Autodesk Construction Cloud
- Add parameters from the Parameters Service anywhere shared parameters are used
- Parameters can be added to the service by
  - uploading an existing shared parameters file
  - uploading parameters from an active Revit file
  - created manually
- Search, filter, and label parameters



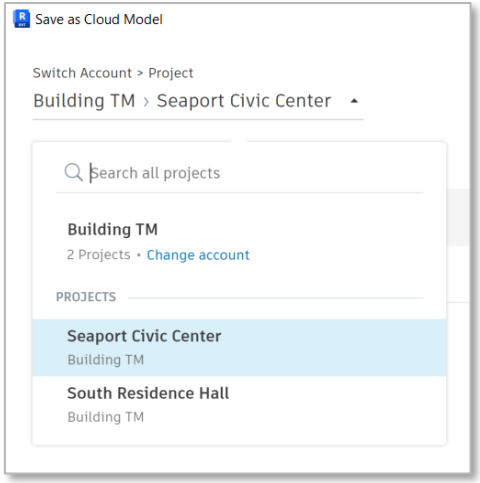


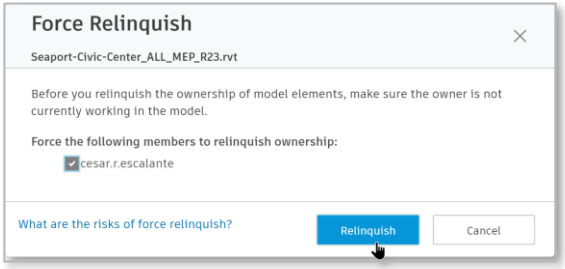
Work with parameters more efficiently

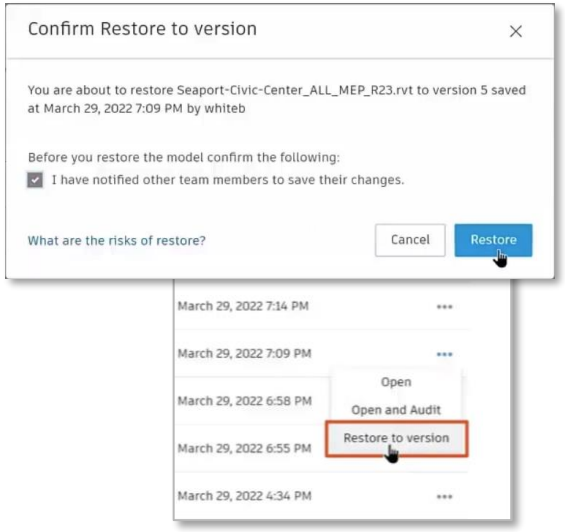
Cloud Model updates

Revit 2023

- Manage Cloud Models in Revit Home screen
- Remember last account for Revit Cloud Models
- Non-destructive model rollback for Revit Cloud Models







Locate, manage, and roll back Revit Cloud Models more easily

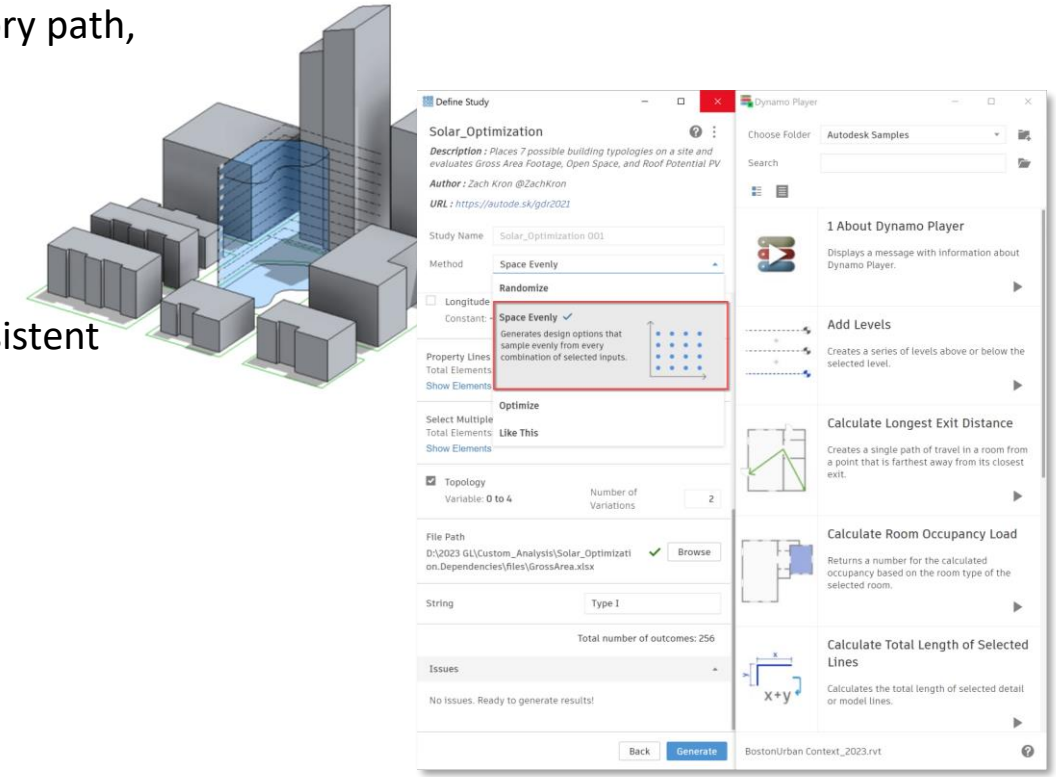
Design optimization

Revit 2023

Generative Design and Dynamo Player updates

Revit 2023

- New input types: number entry, directory path, file path, text string, Boolean toggle
- New method names to improve user understanding
- Dynamo Player user interface now consistent with Generative Design
- Expanded help and learning content



Achieve better design outcomes with an enhanced user experience

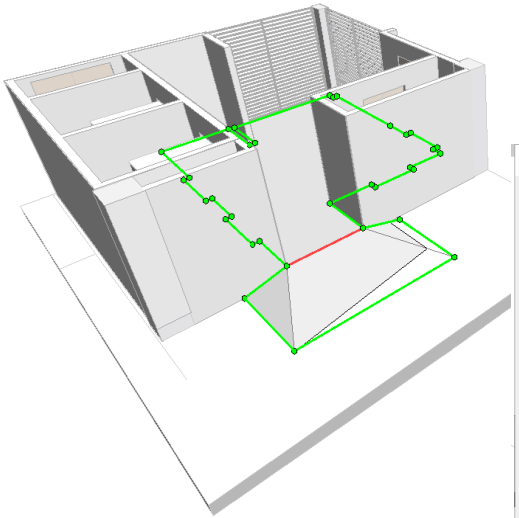
Documentation efficiency

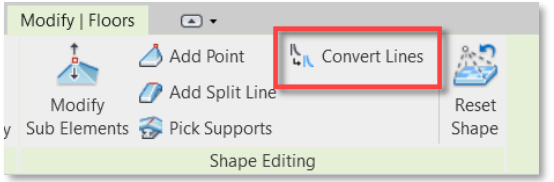
Revit 2023

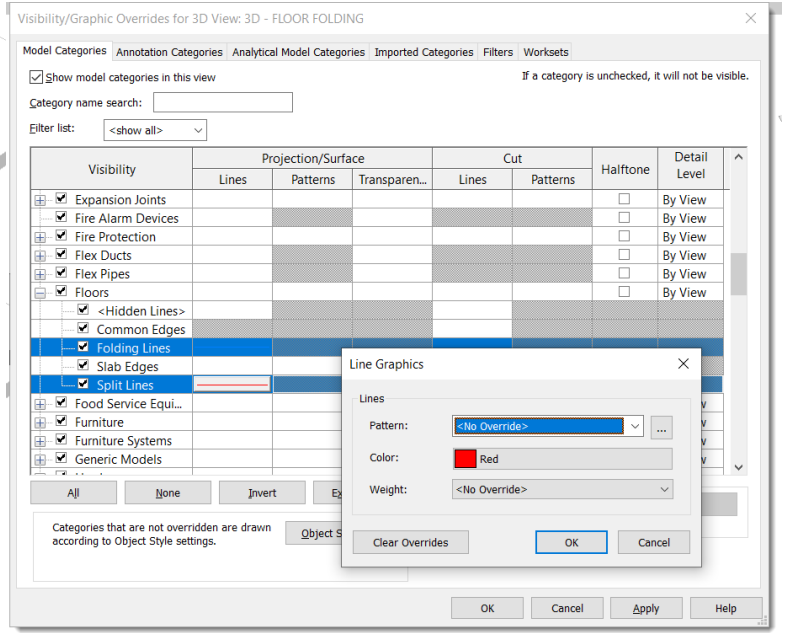
Floor folding lines and split lines

Revit 2023

- New Floor subcategories
  - Folding Lines
  - Split Lines
- Supersedes the Interior Edges subcategory in previous versions
- Convert Folding Lines into Split Lines





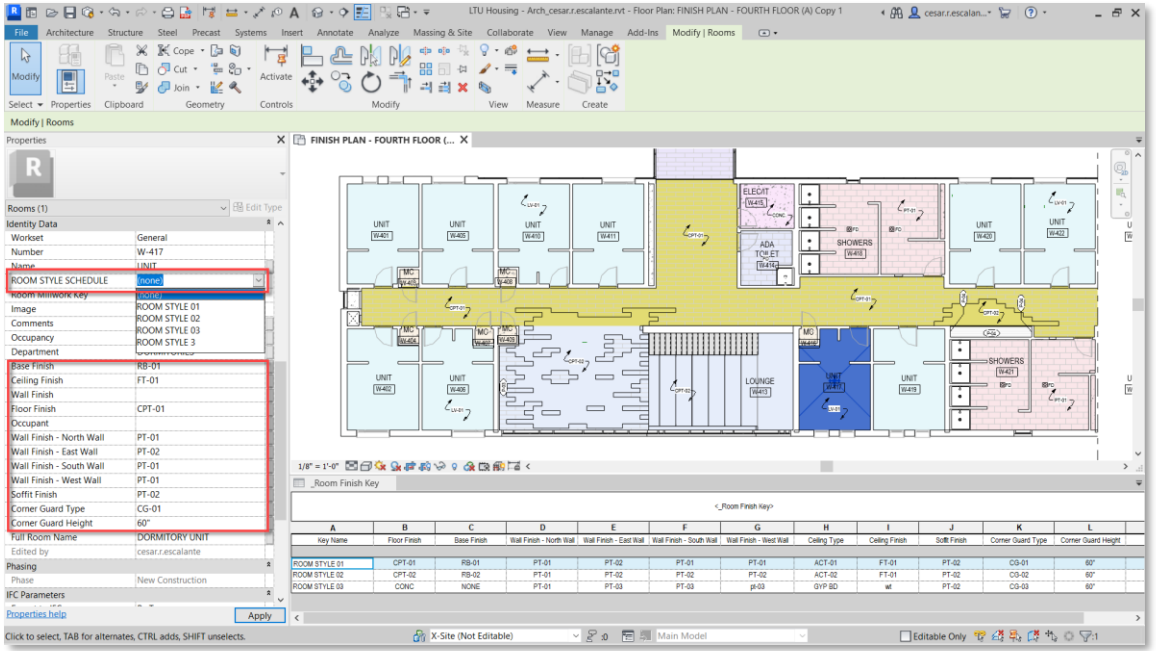


Better shape-editing tools to improve documentation efficiency

Preserve area and room values in key schedules

Revit 2023

- Automate Room and Area information
- Maintain values when the key is set to ‘none’
- Values can be modified as needed

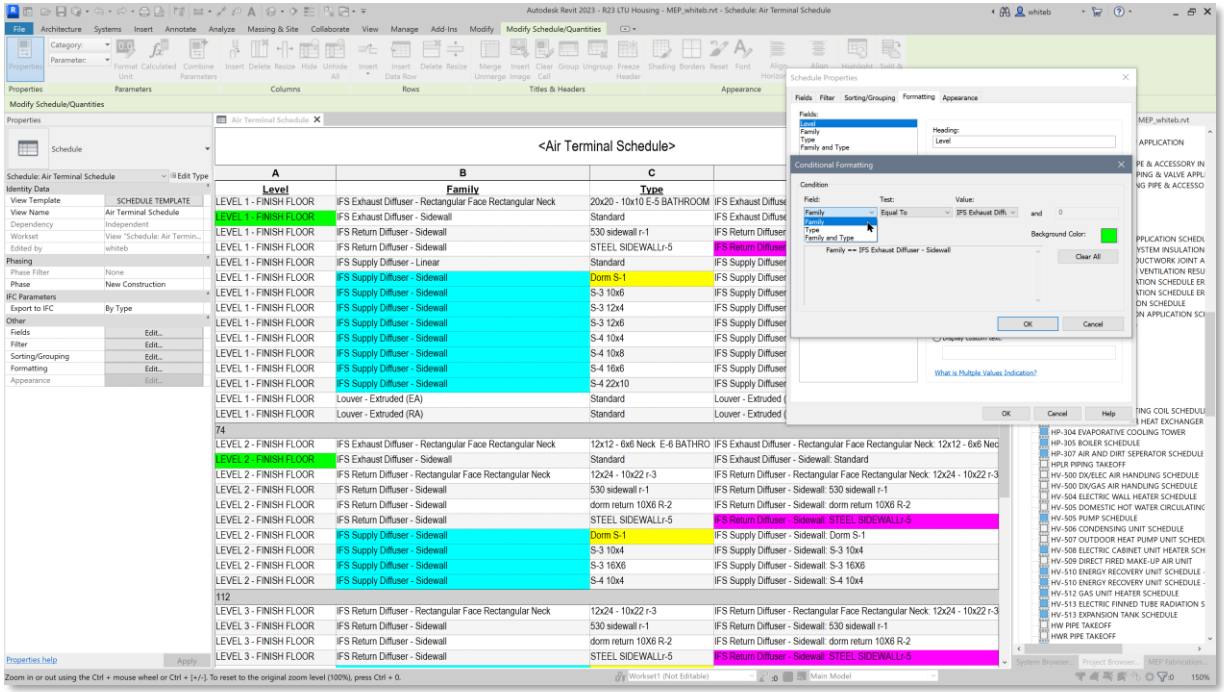


Better control over Room and Area information

Conditional formatting for family and type

Revit 2023

- Visually identify parameters in schedules
- Conditional formatting parameters for:
  - Family
  - Type
  - Family and Type
- Configured independently to help you differentiate



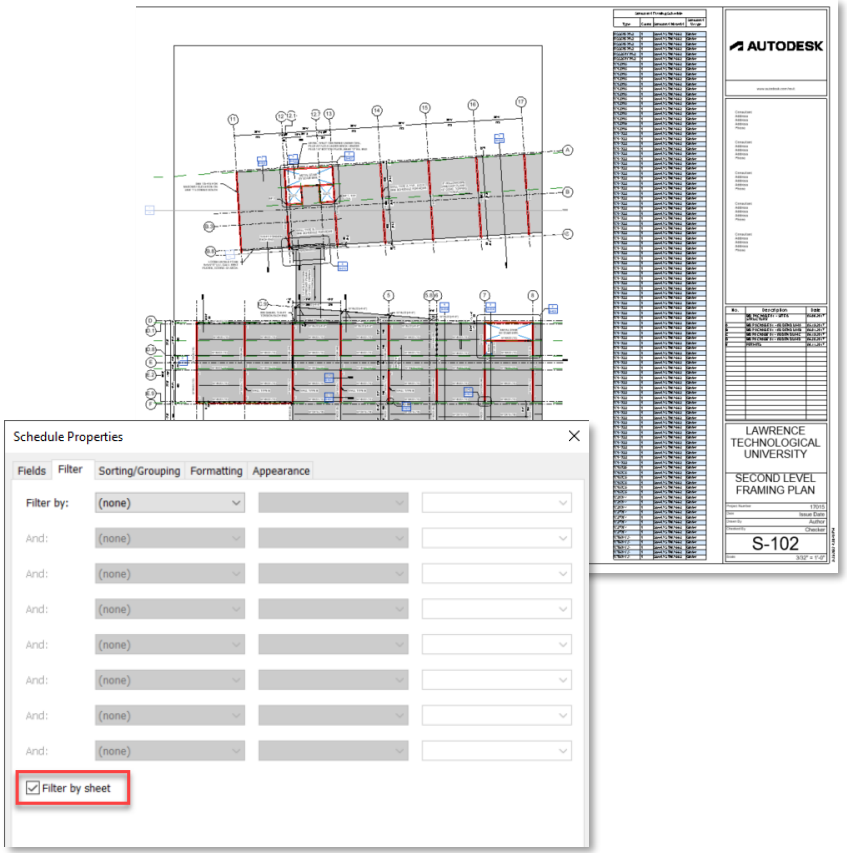
Visually understand your project data

Filter by sheet in schedules

Revit 2023

- Automatic limit schedules to display elements visible on the same sheet
- Based on a new Filter by sheet option on the Filter tab of the schedule properties
- Automatic content update if view gets cropped on the sheet
- Dynamic sheet content behavior when placing the same schedule on other sheets

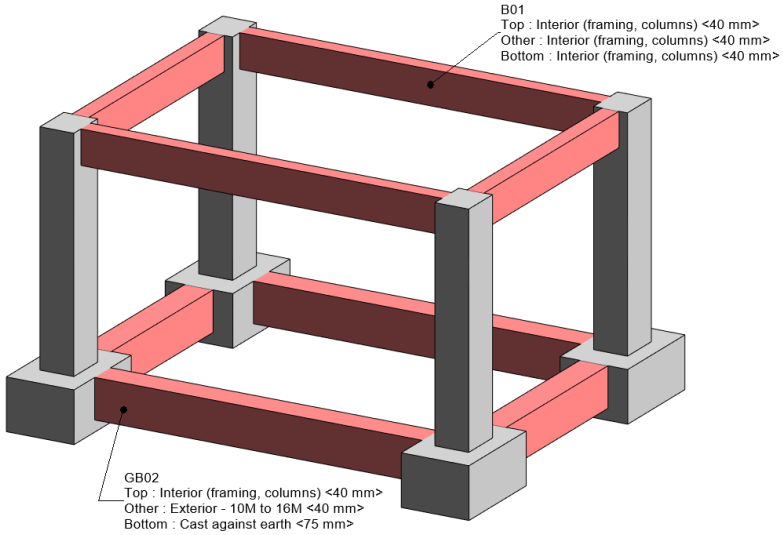
Improved flexibility in the use of schedules on sheets



Rebar cover in schedules and tags

Revit 2023

- New fields in schedules and parameters in tags
  - Rebar Cover
  - Rebar Cover – Top Face
  - Rebar Cover – Bottom Face
  - Rebar Cover – Other Face
- More precise rebar detailing



Structural Framing Schedule

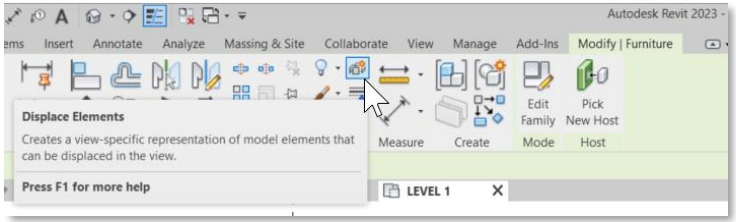
Type	Length	Count	Rebar Cover - Top Face	Rebar Cover - Other Faces	Rebar Cover - Bottom Face
B01	4.25 m	2	Interior (framing, columns) <40 mm>	Interior (framing, columns) <40 mm>	Interior (framing, columns) <40 mm>
B01	6.40 m	2	Interior (framing, columns) <40 mm>	Interior (framing, columns) <40 mm>	Interior (framing, columns) <40 mm>
GB02	3.20 m	2	Interior (framing, columns) <40 mm>	Exterior - 10M to 16M <40 mm>	Cast against earth <75 mm>
GB02	5.80 m	2	Interior (framing, columns) <40 mm>	Exterior - 10M to 16M <40 mm>	Cast against earth <75 mm>

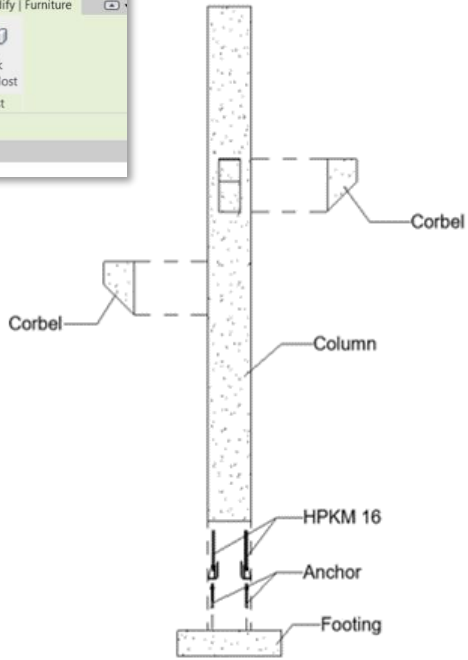
Easily create more comprehensive documentation for concrete

Displace elements in 2D views

Revit 2023

- Displace elements tool extended to 2D views, including callouts and section views
- Adjust the position of elements for better clarity
- Element may be tagged before or after displacement



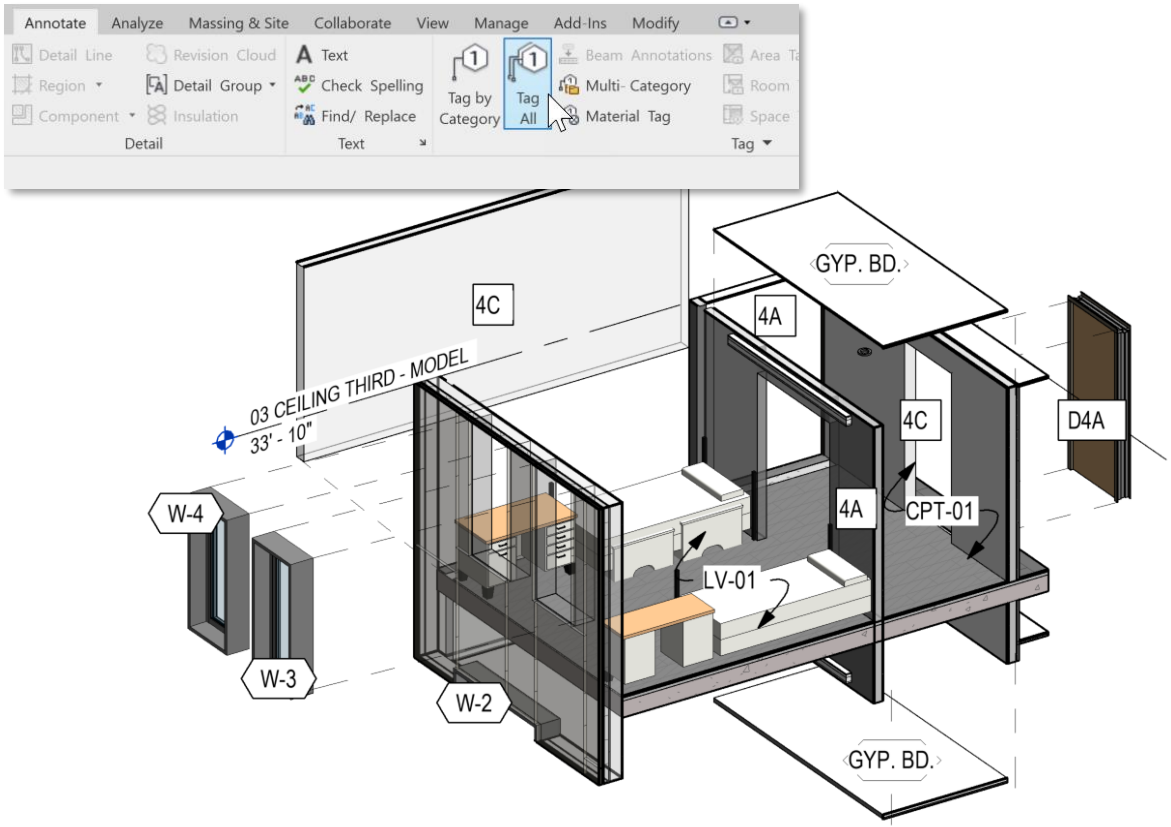


Adjust element positions in 2D views to improve documentation clarity

Tag all displaced elements in 3D views

Revit 2023

- Tag feature enabled for displaced elements in 3D views
- Tag element before or after displacement, the tag will move with the element

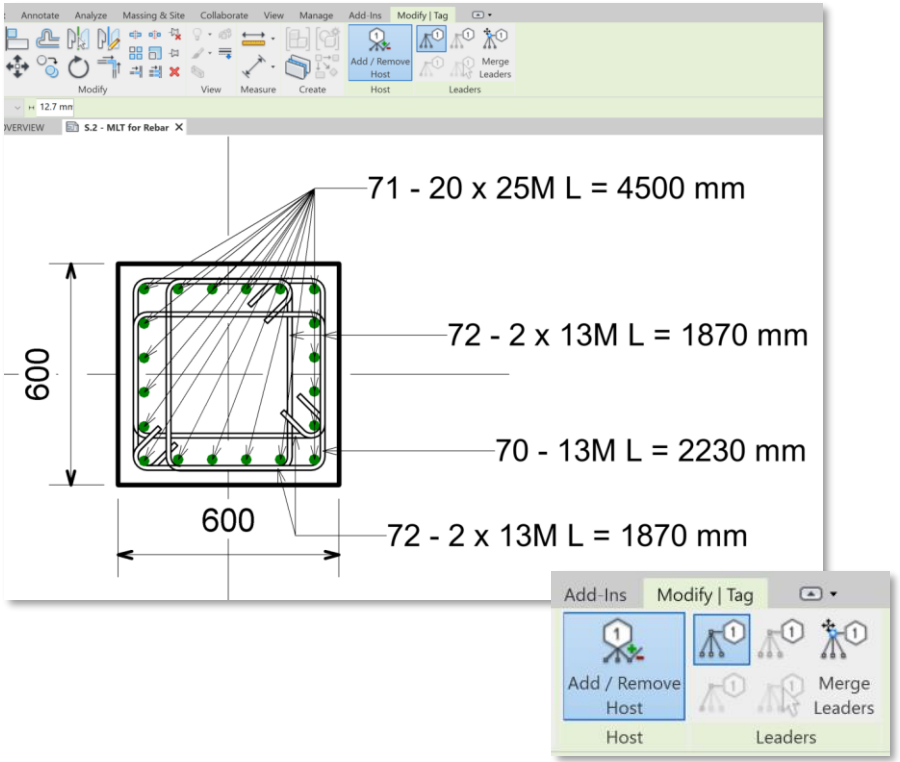


Generate more efficient, flexible documentation in 3D views

Multi-leader tag enhancements

Revit 2023

- Select multiple elements and generate a single tag for all of them
- Tab and/or Window selection
- Dedicated commands to control the visibility of individual tag leaders
- Snap and adjust tag leaders individually or simultaneously

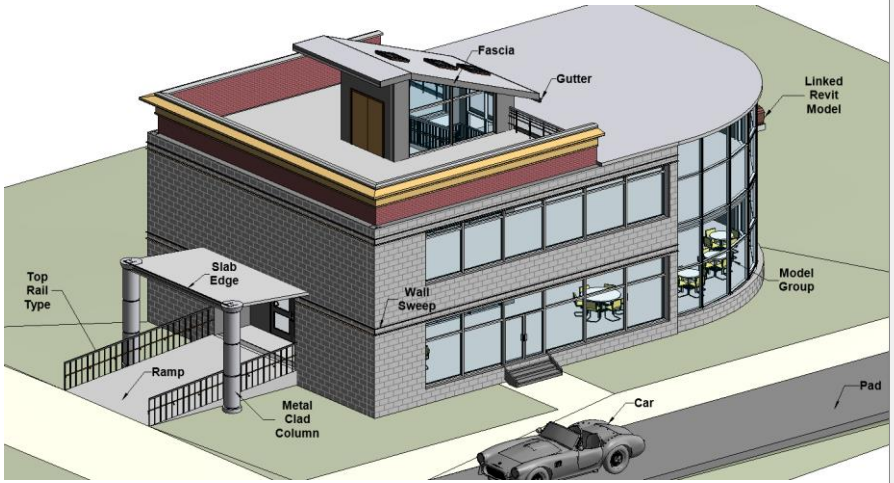


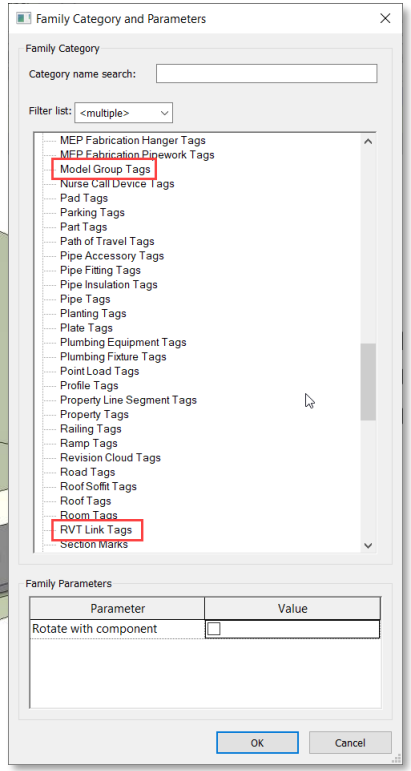
Annotate your designs with multi-leader tags quickly and accurately

Additional taggable categories

Revit 2023

- Tag feature extended to support more categories:
  - Columns (architecture)
  - Entourage
  - Fascias
  - Gutters
  - Roof soffits
  - Handrails and top rails
  - Pads
  - Ramps
  - Wall sweeps



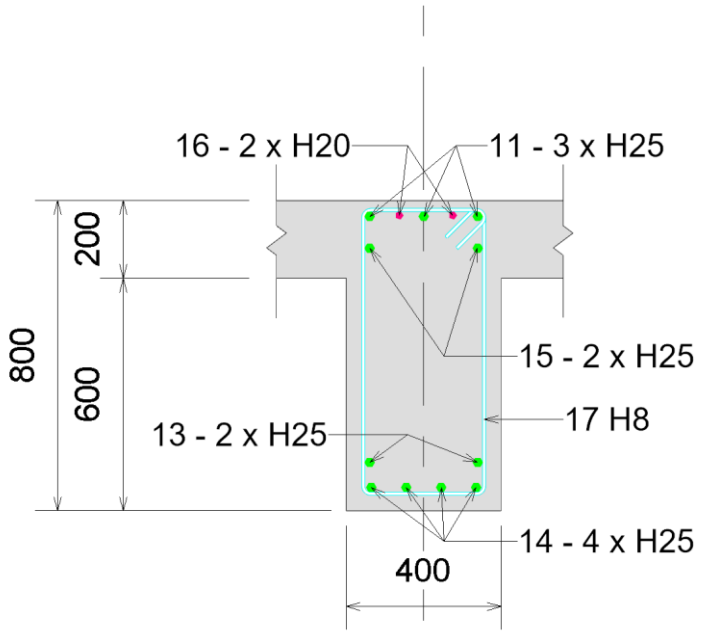


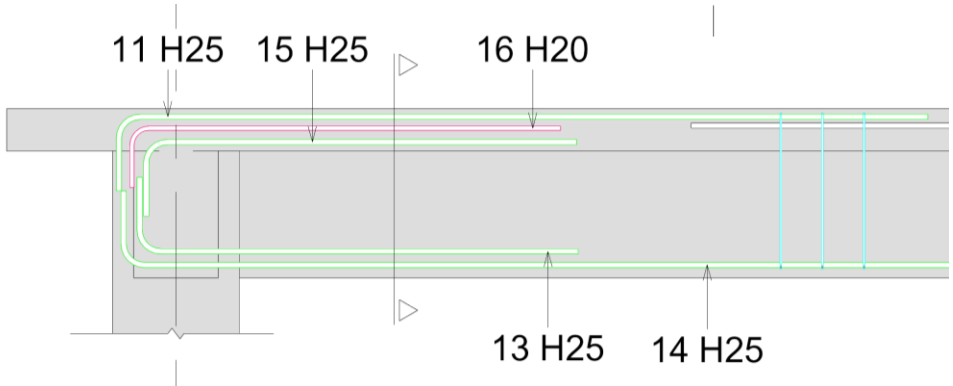
More categories to support better documentation

Displaced rebar representation

Revit 2023

- Displace rebars in Revit views
- Tag displaced bars
- Better communicate design intent





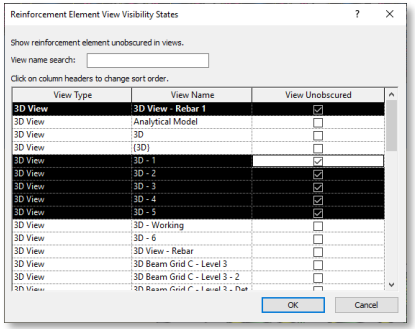
Streamline coordination between designers and fabricators

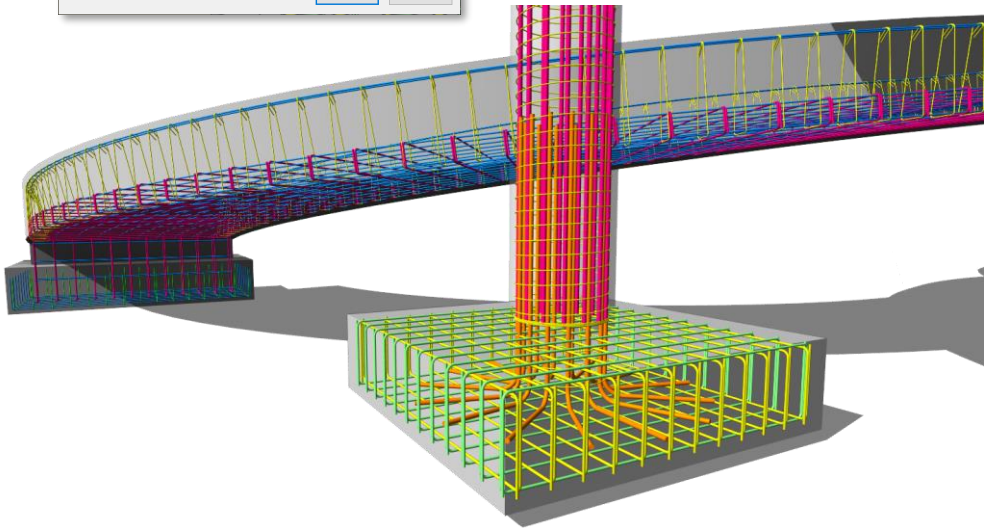
Effective solid rebar visualization in 3D views

Revit 2023

- Rebar now displays as solid by default in 3D views set to Fine level of detail
- Removed “View as solid” property
- Easily toggle the Unobscured property
- Show rebar as solids in 3D views of linked models
- Faster 3D rebar navigation

Navigate 3D rebar models more quickly to increase your detailing productivity





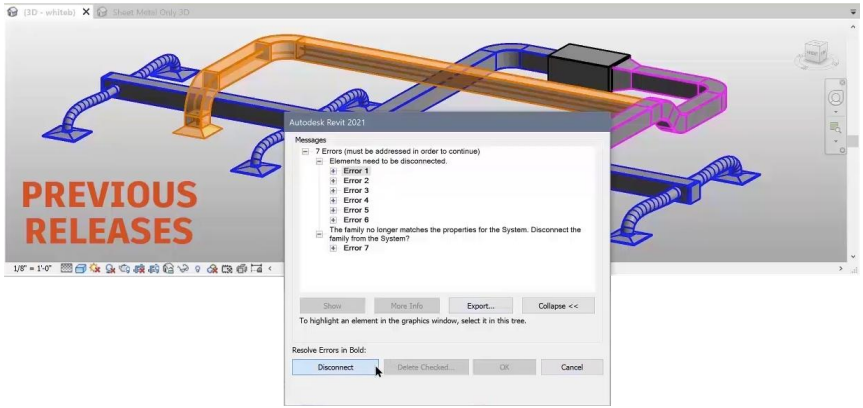
Maintain systems of demolished elements

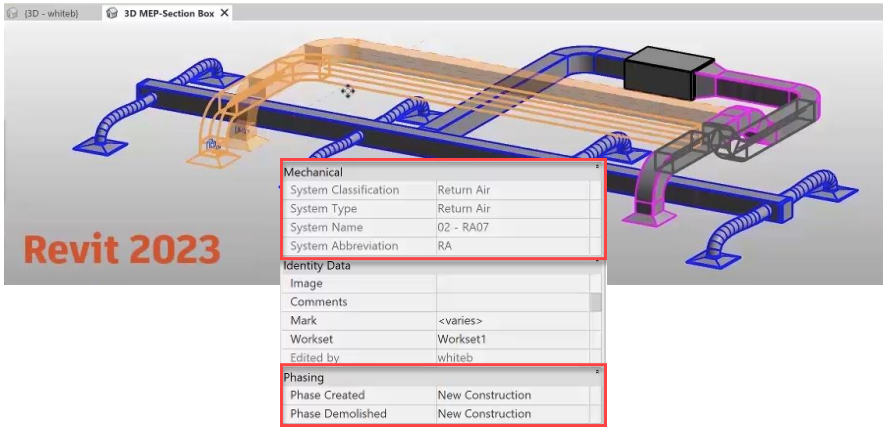
Revit 2023

- Demolished MEP elements maintain their system information
  - System name
  - Abbreviation
  - Classification parameters

- Demolished MEP elements maintain system connection
  - Connected system browser hierarchy
  - Able to move adjoining items

Maintain MEP system connections and information for demolished elements

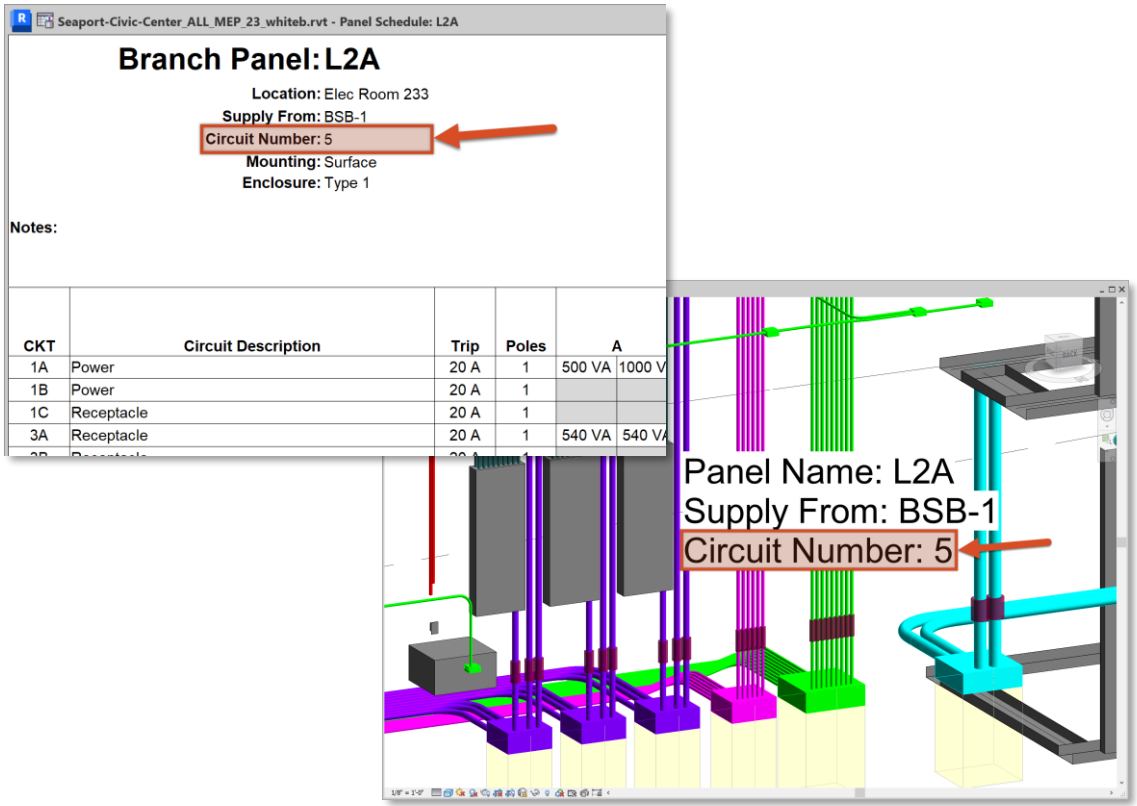




Circuit number info for electrical equipment

Revit 2023

- Electrical equipment circuit number in properties palette
- Circuit number parameter available for panel schedules
- Circuit number parameter available for electrical equipment tags

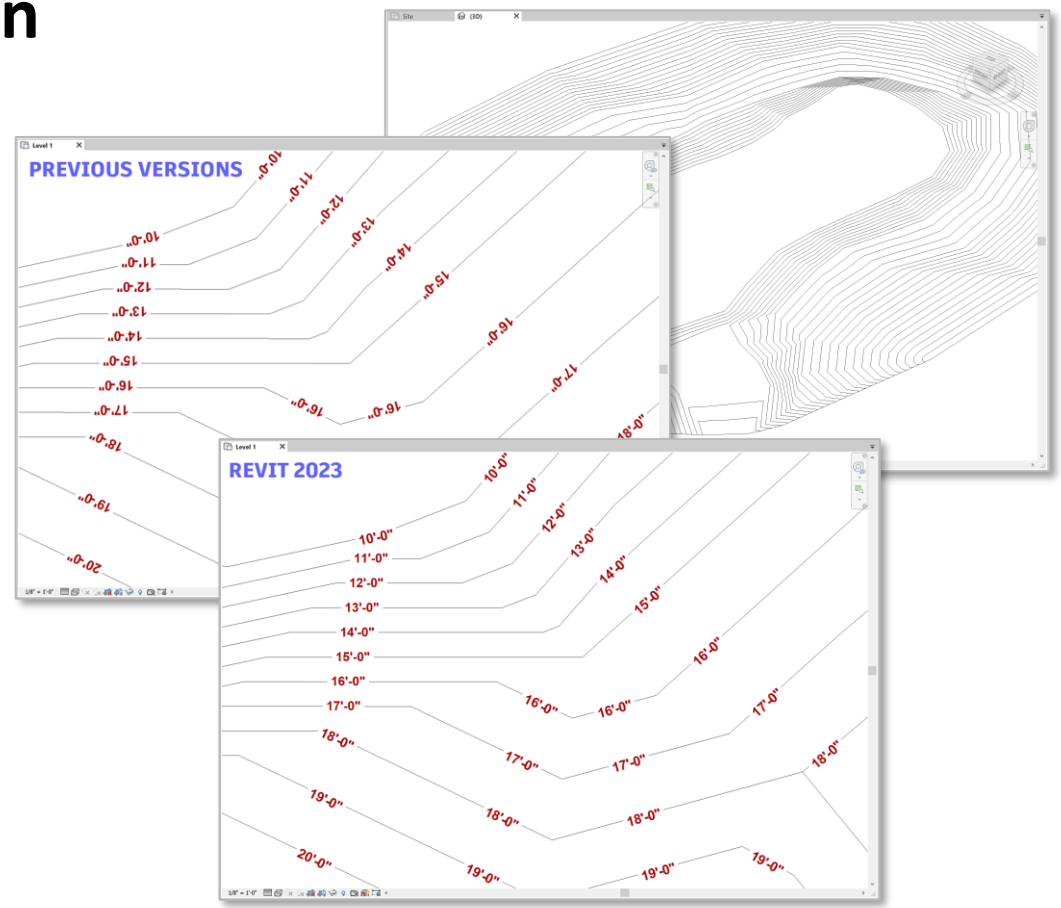


Easily document circuit numbers for electrical equipment

Contour label direction

Revit 2023

- Contour line labels now display with correct text orientation in all situations



Easier-to-read contour lines

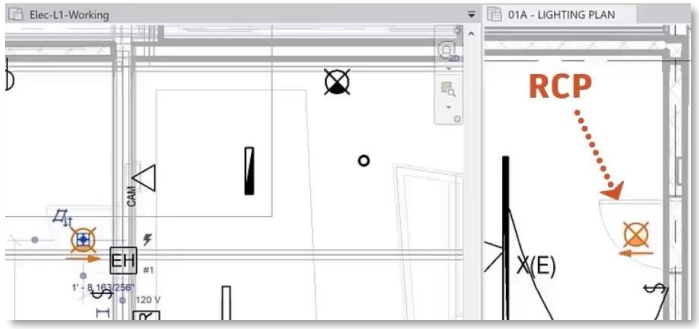
Improved orientation for generic annotations

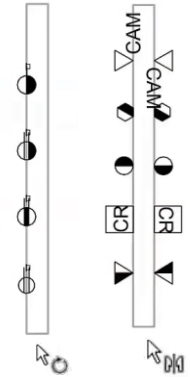
Revit 2023

- Generic annotations on ceiling plans now match their plan view orientation
- Rotating host elements will not affect generic annotations
- Generic annotations will now mirror with their host elements

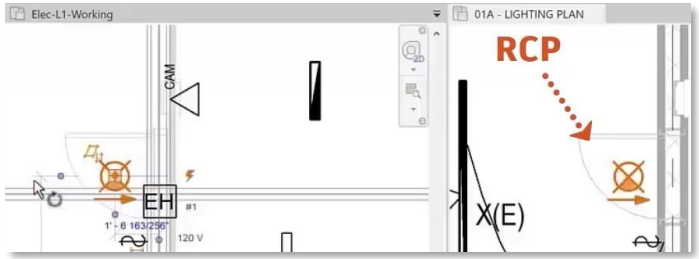
Improved behavior to support better documentation

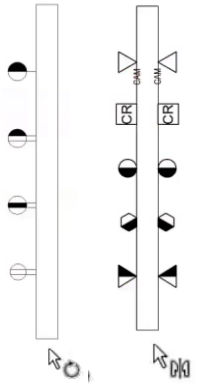
PREVIOUS VERSIONS





REVIT 2023

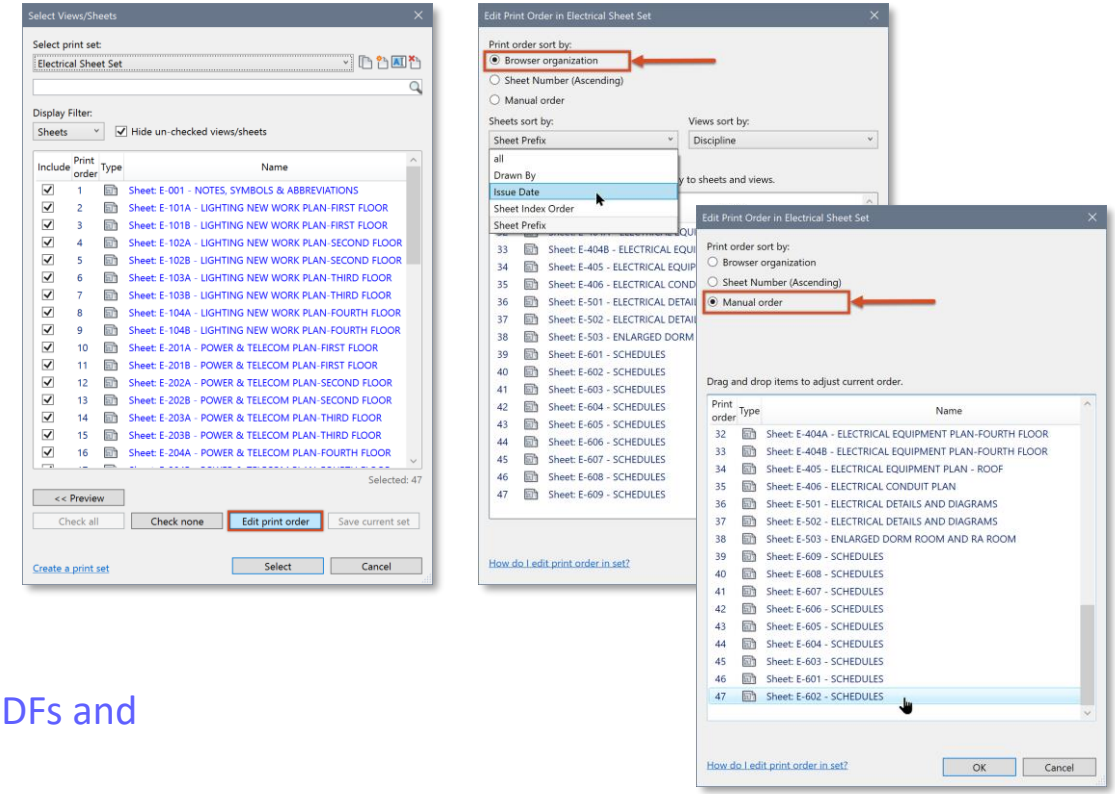




Page order in PDF export and print output

Revit 2023

- Customizable page orders
  - Browser organization
  - Sheet Number (Ascending)
  - Manual order
- Save your set to how you want it to print
- Drag and drop sheets into whichever order you choose

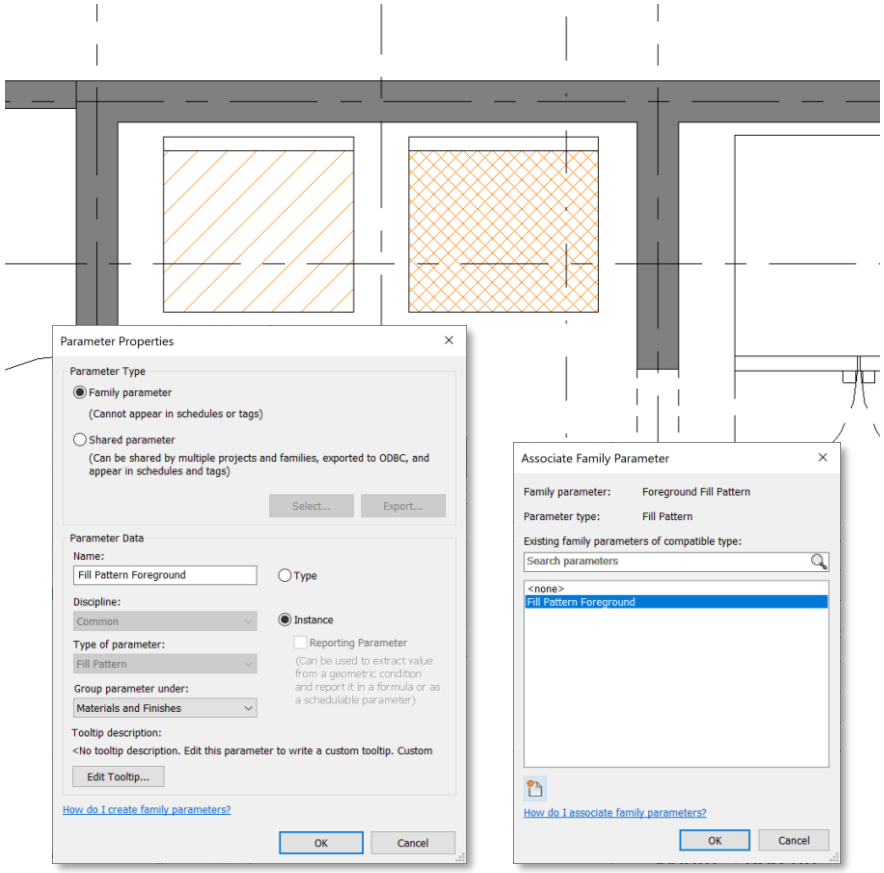


Choose the order in which you export PDFs and print sheets from Revit

Control patterns with family parameters

Revit 2023

- Control the fill pattern individually for each instance of a filled region
- Add this capability to your family with a family instance parameter
- Easily change the fill pattern in the filled region properties

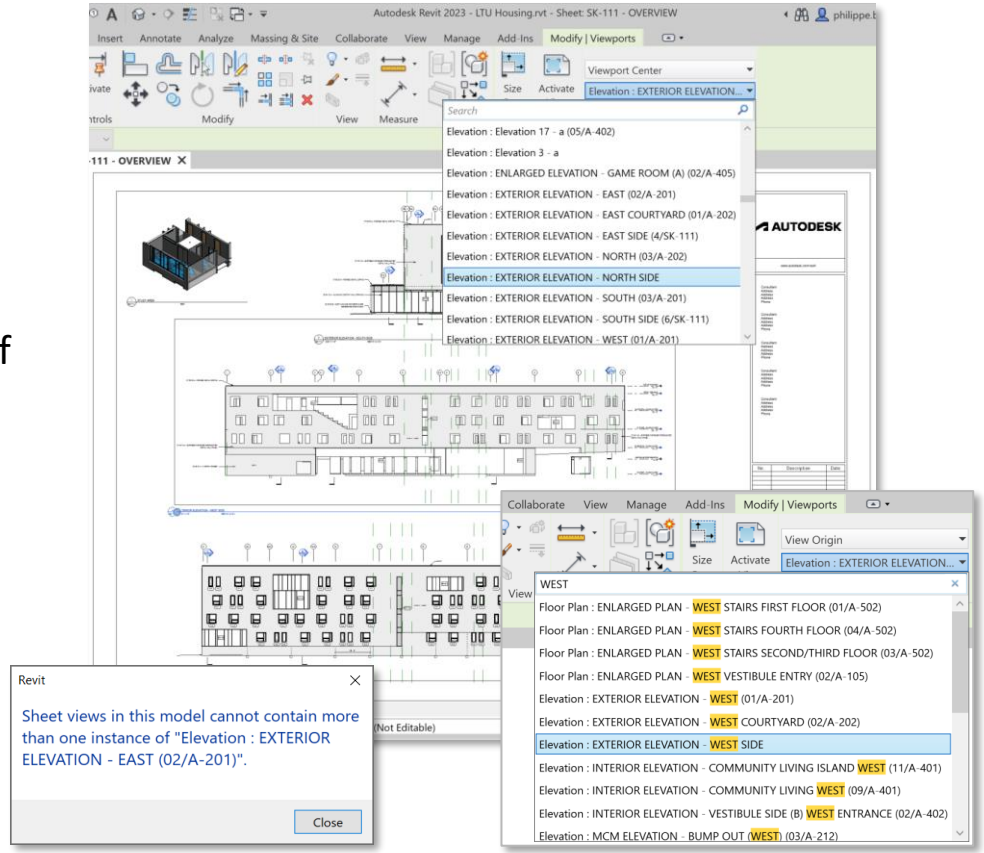


Gain more flexibility in controlling the display of fill patterns in filled regions

Swap views on a sheet

Revit 2023

- New Positioning & View contextual panel
- View placement controlled with Viewport Positioning parameter
- View list is searchable and filters the list of all compatible views
- Alerts you if you attempt to place the same view on a sheet twice



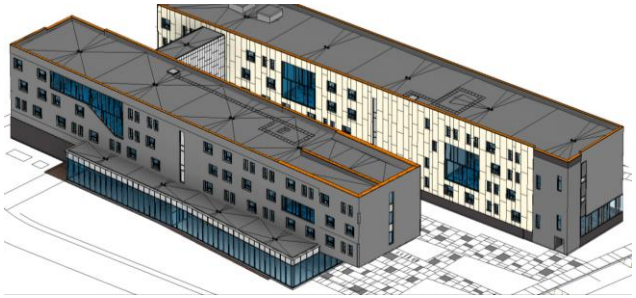
Quickly reorganize sheets by easily swapping out views

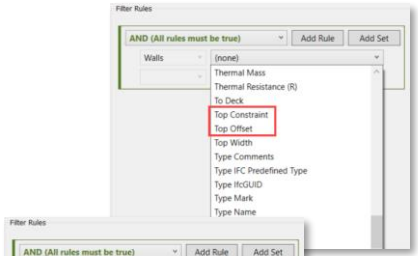
View filter enhancements

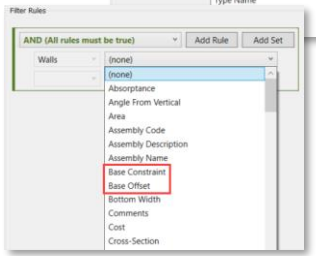
Revit 2023

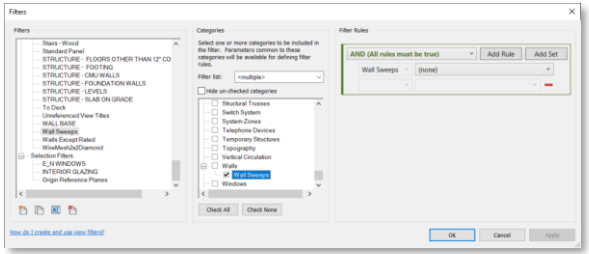
- Wall Sweeps
  - New subcategory for Wall Sweeps added to view filters
  - Control the visibility and graphic appearance independently from walls
- Base and Top Constraints
  - New filter rules for *Base Constraint, Base Offset*, *Top Constraint*, and *Top Offset.*
  - Visually identify walls based at specific levels throughout your project

Use view filters to control the appearance of wall sweeps and constraints







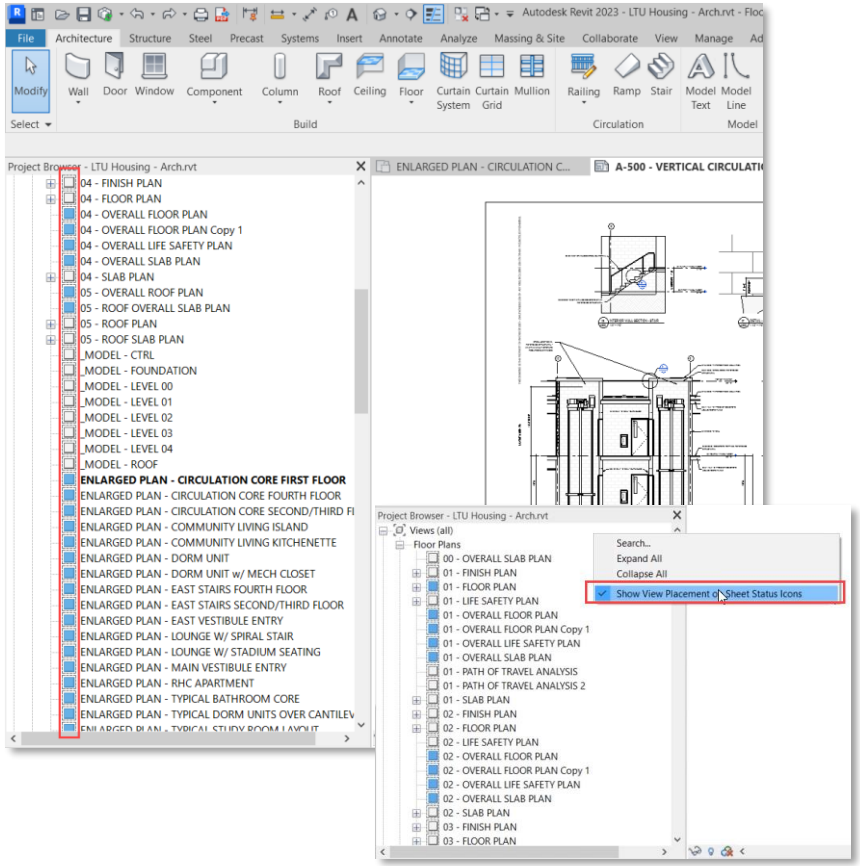


Project browser icon for views on sheets

Revit 2023

- New square icon located to the left of each view name
- Displayed for all items in the Project Browser including views, legend and schedules
  - Solid-filled icon = view placed on a sheet
  - Empty icon = view not placed on a sheet
  - Half-filled icon = schedule is partially on a sheet
- Can be deactivated with the *Show View Placement on Sheet Status Icons* option

Check the sheet status of a view with a new icon in the Project Browser



Additional documentation enhancements

Revit 2023

- Edit label dialog improvements
- Common property for Model Groups and RVT links
- Performance improvement in print, publish, and export functions
- View and sheet APIs

User-requested enhancements to improve ease of use, performance, and flexibility

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