

Chief Architect Premier X13

Professional 3D Home Design Software



Migration Guide

Steps and considerations for migrating to the new program version.

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What's New in Chief Architect X13

Welcome to Chief Architect X13. This topic has been written to help our upgrading customers make a smooth transition from earlier versions of Chief Architect to Chief Architect X13.

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Getting Started Checklist

There are many new features in Premier X13, and many existing features have changed. The following list suggests steps you should take before migrating your files to Premier X13. More information about each of these steps can be found after the list.

1. Review the List of New and Improved Features by Chapter

There are a number of important reasons why you should familiarize yourself with the new and improved features in Premier X13:

- New and improved features allow you to produce drawings more efficiently, so it is to your advantage to use them.
- Some changes to existing functionality may affect your accustomed drawing style and thus your productivity if you are not aware of them.
- New features may affect your choice of settings in your template files, as well as your preferred Preferences settings.

See *New and Improved Features by Chapter* on page 14.

2. Review Migrating Legacy Content

Legacy users of Premier often have library catalogs and other custom content that they want to continue using. See *Migrating Legacy Content* on page 4.

3. Review Migrating Legacy Settings

Before migrating Preferences, Toolbars, or Hotkeys, bear in mind that legacy settings may not be best suited for using the new program version. See *Migrating Legacy Settings* on page 5.

4. Review Migrating Legacy Templates

Before migrating Templates, bear in mind that they may not be set up to take advantage of new tools in the new program version. See *Migrating Legacy Templates* on page 6.

5. Review the Considerations for Legacy Files

Before opening a plan or layout file created in a previous version of Premier, be aware of potential changes to the file that could occur in the new program version. See *Considerations for Legacy Files* on page 7.

6. Launch Premier X13

Once you have learned about the new features in Version X13 and decided whether to migrate any custom settings from a legacy program version, launch Premier X13. The first time you launch, the Migrate Settings dialog will give you the opportunity to bring legacy settings and content forward into Version X13.

Migrating Legacy Content

Legacy users of Chief Architect Premier often have a wealth of library catalogs and other custom content that they have built over time and want to continue using.

LEGACY LIBRARY CONTENT

There are several ways that legacy library catalogs can be brought into Chief Architect X13.

If you have Chief Architect version X5 through X12 installed on your computer, the Migrate Settings dialog will display after you activate the license, allowing you to migrate library content as well as a selection of other settings for use in Chief Architect X13. If multiple legacy versions are present on the system, only the data associated with the most recent will be migrated.

You can import library files from Versions X1 through X5 at any time by selecting **Library> Import Library (.calib, .calibz)** from the program menu.

In addition, library files from Versions 10 and prior can be imported by selecting **Library> Convert Legacy (.alb) Library Files** from the program menu. Bear in mind, though, that older content may not be of the same quality as currently offered catalogs and that legacy Manufacturer catalogs may be out of date.

CUSTOM GRAPHICS FILES

Chief Architect can use graphics files regardless of where they are stored on your system; however, it is a good idea to keep your data organized in one location. If you have custom graphics files, including textures, images or backdrops that you used in a previous program version, you can copy them manually using your operating system for use in Chief Architect X13.

- Copy custom texture files to the Chief Architect X13 Textures folder located in the Chief Architect X13 Data folder.
- Copy custom image files to your Chief Architect X13 Images folder located in the Chief Architect X13 Data folder.
- Copy custom backdrop files to your Chief Architect X13 Backdrops folder located in the Chief Architect X13 Data folder.

In Chief Architect X1 through X12, custom graphics were saved in the Chief Architect Data folder, as they are in version X13. In version 10, they were located in the program's installation directory, in folders that began with "My". Custom backdrops, for example, were saved in "My Backdrops".

Texture and image files are not listed in the Library Browser. These files can be assigned to material and image objects, however, which are stored in the library so it is important to retain them. There are several tools available for adding materials and images to the library.

Migrating Legacy Settings

The Migrate Settings dialog lets you migrate settings from the most recent legacy installation of Chief Architect Premier into Version X13. If you have extensively customized your Preferences, Toolbars, or Hotkeys, you may want to continue using those settings. Before doing so, though, it is important to consider that you may make it harder to take advantage of new tools and functionality in Version X13.

PREFERENCES SETTINGS

Although you can migrate your Preferences settings from Versions X5 through X12 into Version X13, the settings that are available in Version X13 may differ from previous program versions. You should review all the settings in the Preferences dialog to make sure that they are set to suit your drawing needs.

CUSTOM TOOLBAR CONFIGURATIONS

It is possible to migrate toolbar configuration files from previous versions to Chief Architect Premier X13; however, it is also possible that your migrated toolbars will be missing new tools available in Version X13.

We recommend that you set up your custom toolbars the way you would like them in Chief Architect Premier X13. You may find it most effective to customize your toolbars as you get used to working in the new program version, rather than beforehand.

CUSTOM HOTKEYS

Like toolbar configurations, legacy hotkeys can be migrated into Chief Architect Premier X13. Bear in mind, though, that occasionally the default hotkeys are modified to accommodate new features or changes in default system hotkeys.

Migrating Legacy Templates

Chief Architect X13 installs a selection of template plan and layout files that have been set up to take advantage of the program's updated tools and features. Although you can migrate your template files for use in Version X13, for best results it is recommended that you either:

- Use the installed templates when creating new plans and layout files in Chief Architect X13
- Use the installed templates as the basis for creating new custom templates.

If you choose to continue using custom template files that you created in a previous program version, it is very important that you take the time to carefully review all the default settings in the file, making sure that they will continue to suit your needs in Version X13. First, make copies of your custom templates in the Chief Architect Premier X13 Templates directory. The Templates directory is located in the Chief Architect Premier X13 Data folder. Next, open each template as you would a regular plan or layout file, by selecting **File> Open**, and then save any changes you make by selecting **File> Save**.

If you do choose to continue using a legacy template plan, it is best to also use a legacy layout template from the same program version, as well. As with a template plan, take the time to go through the layout template's defaults and make sure they are suited for use in Version X13 and that their line weight scales do not conflict with those in your template plans.

Considerations for Legacy Files

As in all software, every new program version introduces changes to its functionality as well as to the user interface. If you choose to bring a project forward, be sure to take a few moments to look it over in the new version and confirm that the new functionality does not require you to make any modifications. Particularly if you have an approaching deadline, you may find it best to finish the current project in the version of the software in which you began it.



Be sure to read this section before opening any plans created in earlier versions of Chief Architect.

Chief Architect X13 can open the **.plan** and **.layout** files from prior versions. Files with the older **.pl** and **.la** file extensions are no longer supported, however, and cannot be opened by Chief Architect X13. Before opening any files created in earlier versions of Chief Architect, it is important to be aware of changes made in the newest version and the effect they may have on your legacy plan and layout files.

Please note that files saved in the latest program version cannot be read by older versions of the software. When a legacy file is saved in the version X13, an unaltered copy of the original file is created in the Chief Architect X13 Data folder, under Archives, which can still be opened in the original version.

FOR FILES CREATED IN VERSION X12 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X12 or prior, bear in mind the following:

1. Default 110V Ceiling Outlet

In Chief Architect X12 and prior, the 110V Outlet tool did not have the ability to place outlets in ceilings. In Version X13, this ability was added, as was the new GFCI Outlet tool. When a legacy file is opened in Version X13, the new Electrical Defaults settings for these items will automatically refer to objects in the Version X13 Core Catalogs. You should confirm that these defaults meet your needs. If these default objects are not present in your library, a warning message will inform you of the issue.

2. Sliding Door Hinge Side

In Chief Architect X12 and prior, the fixed or 'hinge' side of sliding doors was described as viewed from the exterior side of the door. In Version X13, the hinge side is described using the more common method: as viewed from the interior side. When a legacy file is opened in Version X13, all instances of the %hinge_side% Name-Value Pair in labels, schedules, and the Materials List will use the new method. You should confirm that the Hinge Side information in labels, schedules, and Materials Lists meets your needs.

FOR FILES CREATED IN VERSION X11 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X11 or prior, bear in mind the following:

1. Perspective Crop Mode

In Chief Architect X8 through X11, Perspective Crop Mode allowed older functionality governing zooming in cameras from Version X7 and prior to be preserved in saved cameras in legacy plans migrated forward. This deprecated tool has been removed from the program's menu and toolbars in Version X12, although it can be migrated with legacy toolbars and hotkeys. Saved cameras in legacy

plans with this behavior enabled may become distorted if you pan or zoom in the view. To permanently disable this behavior in a camera view and resolve the resulting distortion, select **Window> Fill Window** or press the F6 key.

2. Layout Layer Sets

In Chief Architect X11 and prior, the Send to Layout dialog had a sticky Make Copy of Active Layer Set option that created a new layer set for the layout view to help preserve layer settings in that view. This option was removed in Version X12 to encourage use of the multiple saved plan views. Saved plan views did not exist in Version X9 and prior, however, so if you open a plan originally created in Version X9 or prior, extra care must be taken to make sure layout views do not use the same layer set.

3. Materials List Formulas and Ruby Macros

Name-Value Pairs returned length, area, and volume measurements as Floats. In Version X12, these values are reported using the Measurement class that includes both a numeric value and a unit. Older Ruby code may change behavior when migrated into Version X12. When a legacy Ruby macro or materials list formula is evaluated, the program will automatically check its version and prompt you to migrate it to the newest version.

4. Units of Measurement

In Chief Architect X11 and prior, units of measurement used by the program, including user-defined units, were stored in a file called Units.dat located in the Chief Architect Data folder. Beginning in version X12, this information is saved with other Preferences settings.

FOR FILES CREATED IN VERSION X10 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X10 or prior, bear in mind the following:

1. Marker and Elevation Point Heights

In Chief Architect X10 and prior, the # sign could be added to the label of a Marker or Elevation Point and the label would report the height of the Marker or the Elevation Point's elevation. In Version X13, text macros are used to report this information instead. In legacy plans, any # signs in Marker or Elevation Point labels will be replaced by the %heightf% or %elevationf% macro.

2. Glass Shower Walls

In Chief Architect X10 and prior, the "Glass Shower" wall type was included in installed template files and like other wall types, built to the structural layer of floors and ceilings and to the Main Layer of adjacent walls. In Version X13, this wall type has the new Partition Wall attribute and instead builds to floor, ceiling, and wall surfaces. When a legacy file is opened in Version X13, this wall type will be modified to have Partition Wall checked automatically and existing walls will be affected by this change.

3. Fixture Schedules

In Chief Architect X10 and prior, 3D Elevations and Perspectives in Fixture Schedules showed cabinet fixtures inserted into a cabinet. In Version X13, fixtures are shown on their own, even when they are inserted into an object in the plan. When a legacy file is opened in Version X13, any fixture schedules showing 3D views of objects may be affected by this change.

FOR FILES CREATED IN VERSION X9 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X9 or prior, bear in mind the following:

1. Parallel Lights

In Chief Architect X9 and prior, Parallel Light sources could be specified for electrical light fixtures and Added Lights. In Version X13, Parallel Lights are no longer supported. In legacy plans opened in Version X13, any Parallel Light sources will be converted to Spot Lights.

2. Brick Ledges

In Chief Architect X9 and prior, brick ledges were not represented in plan view. In Version X13, brick ledges are drawn in plan view on the “Slabs” layer in stem wall and grade beam foundations, and on the “Walls, Foundation” layer in monolithic slab foundations. When a legacy file is opened in Version X13, brick ledges, if present, will be drawn.

3. Window Types

In Chief Architect X9 and prior, the %type% text macro for windows reported some Window Types using abbreviations. In Version X13, the abbreviations were replaced with full words. When a legacy file is opened in Version X13, the width of Window Schedules may be affected, as may the width of columns in saved Materials Lists.

4. Joist Direction Lines

In Chief Architect X9 and prior, Joist Direction Lines described all platform framing as “joists” and used nominal lumber sizes in whole inches in US Unit plans. In Version X13, the platform’s framing Structure Type is reported and in US Unit plans, the size is described in fractional inches. When a legacy file is opened in Version X13, Joist Direction Lines will use the new, more accurate labeling.

5. Custom Schedule Columns

In Chief Architect X9 and prior, custom schedule columns could be created by adding a Sub Category to a type of object on the Categories panel of the Preferences dialog. In Version X13, Sub Categories can no longer be created in this manner. When a legacy file is opened in Version X13, any Sub Categories shown as custom schedule columns will be converted to Custom Fields.

6. Registered User Text Macros

In Chief Architect X9 and prior, a selection of Registered User Text Macros could be inserted into Texts, Callouts, and Markers. These macros no longer displayed any data and in Version X13, they are no longer recognized. When a legacy file is opened in Version X13, any Registered User macros inserted into text objects are treated as regular text.

FOR FILES CREATED IN VERSION X8 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X8 or prior, bear in mind the following:

1. Layer Names

In Chief Architect X8 and prior, turning off the Modify Name in all Layer Sets option made it possible to assign different names to the same layer in different layer sets. In Version X9, this option was no longer supported. When a legacy file is opened in X13, the layer names used in the currently active layer set will be retained and any other layer names in other layer sets will be discarded.

FOR FILES CREATED IN VERSION X7 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X7 or prior, bear in mind the following:

1. Boxed Eaves

In Chief Architect X8, improvements to the generation of Boxed Eaves ensure that they extend into exterior rooms with “Use Soffit Surface for Ceiling” specified when located between the roof baseline and an interior room. In some legacy plans opened in Version X13, the **Length** value for Boxed Eaves may need to be modified in the Roof Plane Specification dialog.

2. Uppercase Text

The Uppercase option was added to Text Styles in Version X8, whereas in Version X7 and prior, it was an option for Room Labels and Schedules only. In legacy plans opened in Version X8, any Schedules present in the drawing will be assigned a Custom Text Style, as will their associated Schedule Defaults. If any Schedule Default is set to Use Layer for Text Style and no objects are present on that layer, a new Schedule Text Style will be created and assigned to that layer. Room Labels are treated similarly: if any are present, they and their defaults will use a Custom Text Style. If a given Room Label or Schedule has been sent to layout more than once and was set to use different Text Styles in each layout view, it is possible that its appearance may be affected in some views.

FOR FILES CREATED IN VERSION X6 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X6 or prior, bear in mind the following:

1. Built-in Appliances

In Chief Architect X6 and prior, some appliance symbols designed to be inserted into base cabinets had incorrect sizing data. In legacy plans opened in Version X13, these appliances will not fit into the cabinet correctly and will need to be replaced. Built-in dishwashers are particularly affected.

2. Formatting of Bulleted and Numbered Lists

In Version X7, various improvements were made to the way lines of Rich Text are spaced. In legacy plans opened in Version X7, Rich Text objects with bulleted and numbered lists may require adjustments.

3. Chief Blueprint Font

The Chief Blueprint font was improved for Version X6, with decreased top and bottom spacing. The change in spacing may increase the overall height of text objects using this font in X6 files opened in Version X13. X5 and prior legacy files will not be affected by this change.

FOR FILES CREATED IN VERSION X5 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X5 or prior, bear in mind the following:

1. Name-Value Pairs for Doors and Windows

In Version X6, the NVPs `door_style_name`, `door_type_name`, and `window_type_name` were shortened to `style_name` and `type_name`. Any object labels or text macros using these NVPs in legacy plans opened in Version X13 will need to be replaced.

FOR FILES CREATED IN VERSION X4 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X4 or prior, bear in mind the following:

1. Roof Overhangs and Framing

In Chief Architect X4 and prior, roof overhangs were measured to the outside of the subfascia, whereas in Version X5 and later, they are measured to the outside of the fascia or shadow boards, if present. In legacy plans opened in Version X13, this will not affect the appearance of roof planes in floor plan view because in X4 and prior, roof plane polylines represented the projected framing area whereas in Version X13 they represent the total projected area. But, the position of the fascia and sub-fascia will shift, as will the length of the rafters.

2. Door Swing Direction and Materials

In Chief Architect X4 and prior, exterior doors that swing outward display interior material on exterior side of door. This was corrected in Version X13. Doors modified to work around the old behavior could be affected in legacy plans opened in Version X5.

3. Door Swing Direction and Louvers

Improvements to door louver direction may affect louvers in all doors with the exception of bifold doors .

4. Wrapped Door/Window Lintels and Window Sills

In Chief Architect X4 and prior, wrapped lintels and sills extended out further than those that were not wrapped. In legacy plans opened in Version X13, the extents of wrapped lintels and sills will be adjusted so that they equal their **Extend** setting.

5. Cabinet Feet

The offsets for cabinet foot millwork symbols in Version X4 and prior were set per millwork symbol to insert into cabinets effectively. In Version X13, the offset is set in the Cabinet Specification dialogs. When legacy plans are opened in Version X5, cabinet foot offsets are set to 0 and transferred to their containing cabinet, if one exists. Any customized or independently placed cabinet feet will be affected.

6. Object Labels in Cross Section/Elevation Views

If a “Label” layer is turned on in a cross section/elevation view and objects of that type are visible in the view, then those objects’ labels will display in that view when the plan is opened in Version X13.

7. Transparent Materials

In Chief Architect X4, materials assigned to the Transparent Material Class for ray tracing were visible in rendered views even when their Index of Refraction was set to 1.0. When legacy plans are opened in Version X13, Transparent materials with an Index of Refraction of 1.0 are transferred to the General Material class and assigned a Transparency value of 100%. This will not affect these materials’ appearance in ray trace views, but will make them completely invisible in rendered views.

8. Registered User Text Macros

In Chief Architect X4 and prior, a selection of Registered User Text Macros could be inserted into Texts, Callouts, and Markers. These macros reported information that was provided when the program was installed and registered on the computer. In Version X5 and later, the program no longer collects registered user information. When a legacy file is opened in Version X13, any Registered User macros inserted into text objects are treated as regular text.

9. Invisible Beams

The legacy **Invisible Beam** check box was removed from the Wall Specification dialog. When legacy plans are opened in Version X13, any **Invisible Beam** walls will be converted to Invisible Walls.

FOR FILES CREATED IN VERSION X3 AND PRIOR

In addition to the above recommendations, if you wish to open files created in Chief Architect Version X3 or prior, bear in mind the following:

1. Text Styles

The appearance of a number of objects that include text - including object labels, the North Pointer, Sun Angles, Joist Direction Lines, the Up/Down arrows for stairs and ramps - can now be controlled using Text Style. Their appearance may be altered somewhat in legacy plans opened in Chief Architect X13.

2. Light Sources

The illumination created by light fixtures and Added Lights was improved in Chief Architect X13. Lighting in legacy plans may appear noticeably brighter when viewed in version X13.

FOR FILES CREATED IN VERSION X2 AND PRIOR

If you wish to open files created in Chief Architect Version X2 or prior, bear in mind the following file management changes and structural enhancements:

1. Legacy file formats

Chief Architect 9.5 and prior files were saved in .pl and .la the file formats. These file formats files are no longer supported and cannot be opened in version X13.

2. Material textures, images, and backdrops

Chief Architect X2 and prior installed with a catalog of library content, including a selection of material textures, images, and backdrops. This library catalog is no longer installed with the program because it is now available for download on-demand, so it will be possible to open a legacy plan in version X13 and encounter numerous missing file warnings. To avoid this, we recommend using the **Export Entire Plan** feature in the original program version to create a folder that includes the plan and all associated textures, images, and backdrops before opening this file in X13. This tool is renamed Backup Entire Plan in version X13.

3. Floor and ceiling finish thicknesses

In Chief Architect X2 and prior, floor and ceiling finish layers were not modeled in 3D, and objects such as railings, stairs, landings, cabinets, fixtures, and furnishings measured their Floor to Bottom height from the subfloor. These objects now measure their Floor to Bottom height from the floor finish surface by default, so it is possible that you may notice height changes for these objects - particularly in saved, annotated cross section/elevation views.

4. Riser heights and landing thicknesses

The default Best Fit Riser Height for stairs that do not reach the next level has been updated from 9" (225 mm) in version X2 and prior to 6 3/4" (169 mm) in Chief Architect X13. This may affect the riser heights of stairs, as well as the thicknesses of landings attached to those stairs.

5. Auto Adjust Height

The Follow Terrain option in some specification dialogs was replaced by the Auto Adjust Height check box. If a cabinet, fireplace, fixture, furniture, or other library symbol had Follow Terrain unchecked in version X2 or prior and was located in a room with a floor height other than the default for the current floor, then the object's Floor to Bottom Height will change to equal that room's floor height. The object's position in the model will not change, however.

6. Adjustable Thickness Walls

In Chief Architect X2 and prior, generic, single-layer wall types were available for use. When a legacy plan file is opened in version X13 and these wall types are detected, they are replaced by an updated, non-generic wall type. Framed walls and Railings will also acquire 1/2" (13 mm) thick layers of sheetrock on each side. Railings that define a Deck room with Advanced Deck Framing Built will not acquire sheetrock layers.

7. Stairwells defined by railings

Interior railings that used a generic, single-layer wall type drawn in older program versions will acquire layers of sheetrock when the plan is opened in version X13. This can affect the appearance of staircases where they join to a floor platform. To address this issue, select the railing and move it 1/2" (13 mm) away from the top edge of the staircase.

8. Deck rooms

In legacy plans opened in Chief Architect X13, Deck rooms with Advanced Deck Framing built retain the framing but have Automatic Deck Framing turned off by default. Decks with no Advanced Deck Framing built are converted to Balcony rooms.

9. Material definitions and light sources

Settings in the Define Material dialog that affect materials' appearance of brightness have been modified. The **Ambient** setting was removed, and the **Diffuse** setting for materials in legacy plans will be set to 100% when opened in version X13.

The Quality setting for light sources set to use Soft Shadows in ray tracing was also modified. Lights using Soft Shadows in legacy plans will be set to use Medium quality. The Light Diameter of light sources in legacy plans is capped at 4" (100 mm).

10. Structural Member Reporting

When a plan created in Chief Architect X2 or prior is opened in Chief Architect X13, Materials Lists are set to calculate **Total Linear Length**. For a combination of linear length and piece count, select **Mixed Reporting** in the Structural Member Reporting dialog.

11. Fill New Framing Members

In Chief Architect X2 and prior, Fill New Framing Members was view-specific; in Chief Architect X13 it applies to the entire plan. As a result, it is turned off by default in legacy plans opened in version X13.

New and Improved Features by Chapter

The following is a list of new and improved features in Premier Version X13. Where possible, cross-references to additional information has been provided.

FILE MANAGEMENT

- The Save and Save As commands are now available in Materials Lists.
- Auto Save files are now created for unsaved plan and layout files.

PROJECT MANAGEMENT

- New **Construction Line**  tool allows you to create a column grid for object alignment in plan and cross section/elevation views.
- The Project Browser now has a preview window.
- New **Find in Project** option for schedules and Layout Tables in the Project Browser.
- Improved snapping and drawing order of Space Planner Room Boxes.

PREFERENCES AND DEFAULT SETTINGS

- The Width of the crosshairs can now be specified.

WINDOW AND VIEW TOOLS

- New **Fill Window Selected Objects**  tool.
- The name of a saved plan view is now reported in its Plan View Specification dialog.

CREATING OBJECTS

- The **Center Object** edit tool has been added to the Copy/Paste edit toolbar.

DISPLAYING OBJECTS

- The default Layer Set for Materials Lists can now be specified.
- The **Height** of Herringbone fill patterns can now be specified.
- The obsolete Materials List attribute for layers has been removed.

EDITING OBJECTS

- The **Convert Polyline** tool can now be used to create a Custom Backsplash in cross section/elevation views.
- New **Only Apply Properties to Doors of Same Type** option for Style Palettes.
- New attributes added to the Select Properties to Load/Match Properties dialog for walls, doors, windows, and text.

CAD OBJECTS

- New **Edit CAD Block**  edit button.
- The **Reverse Direction** edit tool is now available for Splines.
- New **Match Line Color** option for arrowheads.
- The **Center Object** edit tool can now be used to center CAD objects in cross section/elevation views.
- New **Reset to Defaults** button in the Set Properties dialog for Style Palette objects.

WALLS, RAILINGS, AND FENCING

- New **Material Layer** settings in the Wall Type Definitions dialog.
- Wall type definitions are no longer limited to ten layers.
- New **Horizontal Framing** option for wall framing layers.
- The **Platform Intersection** settings for walls that create standard or balloon framing have been improved.
- New **Ignored by Hide Exterior Walls** option in the Wall Specification dialog.
- Wall Hatching now has a defaults dialog and can also be assigned a label.
- The **Object Eyedropper** tool now works with walls.
- Wall Hatching can now be copied and pasted.
- Improved feedback when it appears that a wall's layers may be oriented incorrectly. See .

ROOMS

- New Crawl Space Room Type.
- Rooms with a Ceiling Height of less than 48" (1200 mm) are now automatically excluded from the Living Area calculation by default.
- Room moldings can now be suppressed behind cabinets and architectural blocks.
- The Room Type and Structure can now be specified when multiple rooms are selected.
- The **Rafter Width** and on center **Rafter Spacing** for Tray Ceilings can now be specified.
- The Living Area label can no longer be deleted: the Plan Check tool is no longer needed to generate a new one.

DIMENSIONS

- Dimension line labels can now be rotated and when moved, will snap to their dimension line when Object Snaps are enabled.
- The default **Angular Format** of Angular Dimensions can now be specified.
- Manually drawn dimension lines in cross section/elevation views can now locate cabinet **Doors/Drawers/Panels** and **Openings**, including the openings associated with front appliances.
- Dimension lines can now locate **Wall Steps**.
- New **Display Wall Widths** option in the Dimension Line Specification dialog.
- New **Auto Mark Centerlines** option adds the Centerline mark to any extension lines that locate object centers or midpoints automatically.
- Automatic Dimensions now have multiple saved defaults.
- New option to display dimension numbers in inches only rather than formats that use feet when less than or equal to a specified value.
- The Locate Objects settings can now be set independently for different manual and automatic dimension tools.
- The Auto Dimension Defaults for all tools except Auto Story Pole Dimensions have been consolidated into a single Dimension Defaults dialog.
- When selected, dimension lines drawn with the Interior, Centerline, Baseline, and Running Dimension tools are now described as such in the Status Bar.
- The obsolete toolbar buttons and hotkeys for most Auto Dimension Defaults have been removed from the program.

- The Auto Elevation and NKBA Auto Elevation tools now share the same Position settings.
- The Interior Dimension tool can now be set to locate objects besides walls.
- New **Inner Dimension** option allows you to suppress the inner dimension strings created by the Auto Exterior Dimension tool.
- New **Top of Wall** mark for automatic dimensions in elevation views locates the tops of vaulted walls.
- Temporary Dimensions now always generate when toggled on, regardless of whether dimension lines already locate the selected object.

TEXT, CALLOUTS, AND MARKERS

- Text objects can now be added to the library without first including them in a CAD Block.

DOORS AND WINDOWS

- Wall Niches now have automatic labels.
- Wall Niches can now be placed in pony walls with railings.
- New **Opening Indicators** settings for doors, windows, and cabinets.
- Opening indicator arrows can now display on sliding doors and windows.
- The direction of **Opening Indicators** in Vector Views can now be set in the Plan Defaults dialog instead of the Preferences dialog.
- New setting for opening indicator direction in legacy files in the Preferences dialog.
- Interior doors now retain their attributes when copy/pasted placed from the Library into an exterior wall.
- Style Palettes can now be used to apply attributes to the components of Bay, Box, and Bow Windows.
- New **Header Placement** settings and a **Combine Headers** option for doors and windows.
- The %hinge_side% NVP for sliding doors now describes the fixed side as viewed from the interior instead of the exterior. For information about how this change affects legacy plans, see *For Files Created in Version X12 and Prior on page 7*.
- New **Bottom Sill** options for door and window framing.

CABINETS

- A selected top-mounted cabinet fixture now has both the Open Object and Open Symbol edit tools.
- New "None" **Side Type** creates a totally blank cabinet side or back.
- New **Top/Bottom** settings control whether a cabinet has top and bottom surfaces.
- **Left** and **Right Stile** width can now be specified for each Framed cabinet side independently.
- **Left** and **Right Reveal** can now be specified for each cabinet side independently.
- The **Generate Custom Countertop** edit tool now applies a selected base cabinet's non-default counter material to the new countertop rather than applying the default counter material.
- New **Auto Door Threshold** setting controls when Auto Left and Auto Right cabinet doors switch from single to double.
- Door and drawer **Front Height** and **Front Width** values are now reported for reference in the Cabinet Specification dialogs.
- Automatic countertop overhangs are now clipped and toe kicks suppressed on any cabinet side positioned near a Partition or free-standing appliance.
- New **Molding on Selected Edge** options for Custom Countertops.
- New **Offset Molding For Face Items** option for cabinet moldings.

- The Cabinet Filler tools are now listed with the regular Cabinet tools in the menu and toolbars for easier access.
- Interior and exterior cabinet materials can now be listed separately in schedules.
- A cabinet's bottom Separation can now be resized past the bottom of the cabinet itself.
- A cabinet's left and right stiles can now be extended to produce fillers.
- Corner pilasters now generate a clipped cabinet corner in plan view.
- New **Edit** button in the Cabinet Specification dialog opens the specification dialog for a selected fixture inserted into the cabinet's front.

ELECTRICAL

- New **GFCI Outlet**  tool.
- New **Change to GCI Outlet**  and **Change to 110V Outlet**  edit tools.
- The **110V Outlet**  tool can now be used to place ceiling outlets in Garage and Slab rooms in plan view; in camera views, it can place ceiling outlets in all room types.
- Electrical objects can now be group-selected by type when the drawing tool used to create them are active.
- The **Set as Default** edit tool is now available for Rope Lights.
- The deprecated Casts Shadows setting for light fixtures and light sources has been removed from the program.

SCHEDULES AND OBJECT LABELS

- Object labels can now be placed on custom layers.
- The **Schedule Start Number** for each schedule can now be specified.
- New **Display Border** option for object labels.
- The **Alignment** of object label text can now be specified.
- New "Total Length" column for walls, moldings, and roof trim in schedules.
- Free-standing cabinet doors, Millwork, Hardware, and Geometric Shapes can now be included in schedules.
- Moldings assigned to cabinets, rooms, and other objects can now be included in schedules.
- Frieze, gutters, and other Roof Trim can now be included in schedules.
- The text associated with a selected schedule can now be exported to .txt, .csv, and .xml.
- Interior and exterior cabinet materials can now be listed separately in schedules.

FOUNDATIONS

- New Slab Defaults and Slab with Footing Defaults dialogs.
- Foundations with a **Basement Ceiling Height** of less than 48" (1200 mm) are no longer included in the Living Area.
- The **Minimum Garage Height** setting in the Foundation Defaults dialog no longer includes a sill plate measurement.

ROOFS

- Roof Planes and Skylights can now be listed in schedules.
- Purlins can now be generated for Roof and Ceiling Planes.

- The Convert to Plain Polyline edit tool is now available for Roof and Ceiling Planes.

FRAMING AND TRUSSES

- Wall, roof, and floor/ceiling platform layers no longer have to be assigned a Framing material in order to generate framing.
- The Roof and Floor/Ceiling Truss Specification dialogs now have an object preview pane.
- New **Roof Purlin**  tool.
- End Profiles can now be specified for joists, beams, and General Framing members.
- New **Allow Automatic Balloon Framing** option in the Build Framing dialog controls how wall framing adjacent to Open Below rooms is generated. Uncheck this to generate plates and rim joists instead of balloon framing when wall framing is built.
- The **Reflect About Object** edit tool is now available for Joist and Roof Blocking.
- Wall corners and intersections can now be framed using reduced stud and laddered connections.
- A Roof Truss drawn over a Full Gable Wall now has **End Truss** and **Reduced Gable** checked automatically.
- The **Build Framing for Selected Object** edit button is now available for Tray Ceiling Polylines and trusses.

TRIM AND MOLDINGS

- New **Replace Molding**  tool.
- New **Type** setting for cabinet moldings which is reported in schedules and the Materials List.
- New Molding Specification dialog has OBJECT INFORMATION and SCHEDULE panels.
- New **Profile Rotation** setting lets you specify a specific angle for molding profiles.
- New **Reflect Horizontal** and **Vertical** options for molding profiles.

THE LIBRARY

- The Library Search now supports Boolean keywords: AND, OR, NOT, as well as parentheses.
- New symbols, line styles, fill styles, and backdrops can now be added to the library from the Select Library Object dialog.
- New **Copy to User Catalog** option in the contextual menu in the Library Browser.
- New **Duplicate** option in the Library Browser allows you to copy an item in the User Catalog and immediately paste the duplicate in the same location.
- **Update Library Catalogs**  is now available as a button at the bottom of the Library Browser side window.
- When multiple identical objects are added to the library, only one instance is now created in the User Catalog.
- The obsolete Remove Manufacturer Lock edit tool for some library symbols has been removed.

CUSTOM SYMBOLS

- New option to automatically regenerate a 2D CAD Block for a symbol object when it is resized using its edit handles in plan view.
- New Progress dialog for lengthy Convert to Symbol operations provides an option to Cancel.

OTHER OBJECTS

- The **Convert to Plain Polyline**, **Convert to Spline**, **Fillet Lines** and **Chamfer Lines** edit tools are now available for 3D Box and Shape objects.
- Polyline Solids now have a defaults dialog.
- The Shape Specification dialog now has Size, Elevation, Rotation, and Fill Style settings.
- Holes in Shape objects can now be rotated as well as deleted independent of their containing object. .
- The Fillet Lines and Chamfer Lines edit tools are now available for 3D Box and Face objects.

MATERIALS

- New **Copy Selected Material**  option for the Material Painter.
- The "Air Gap" **Material Structure Type** has been removed from the program.
- The Plan Materials dialog is now searchable.
- New scoping modes for the **Adjust Material Definition** tool.
- The Status Bar now reports information about materials highlighted when the **Adjust Material Definition** tool is active.
- New **Add to Library** button in the Define Material dialog.
- The Select Material dialog can now be opened by double-clicking on a line item on the Materials panel of various specification dialogs.
- The obsolete Toggle Textures tool has been removed from the program.

3D VIEWS

- New **Show Color** and **Show Watermark** options in the Camera Specification dialog.
- New **Scene Clipping** options for cross section/elevation views.
- Wall Elevation views can now include or ignore walls located on the floor above: for example, the gable walls associated with cathedral or vaulted ceilings.
- Overview cameras now ignore the terrain when determining their initial position.
- The right mouse button can now be used to temporarily activate **Mouse-Tilt Camera** mode while Mouse-Orbit Camera mode is in use.
- New Framing Overview Defaults dialogs.
- Cross section/elevation views can now be copied and pasted.
- The Auto Adjust Default Glass Properties setting no longer applies to door and window glass and was renamed to Auto Adjust Electrical Default Glass Properties.
- Obsolete View Types with Colors On settings removed from the 3D View Defaults dialog.
- The deprecated Casts Shadows setting for Sun Shadows has been removed from the program.

3D RENDERING AND RAY TRACING

- New **GPU Ray Tracing** in Physically Based and Clay renderings on Windows systems.
- New **Clay**  Rendering Technique.
- New **Line Drawing on Top** options for Standard, Physically Based, and Duotone Rendering Techniques.
- The obsolete Update View button was removed from the PHYSICALLY BASED panel of the Rendering Technique Options dialog. See .

PICTURES, IMAGES, AND WALKTHROUGHS

- New Walkthrough Preview side window.
- New **Create Orbital Walkthrough Path**  tool.
- A camera view of a single frame of a Walkthrough Path can now be created.
- Rendering Technique, lighting and more can now be set in the Walkthrough Path Specification dialog.
- The Backdrop image can now be set in the Walkthrough Path Specification dialog.
- A Walkthrough Path's **Duration Along Path** and **Frame Rate** can now be set in the Walkthrough Path Specification dialog.
- Walkthrough Path Key Frames are now easier to select, have their own edit handles, and the selected Key Frame in plan view is also selected for editing when the Walkthrough Path Specification dialog is opened.
- New **Delete Key Frame**  edit tool for Walkthrough Paths.
- The Start and End Key Frames of a Walkthrough Path can now be deleted provided that at least two Key Frames remain.
- The **Add Key Frame**  edit tool now has **Sticky Mode** .
- New Key Frames now have height and angle settings basing on those of adjacent Key Frames.
- The **Reverse Direction**  edit tool is now available for Walkthrough Paths.
- The **Complete Break**  edit tool is now available for Walkthrough Paths.
- The obsolete Edit Key Frames button for Walkthrough Paths was removed from the program.
- The **Record Walkthrough Along Path** edit tool is no longer available for plain CAD polylines and splines.
- The settings in the Export Picture dialog are now retained between program sessions.

IMPORTING AND EXPORTING

- New warning allows option to cancel import of extremely large 3D symbols.
- Added support for AutoCAD® version 2021 file import and export.
- Added support for SketchUp version 2021 file import and export.

TERRAIN

- Terrain Paths now have separate **Terrain to Top** and **Thickness** settings, and their materials are calculated in the Materials List.
- The Terrain Path Specification dialog now has a COMPONENTS panel and an object preview pane.
- Elevation Lines, Splines, and Regions now have Automatic Labels.

ROADS AND SIDEWALKS

- Roads now have separate **Terrain to Top** and **Thickness** settings, and the material assigned to the "Road" component is calculated in the Materials List.
- The Road Specification dialog now has a COMPONENTS panel and an object preview pane.

PLANTS AND SPRINKLERS

- Sprinklers can now be listed in schedules.

MATERIALS LIST

- The "automatic count" macro used in the Materials List and on the COMPONENTS panel has been replaced by formulas that illustrate how Materials Lists counts are calculated.
- New **Revert To Default**  option for a selected Materials List cell resets its value to the originally generated formula or information.
- Each saved Structural Member Reporting default now has one reporting method and its own board list.
- New **Buy List Options for Long Board Runs** settings improve upon and replace the Consolidate Unhandled Boards options in the Structural Member Reporting dialog.
- Prices can now be added to the Board Lists for Buy List and Linear Length Structural Member Reporting methods.
- New **Layer Set, Structural Member Reporting, and Reporting Method** options in the Materials List Specification dialog.
- Materials Lists created using the **Calculate Structural Materials for Deck**  edit tool now include accessories added to the deck room.
- To **Revert all Line Items to Defaults**  option on the **Components** panel of various object specification dialogs resets any customized formulas values.
- Materials Lists using the Linear Length Reporting Method no longer include length information in the Size column.
- Thermal envelope information is no longer reported in the Materials List.

LAYOUT

- The Send to Layout dialog now preserves the 'Send Options' and 'Camera View Options' settings for different view types last used within the same session.
- The Delete Objects dialog is now available in layout.
- Plan file name and view information for a selected layout box is now reported in the Status Bar. .

RUBY IN CHIEF ARCHITECT

- New Name-Value Pairs for objects including CAD lines and arcs, walls, doors and windows, and elevation lines, splines, and regions.
- New Name-Value Pairs for Text Style as well as individual style attributes.