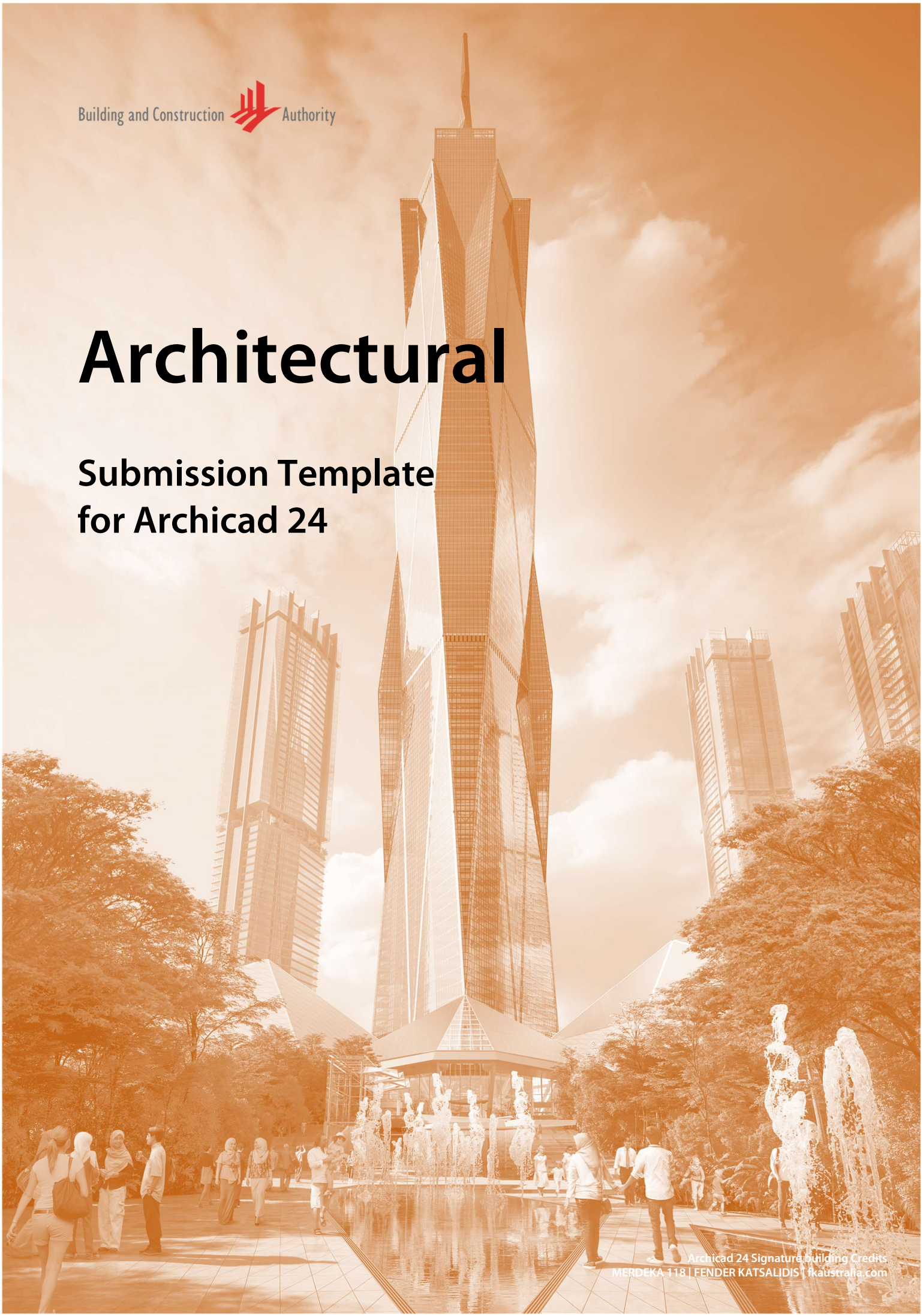
Building and Construction Authority

Architectural

Submission Template for Archicad 24



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INTRODUCTION

The objective of this document is to assist qualified persons (QPs) in developing BIM models to meet the new requirements of the Building Information Model (BIM) submission (Native BIM Submission).

The document describes the features of the Architectural Native BIM Submission Template for Archicad 24 and provides a step-by-step guide to apply them in projects. The template creates a basic structure to assist the QPs in preparing the BIM models for regulatory approval according to the Architectural BIM e-Submission Guideline. It is by no means an exhaustive template and QPs are allowed/required to edit/change it accordingly to suit their needs.

For any additional requirements that require customizations to a certain extent, QPs are also advised to make reference to the training materials distributed or to consult the respective software vendor for any enquiries on the application.
If there are contradictions between this submission guideline and vendor's instructions, BCA BIM team shall be contacted for clarification. Please note that any BIM Submission Guidelines and templates shall be collected from the BCA BIM team.

This material is to serve as a reference for GRAPHISOFT Archicad 24 users only.

Find the **BIM e-Submission Templates and Guidelines** at the CORENET website here:
https://www.corenet.gov.sg/general/building-information-modeling-(bim)-e-submission.aspx

Find the **Archicad Libraries** for each template on the GRAPHISOFT SG website here:
(requires GRAPHISOFT ID and SSA license to log in)
https://graphisoft.com/sg/ssa/downloads

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GETTING STARTED

Once you have downloaded the template from the CORENET website, do the following preparations before using the template for the first time.

1 Place the **sg_arch-submission-template_v24.tpl** file to:
Option 1: On your file server in a dedicated template folder. Then in Archicad 24 New dialogue, use "Browse" and load this template. If the path or name changes, then you'll need to browse again to load this template again.
Option 2: Copy the template to the Archicad application folder, the template will auto load into the New dialogue when you start the application. This folder is usually located at
C:/Program Files/GRAPHISOFT/ARCHICAD 24/Defaults/ARCHICAD.

2 Place both the **GSSG ARCH Library.lcf** and **GSSG General Library.lc**f library container files into a folder where they will not be modified/moved/deleted, such as a company file server. There are following sections that will go into this in more detail.

3 Launch **GRAPHISOFT Archicad 24** using the desktop shortcuts.

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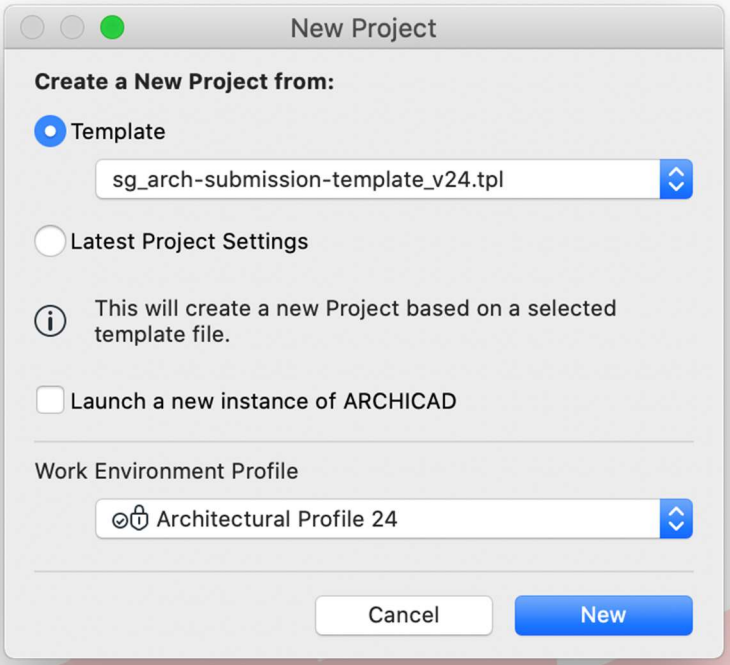
4 The Start Archicad 24 dialog appears, choose **New…** at the top of the dialog.

5 Click into the dropdown list and use the **Browse Template...** option to locate the **sg_arch_submission-template_v24.tpl** template file.

6 Choose the **Architectural Profile 24** Work Environment and click **New**.



Note 1: To ensure the authenticity of the downloaded template file, make sure you obtain it from the CORENET BIM Support Team at:
https://corenet.gov.sg/general/building-information-modeling-(bim)-e-submission.aspx

Note 2: The template is constantly improved based on user feedback, therefore minor differences may occur between the actual version and the screenshots presented in this guide. Only the latest versions of the template are available on CORENET.
The naming of the template file indicates the updates and revisions, such as **...template_v24.tpl** for the initial version, then **...template_v24.1.tpl**, **...template_v24.2.tpl**, etc., if available subsequently.

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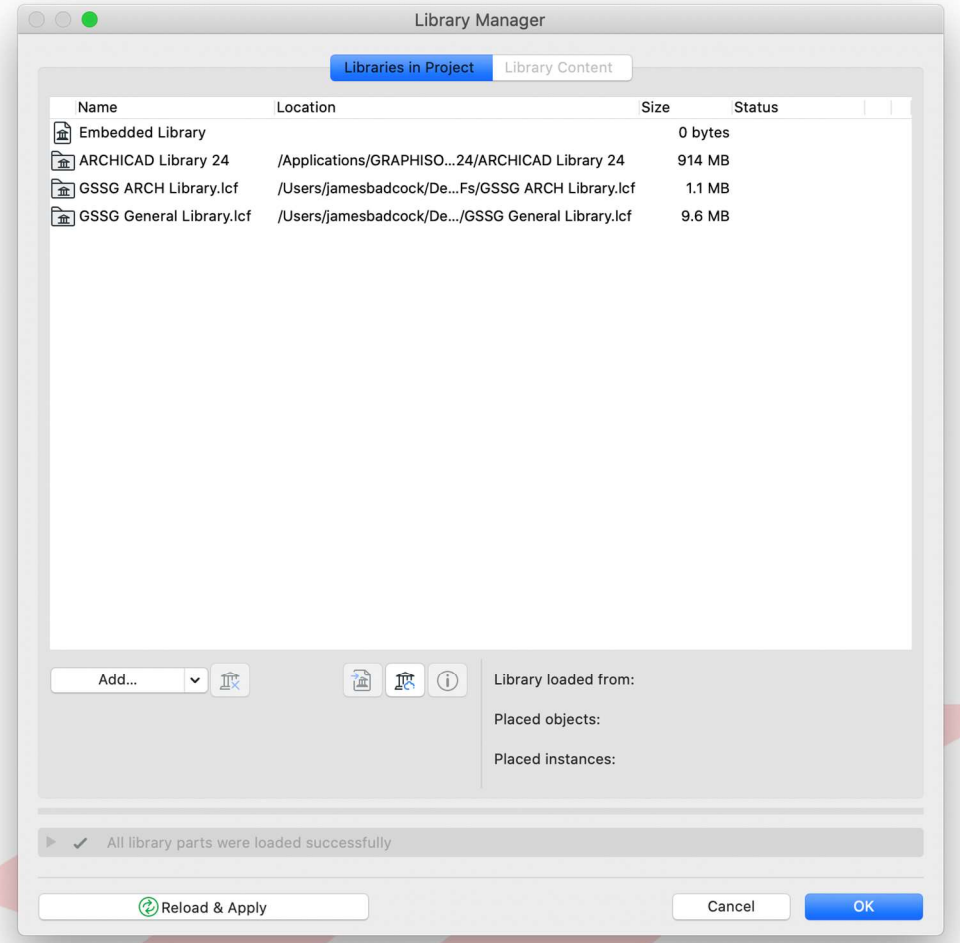
7 Once Archicad 24 is launched, it will not prompt for missing libraries as all warnings are collated into the Action Center, therefore go to **File/Libraries and Objects/Library Manager…** to check if both the GSSG ARCH Library.lcf and GSSG General Library.lcf are linked to the project. If not, then you need to Add them.



8 Click **Add...**. Locate the LCF file and click **Open**.

9 Click **OK** to close the Library Manager and load the libraries.

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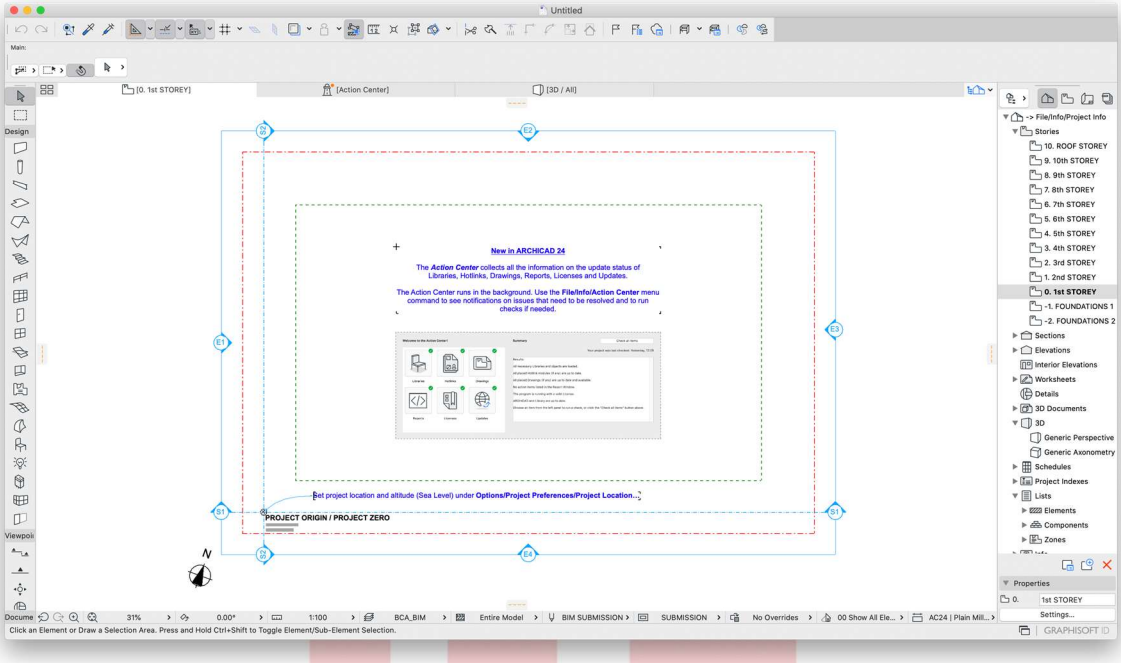
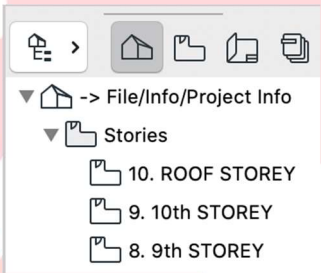
THE ARCHICAD NAVIGATOR

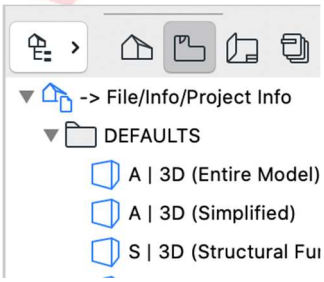


The Navigator palette is displayed on the right side of the interface, containing the following tabs/selectors:

- **Project Map** - the entire model structure and the different viewpoints of the project.



- **View Map** - model views filtered for different purposes. The folder structure here is organized for the native BIM submission.



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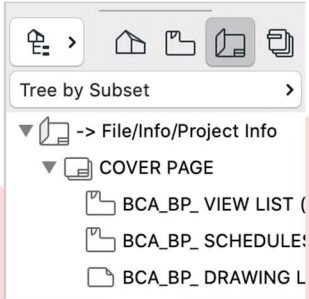
- **Layout Book** – some predefined layouts and master layouts are included in the Template, such as the required Cover Page which lists Views, Drawings and Schedules in the Project. All 2D Views and Schedules should be added to Layouts for submission.

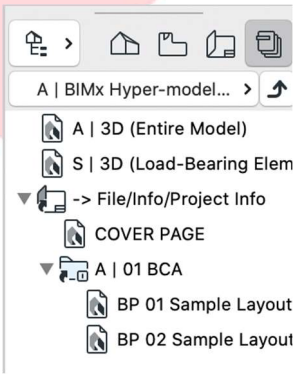
  For CP83 submission or project phases after the submission you may still want traditional 2D format deliverables. The title blocks can be edited from the **Masters** section, and can be customized for the different authorities and departments if not submitting a native Archicad file.



Note 1: Avoid changing other parts of the master layout unless you are sure that the AutoText fields (fields containing # marks) are kept intact, otherwise some texts might not appear correctly on the final layouts.

Note 2: Updating the master layouts is a one-time procedure. To update the original template use **File/Save as...** menu option and override the existing template file using **Archicad Project Template (*.tpl) file** type setting. From now on the new template file can be used for new projects.

- **Publisher Sets** - collection of items referring to elements of the View Map and the Layout Book set for simplified and repeated document output. The most necessary formats are set as guidance and new publisher sets can be created with combined formats within the same publisher set.



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The BIM submission template serves as a basic platform to help you in preparing your model for regulatory approval. Submitting native files is not mandatory and you are free to submit your projects in the traditional way and edit the template according to your needs as long as the final results presented to the authorities meet the requirements specified in the Code of Practice for BIM Submission documents.

Note: Traditional submission formats are still accepted, but not supported or recommended by BCA, nor GRAPHISOFT Singapore as the creator of this template, from July 2016 onwards.

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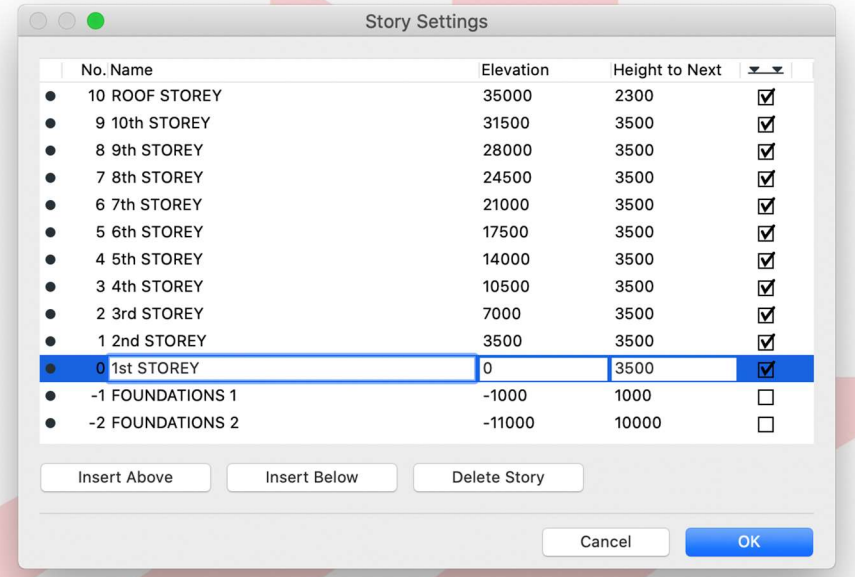
STOREYS, PROJECT LOCATION AND REFERENCE LEVELS

By default, the template contains 10 generic storeys, a roof and foundations. To edit the Story Settings to go the **Design/Story Settings...** menu.

All generic storeys have a consistent floor-to-floor height of 3500 mm, which can be edited for the requirements of the specific projects. Major changes in the story settings, such as the number of storeys and heights should be carried out before starting the project.

1 If your project has less storeys than in the template, select the unwanted storeys and click **Delete Story**. If you want to add storeys select an existing story and use the **Insert Above/Insert Below** buttons respectively.



Find more information on the **Story Settings** on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/128987/

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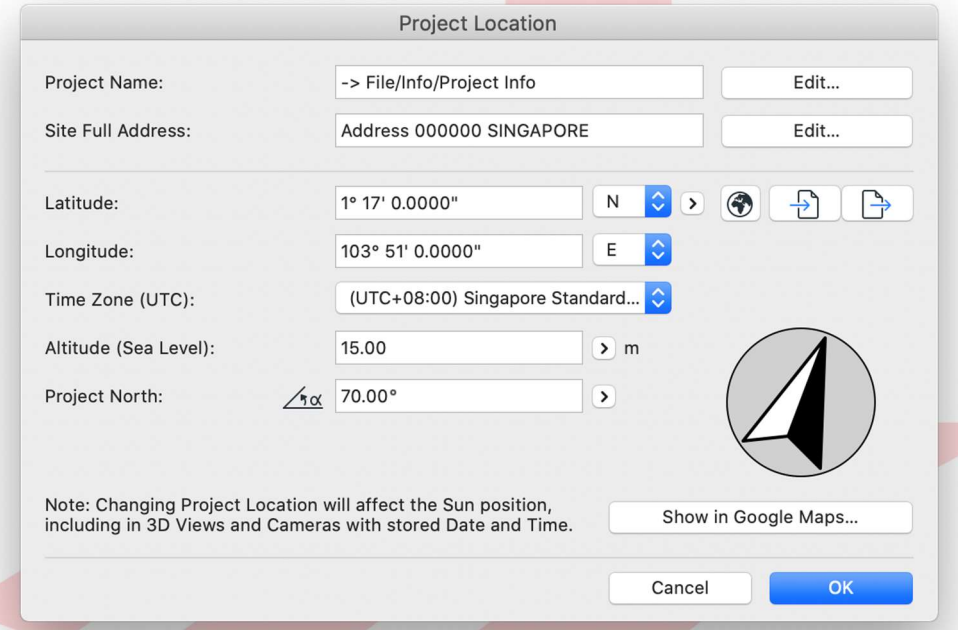
The current template uses the *Project Zero* as the height reference when displaying manually placed elevation dimensions using the Dimension tool, meaning that all elevation heights will be measured from ±0,00.

Section and Elevation story levels are referenced to the *Sea Level*, by default showing an altitude of +15.000 for Project Zero.

Altitude (AMSL, or Sea Level) is set for a default of +15.00 meters for Singapore. To change the sea level reference:

1 Go to **Options/Project Preferences/Project Location...** and change the **Altitude (Sea Level)** value (also change Time Zone (UTC) if settings differ from Singapore time zone).



2 Additionally, you can also set Project North either by typing the value or simply clicking on the symbol and rotating it within the dialog.

Find more information on **Project Location and Project North** settings on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/127874/

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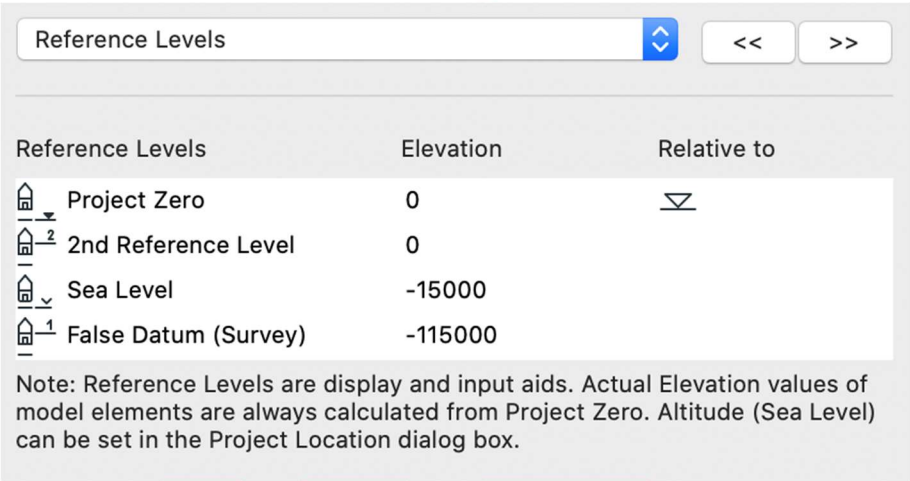
Depending on the project, you may want to edit the existing project reference levels.

1 Go to **Options/Project Preferences/Reference Levels...** dialog and change the values of the **2nd Reference Level**. The units of the values follow the working unit settings, millimeters by default. The 1st Reference Level has been altered to display *False Datum (Survey)*. By choosing, under Relative to, then when placing your elevation dimensions, level dimensions or adding height value inputs for mesh points, the exact values provided by the land surveyors (+100.... meters) can be used while keeping the real altitude values above the sea level.



Find more information on the **Reference Levels**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/128972/

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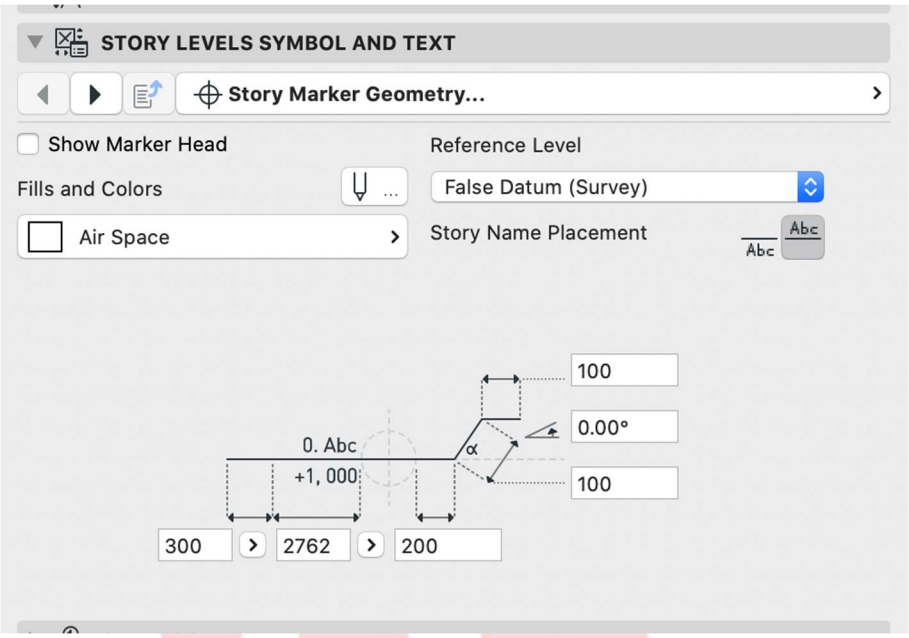
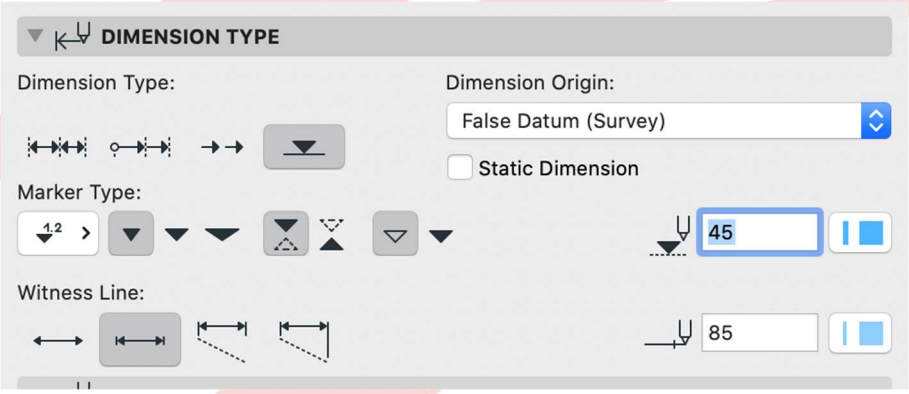
2 To apply the new reference level, select the Sections or Elevations you want to be modified from the Project map, right-click and in the context menu and choose **Selection/Elevation Settings**. On the **Story Levels Symbol and Text panel** choose the Reference Level (by default Sea Level).



3 When adding Elevation Dimensions to the Sections/Elevations with the new elevation reference, adjust the **Elevation Dimension settings** as well to the new reference level.



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SITE AND CONTEXT FROM EXTERNAL CONTENT

Context to the site can be imported and created from many different formats, such as 2D DWGs, tabulated text files (XYZ coordinates) or Point Clouds.

DWG

There are two main methods to link DWG files into Archicad. For both methods, it is advised to create a new **Independent Worksheet**, and use the **Trace and Reference** functionality to view the DWG from the Worksheet on the relevant floor plan.

1 **Place Drawing** - Use the **Drawing Tool**, to add into a Worksheet. Make sure to set the Drawing Units when prompted and check any linked images/SHX (fonts) files. Once placed, within the Drawing Tool, the DWG Embedded Layers can be turned on/off as needed. The Drawing can be exploded and the 2D content embedded by using right-click, **Explode into Current View**.

2 **Attach Xref** – From the **File/External Content/Attach Xref** dialog. Set to **Drawing's own origin**, check the Translator being used before attaching, and any linked images/SHX (fonts) files when prompted. Place the DWG in the correct location and choose which Layers you wish to import. These imported Layers will be available in the projects Layer Settings, separated after all other Layers. If the Xref will be deleted from the Project, these separated Layers will also be removed as well.

To accommodate the extents of the DWG and site boundary, Section and Elevation markers may need to be adjusted on the floor plan. To create the 3D terrain from the 2D DWG:

1 Use the **Mesh Tool** from the Toolbox, to trace the boundaries of the terrain.

2 To trace the continuous ridge lines, select the **Mesh** in the plan, and activating the **Mesh Tool** in the Toolbox.

3 Activate the Magic Wand, by holding the **SPACEBAR** and click on the ridges of the DWG reference.

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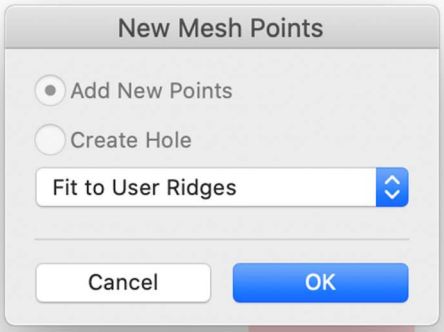
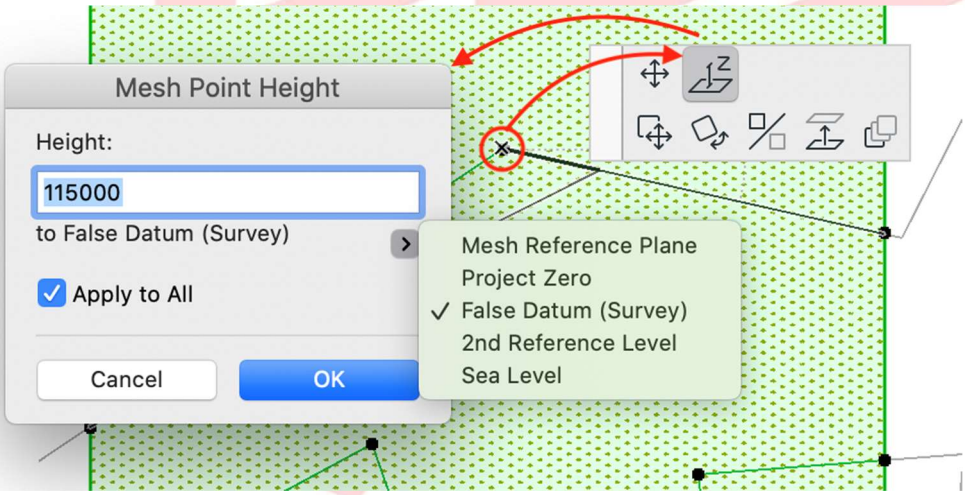
Keep **Fit to User Ridges** selected in the appearing dialog and click **OK**. Create the remaining ridges in the same way.



4 After tracing all the ridges, make sure that the Mesh is selected, and the Mesh Tool is still activated. Click on a **node** of a ridge line and from the pet palette choose the **Elevate Mesh Point...** command. Check the **Apply to All** checkbox to raise all nodes of the clicked ridge and choose the appropriate reference plane, for example the False Datum. This way you can enter the same values as on the surveyor's plan. Elevate the remaining ridges in the same way.



5 As a last step adjust the corner nodes of the Mesh (**uncheck Apply to All**) manually in 3D or 2D.

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In case the imported topography only contains spot points, and not ridges, you can still add and elevate the points as follows:

1 Select the **Mesh** and **activate the Mesh Tool**. Set the Geometry Method in the InfoBox to **Polygonal geometry method**. Note that other Geometry Methods will not be able to create spot points.

2 Double-click the referenced surveyor points to create a spot point. Click **OK** with the **Fit to User Ridges** option selected in the appearing dialog. Create the remaining points in the same way.

3 Elevate the points one-by-one using the **Elevate Mesh Point...** command (similarly to the ridges).

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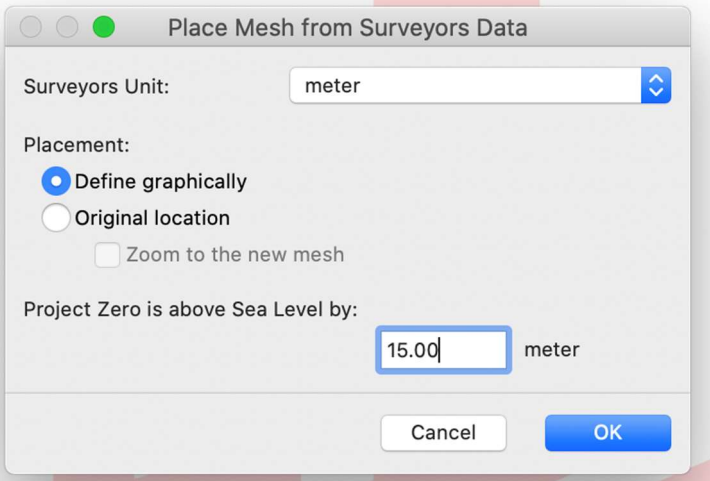
Surveyors' Data File

The surveyor can also provide a topographic file in TXT or XYZ format which will be easier to import into Archicad, without the need to Trace over the original.

1 Go to **File/Interoperability/Place Mesh from Surveyors Data...**.

2 Select the surveyor data file and click **Open**, a dialog will pop up for configuration settings for placement and altitude. Set the altitude according to the Project Location settings.



3 Click **OK** and **click into the model** to place the resulting generated Mesh.

Note: The topographic files of both TXT and XYZ format must be saved with ANSI encoding prior importing them into Archicad to be shown in the model space.

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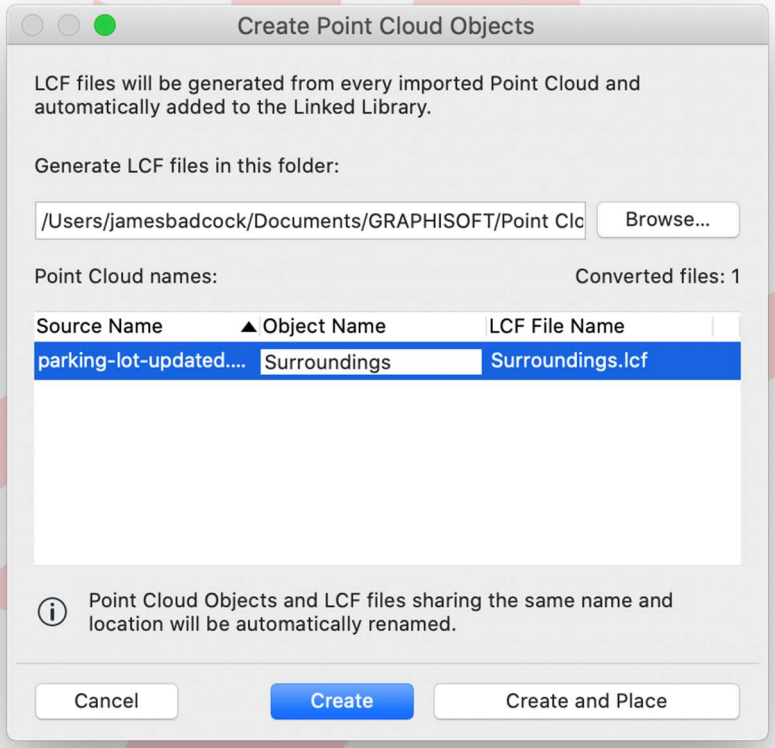
Point Clouds

Archicad natively supports the industry standard E57 and XYZ point cloud file formats which can be imported and used to model existing buildings before renovations, surroundings or as-built structures.

1 Open **File/Interoperability/Import Point Clouds...** from a floor plan viewpoint.

2 Select the point cloud file and click **Open**.
In the case of XYZ format, the **Format Conversion** dialog will appear.

3 In case of E57 format, the **Create Point Cloud Objects** dialog will appear, you need to specify the name of the object the point cloud will be converted to and the location of the generated library.



4 Click **Create and Place**.

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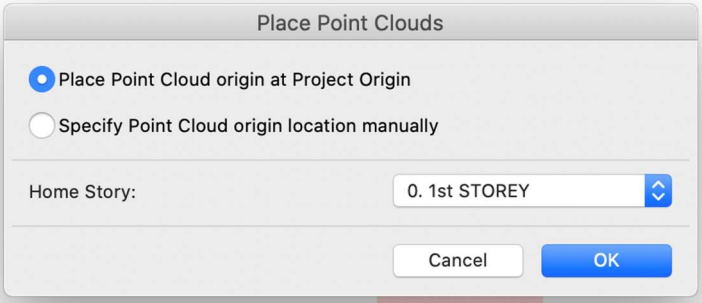
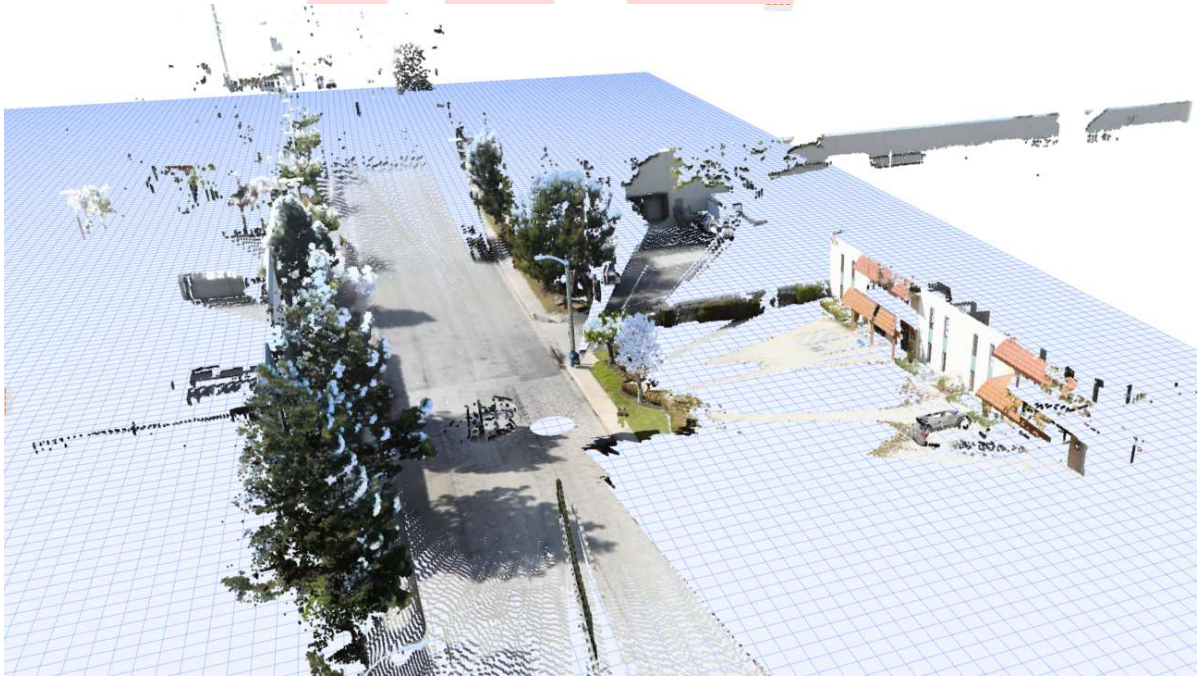
5 The **Place Point Clouds** dialog will prompt for the placement location of the generated object. Set the position and click **OK**, the object will be placed into the floor plan selected.



Note: The recommended use of imported point clouds is for referencing only, these objects cannot be used for visualizations.



Find more information on **Importing Point Clouds**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/128872/

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BIM SUBMISSION TOOLS AND INTERFACE

View Map Overview

The Navigator - View Map contains predefined views, which can be used as-is for the submission:

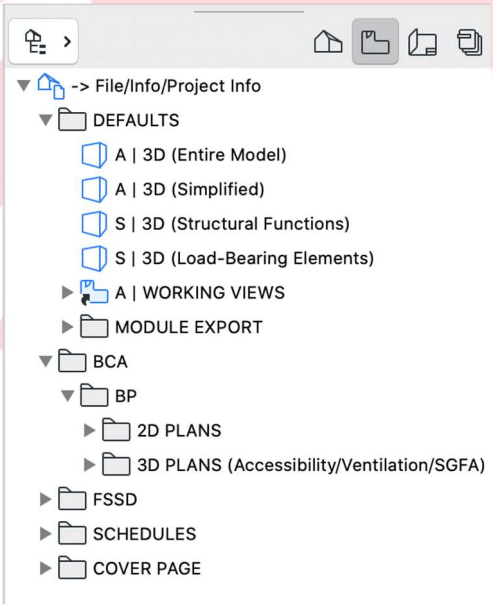
- The **DEFAULTS** folder contains views to help the QPs with modeling, by storing default settings in which all elements are visible and editable - 3D views for generic references and the **WORKING VIEWS** folder, a Cloned Folder of the Stories viewpoints of the Project Map for both architectural and structural modeling.

- The **BCA/BP** folder contains folders and views that the officers will check upon submission. The folder contains both 2D and 3D views.
  The **2D PLANS** folder is to be checked primarily, while views in **3D PLANS** will be used for the same purpose and to clarify issues, which are not visible from the 2D plans. The latter might need manual adjustments, depending on the project design and the level/slab positions.

- The **FSSD** folder contains views specifically highlighting the shelters.

- The views in the **SCHEDULES** folder will also be checked by the officers to ensure that the model complies with the regulations. The QPs can use them for data input as well.

- The **COVER PAGE** folder is purely to collect views that are part of the submission cover page.



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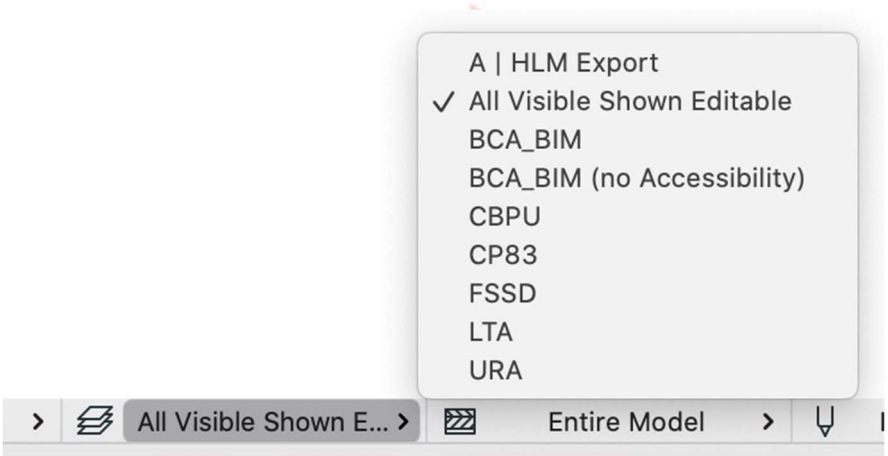
Quick Options

During modelling and working in the project, switching to a pre-defined View can modify what is visible on the screen. To avoid modifying these Views, at any time you can switch the settings on the **Quick Options Bar** at the bottom of the working window, for example switch the Layer Combination to *All Visible Shown Editable* – or switch to any of the DEFAULTS in the View Map .

Changing these **Quick Options** will not affect the stored View, to revert back to a stored View, just double-click the item in the View Map.



When working with Schedules the Quick Options bar is not visible, but all schedules are still editable. As an alternative, you can show the Quick Options palette by **Window/Palettes/Quick Options** menu command. This palette can also be used on other viewpoints, instead of the Quick Options bar.

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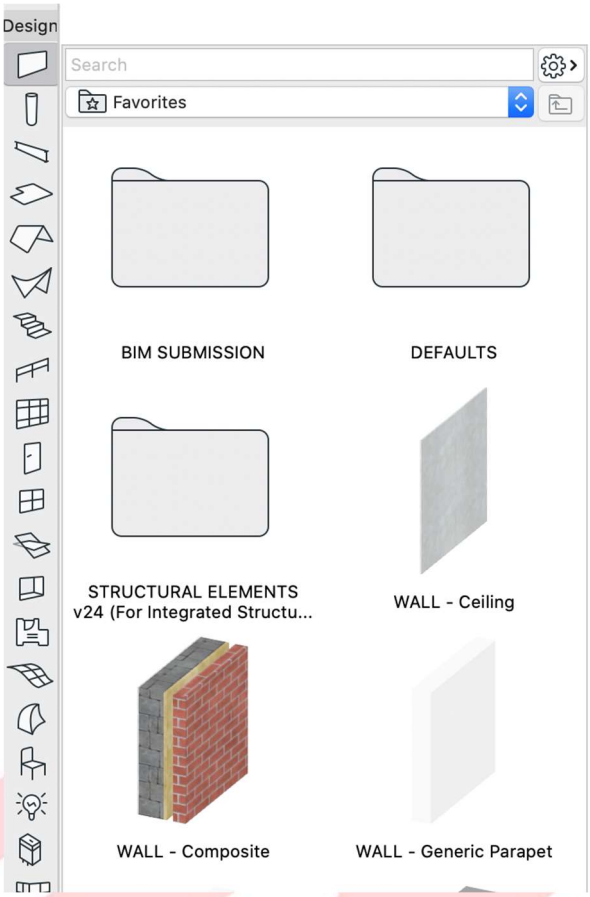
Favorites

The template contains many predefined favorites for the QPs' convenience. These can be easily accessed by hovering on a Tool in the Toolbox and clicking on the appearing arrow. Alternatively, in the InfoBox, in the Main panel, click the arrow next to the Tool Settings button.



- **Free-floating** items in the root folder are generic Favorites.
- The **BIM SUBMISSION** folder contains the Favorites needed specifically for submission.
- **Defaults** contain Favorites from the standard Archicad template and the defaults for each element. These can be deleted if need be.
- **STRUCTURAL ELEMENTS** are used in case structural elements will be used when working together with the structural teams in an integrated model workflow.

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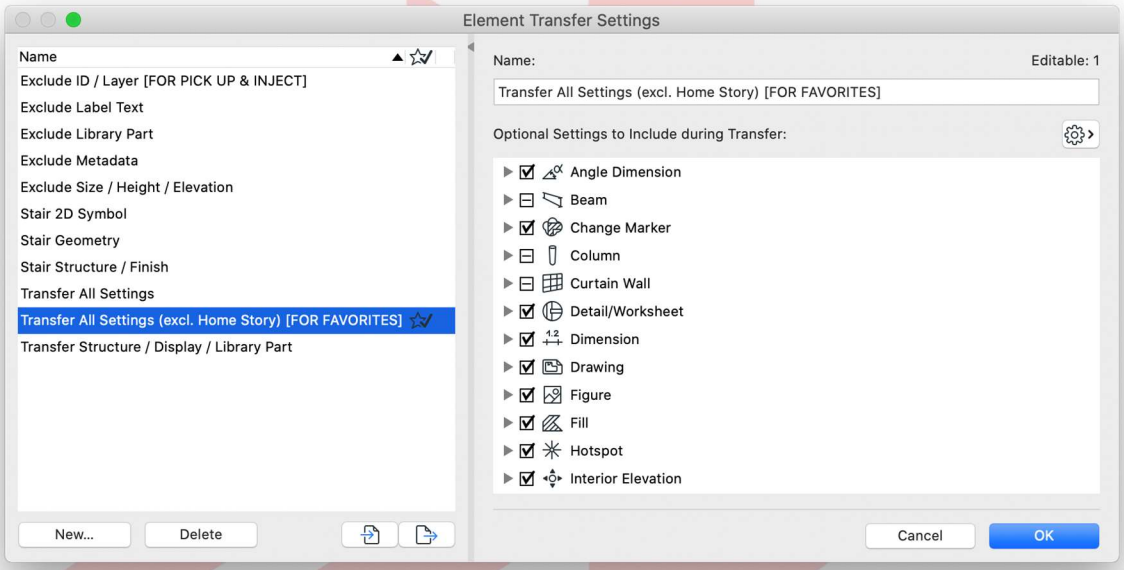
To ensure that the information stored in a Favorites applies the desired information to elements, check the Element Transfer Settings. This allows to choose which settings are applied, either when using Favorites or using Pick Up and Inject.

To adjust which transfer setting is used when double-clicking a Favorite to apply, go to **Window/Palettes/Favorites**, click the **cogwheel** on the top right of the palette and choose **Element Transfer Settings...**. or access the dialog via **Edit/Element Settings/Element Transfer Settings.**

The left side are presets, the row with a star icon and tick represents the default for Favorites. To change, select a preset and click into this column, to make sure that the **star icon appears next to Transfer All Settings (excl. Home Story) [FOR FAVORITES]**.



Find more details on the **Element Transfer Settings**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/128012/

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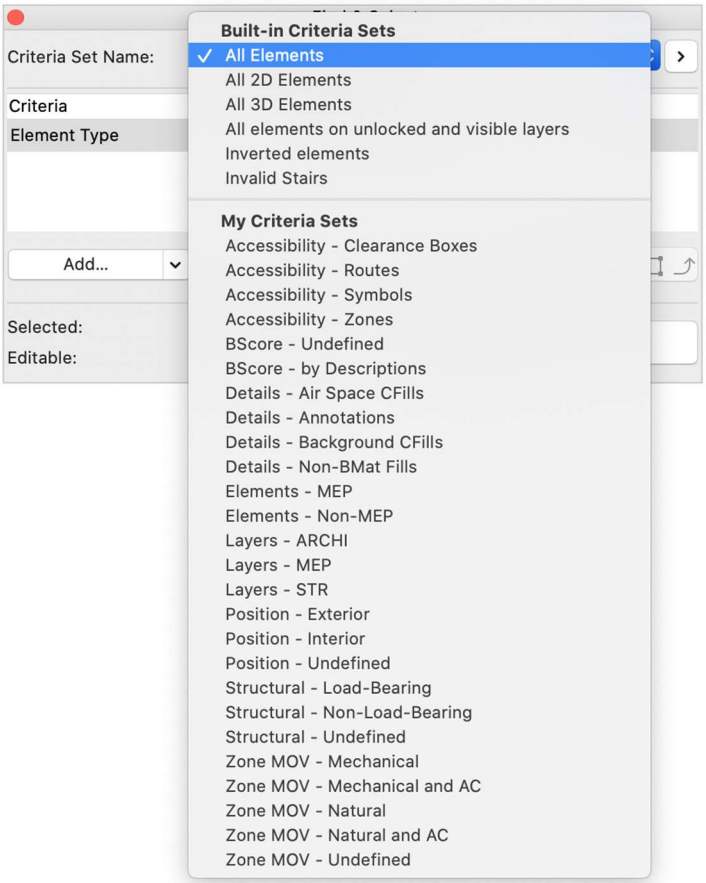
Find & Select Criteria Sets

To quickly select elements with specific criterion, use the **My Criteria Sets** in Find & Select, access by **Edit/Find & Select** or **CTRL+F**.



When opening the element settings from the whole selection, by using **CTRL+T**, only the settings of the last selected element type will be visible and editable. To change the settings of a different element, double-click that Tools icon in the Toolbox. To edit some details of the entire selection, like Layer and Properties, go to **Edit/Element Settings/Edit Selection Set…**

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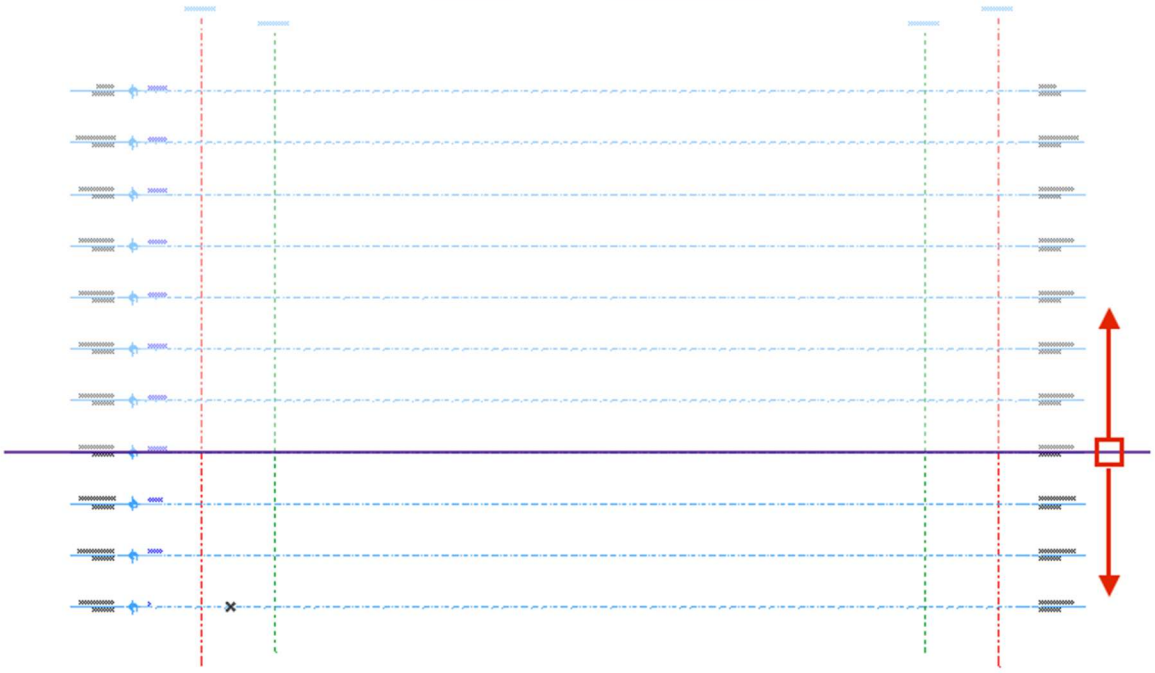
PREPARING THE FILE FOR SUBMISSION

3D Plan Views

As part of the preparation process the QPs need to set and refine the **3D Plan** views of the different stories. Since the Slab positioning and levels may vary significantly there is a high chance that some manual adjustments are needed to the preset 3D views.

The preset 3D Plan views use the 3D Cutaway function to limit the vertical range of the 3D view. Once the view is opened from the View Map, you can adjust the **Cutaway plane** by clicking on it and dragging it or simply switch to the **Project Map** in the Navigator and open a section/elevation to see the plane. If needed, click on the purple line and drag it to the desired height to modify which stories are visible.



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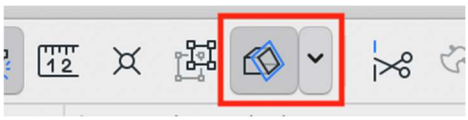
Creating/Modifying 3D Plan Views - 3D Cutting Planes

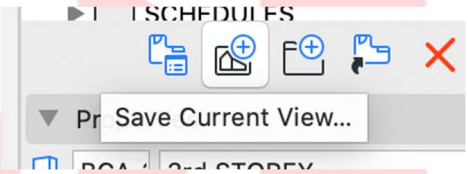
1 Open any of the views in the **BCA/BP/3D PLANS** folder in the View Map.

2 Use the **3D Cutaway** function of the Standard Toolbar to set the cutting planes.

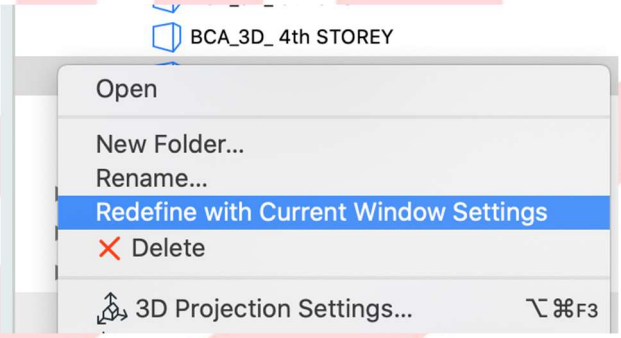


3 After adjusting, click **Finalize**.

4 From the View Map, save the View using the **Save Current View...** button at the bottom of the Navigator.



5 To change an existing view, right-click on the view you'd like to modify and choose **Redefine with Current Window Settings** from the context menu.



Note: When changing story heights (**Design/Story Settings...**) the elevation of Cutaway Planes must be readjusted manually.

Find more details on the **3D Cutting Planes**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide-chapter/85559/

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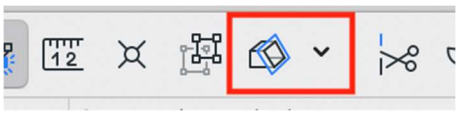
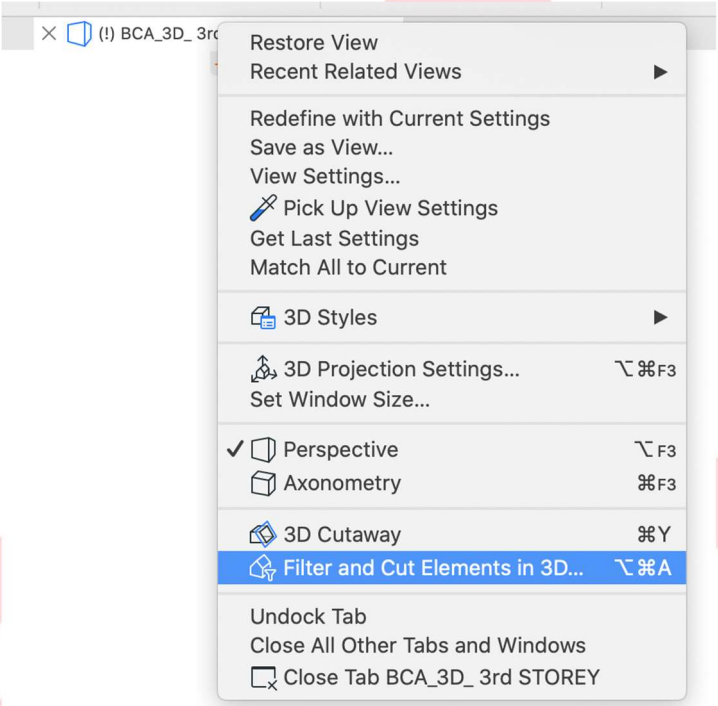
Creating/Modifying 3D Plan Views - Filter and Cut Elements in 3D

1 Open any of the views of the **BCA/BP/3D PLANS** folder in the View Map.

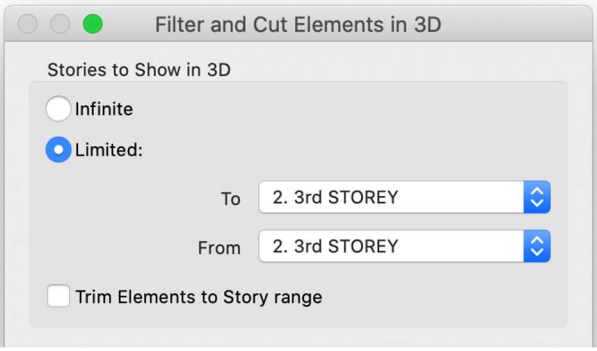
2 **Turn off** the 3D Cutaway, to show the full 3D model.



3 Right-click the 3D Window Tab of the opened view and choose **Filter and Cut Elements in 3D...**.



4 Set Stories to Show in 3D to **Limited** and adjust both the To and From controls to the range you want visible in 3D and click **OK**.



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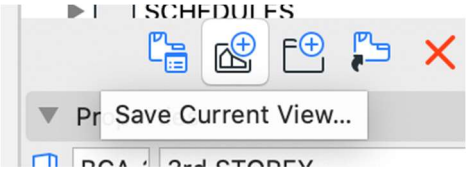
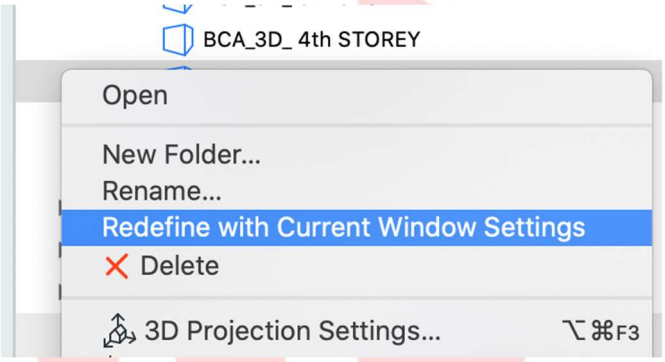
5 From the View Map, save the View using the **Save Current View...** button at the bottom of the Navigator.



6 To change an existing view, right-click on the view you'd like to modify and choose **Redefine with Current Window Settings** from the context menu.



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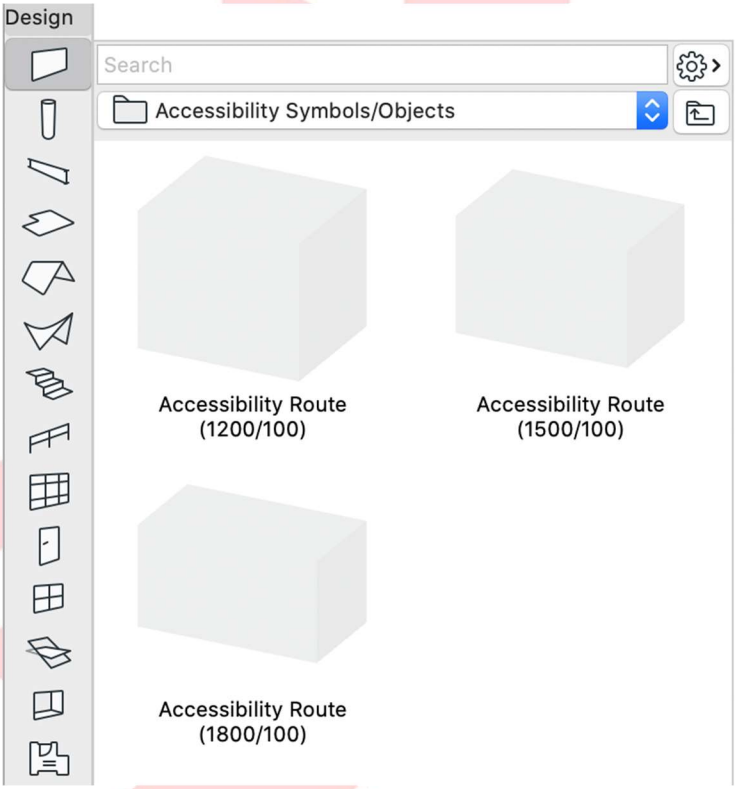
ACCESSIBILITY & VENTILATION

Accessibility and *Modes of Ventilation* has to be marked by adding accessibility routes, clearance boxes, accessibility objects (symbols) and by setting the properties of zones regarding both. This part summarizes ventilation and accessibility in general, the use of the accessibility related objects will be introduced in later parts of this document.

Accessibility Routes

Accessibility routing uses the Wall tool.

1 To place, use the **Wall Favorite**, **Accessibility Route (1200/100),** under the **BIM SUBMISSION/Accessibility Symbols/Objects** folder.



2 **Double-click the preview** to activate the Wall tool and apply the Favorite settings.

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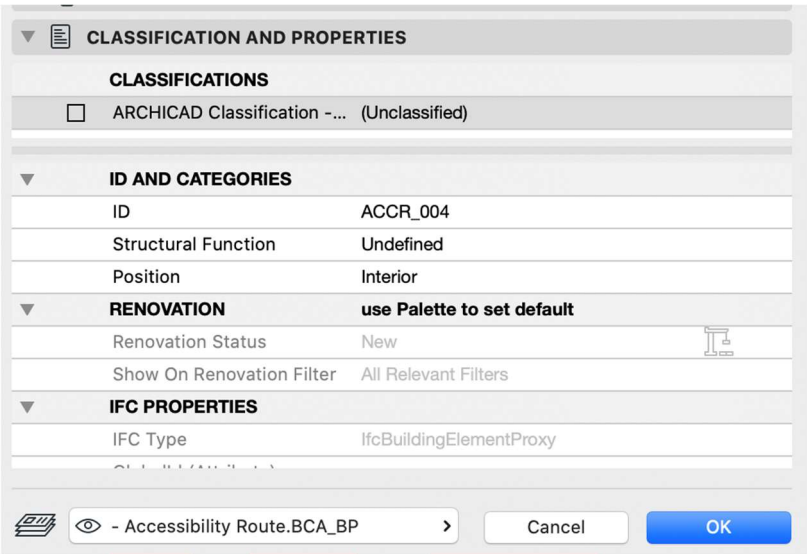
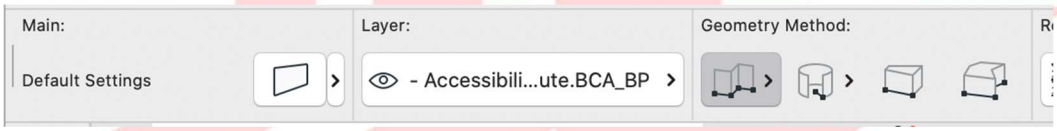
Check the following **Classification and Properties** settings:

- Element Classification = (**Unclassified)**
- ID = (**according to company naming standards)**
- Structural Function = **Undefined**
- Layer = **- Accessibility Route.BCA_BP**



3 Create the Wall using the **Chained geometry method**. When reaching doors, **make sure the route is not intersecting with the frames or leaves**.



Note: The Bottom offset of the wall is set to **0 by default**. Always make sure that the **accessibility route is positioned on the top surface of the actual Slabs** to avoid clashes.

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Accessible Doors

Accessible doors have to be placed where access to an accessible zone/room is required. The only difference between regular and accessible doors is that the latter have their minimal spaces defined and shown automatically on accessibility related plan views.

1 To place, use any of the **Door** Favorites starting with **Accessible** under the **BIM SUBMISSION/Doors** folder.

2 **Double-click the preview** to activate the Door tool and apply the Favorite settings.

Check the following settings:
- Minimum space requirements, for double doors only one door needs to be accessible
- Under **Classification and Properties** panel, **Accessible = True**

3 Place the Accessible Doors into the relevant Walls.

Note: To insert a regular door, use the Favorites from the same folder without the 'Accessible' prefix.

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Clearance Boxes

Clearance boxes are only to be placed for accessible doors which have their minimal spaces defined and shown.

1 Use the **Object** Favorite **Clearance Box (1200x1200/2200)** under the **BIM SUBMISSION/Accessibility Symbols/Objects** folder.

2 **Double-click the preview** to activate the Object tool and apply the Favorite settings.

Check the following **Geometry** settings:
- Bottom offset is level with the Slab top surface
- Box height is in accordance with the Door height

Check the following **Classification and Properties** settings:
- Element Classification = **Building Element Proxy**
- ID = (**according to company naming standards)**
- Structural Function = **Non-Load-Bearing Element**
- Accessible = **True**
- Layer = **- Clearance Boxes.BCA_BP**

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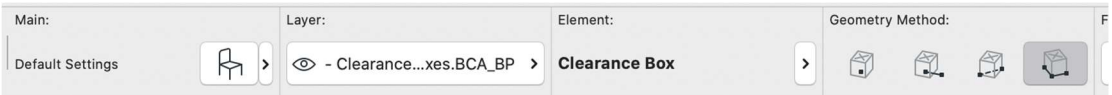
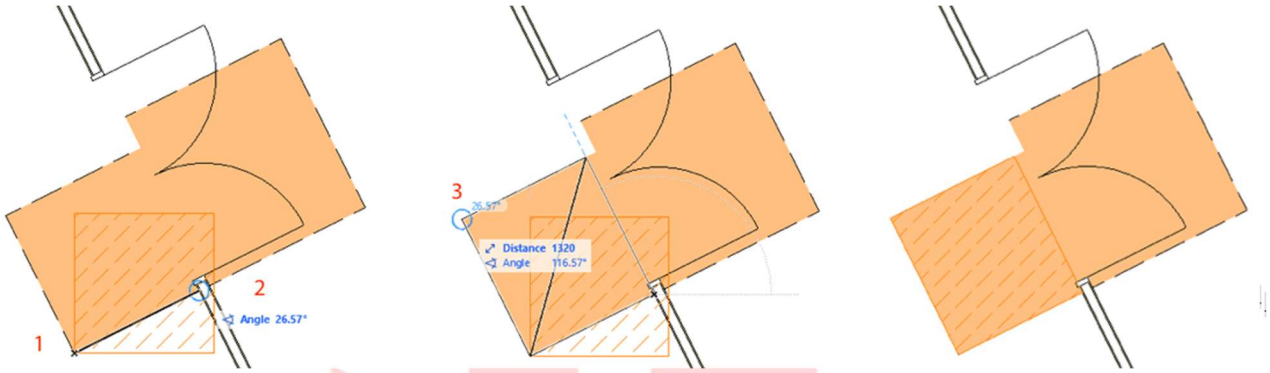
Place the box object using the **Rotated Diagonal geometry method**, to easily snap to the corner points of the Door 2D minimal space (even for non-orthogonal elements).





Note: The final clearance has to show both the 2D (solid color fill) and 3D clearance (dashed fill in 2D, box in 3D).

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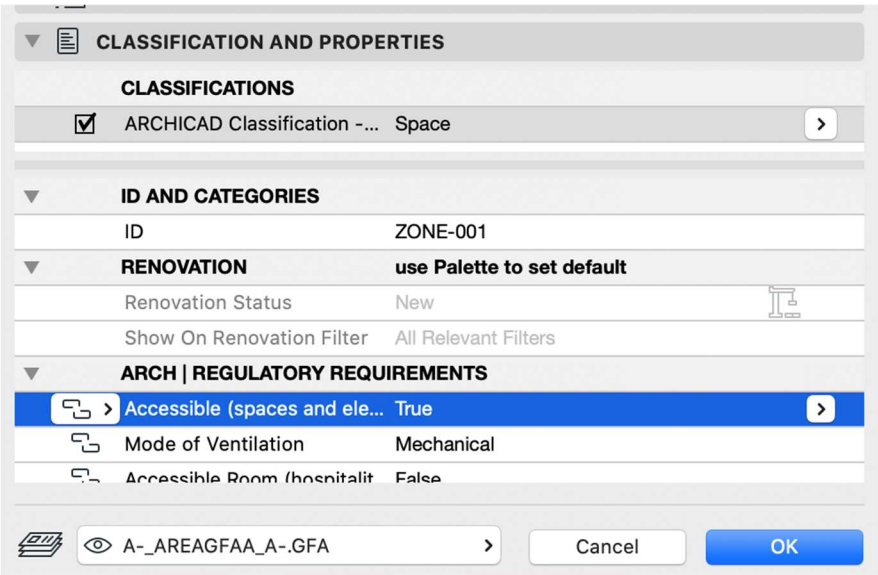
Zone Accessibility

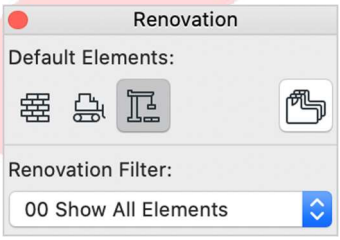
Accessibility of Zones needs to be set if the accessibility route goes through the zone or is reaching it via an accessible opening.

1 Open the Zone settings **Classification and Properties** panel and set the **Accessible (spaces and elements)** property value to **True** under **ARCH | REGULATORY REQUIREMENTS**.



Note 1: Zone Favorites include stored information about accessibility.

Note 2: Zones can only be placed using **boundary construction methods** if the *Renovation Statuses* of those match the Zones. For example, if the bounding Walls' Renovation status is *New*, only a *New* Zone can be auto placed inside. Therefore, **check the Renovation palette (Window/Palettes/Renovation)** of both the bounding Walls and the Zone being placed.



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As an alternative data input method, you can also use Schedules once the Zones are placed but their accessibility has not been defined yet.

1 Open the **BCA_BP_ROOMS (All)** Schedule from the **Project Map** or **View Map**.

2 **Click into any of the checkboxes** of the **Accessible** column to change the accessibility of the Zones.

Mode of Ventilation	Area	Accessible (space)	Hotels, guesthouses, dormitories, etc.	
			Accessible Room	Elderly Friendly Room
Mechanical and Air-Conditioned	14.38	☒	☐	☐
Mechanical	24.64	☐	☐	☐
Mechanical	29.85	☒	☐	☐
Mechanical	30.98	☐	☐	☐
Mechanical	36.86	☒	☐	☐
Mechanical	62.78	☐	☐	☐
Mechanical	104.97	☒	☐	☐
Mechanical and Air-Conditioned	15.06	☐	☐	☐
Natural	14.46	☒	☐	☐
Natural	15.07	☐	☐	☐
Natural and Air-Conditioned	16.63	☐	☐	☐
	365.68 m²			

Note 1: *Accessible Room* and *Elderly Friendly Room* checkboxes refer to hospitality spaces only, where the room provides better accessibility and more space.

Note 2: The default accessibility property value is *False* therefore non-accessible Zones do not need to be modified.

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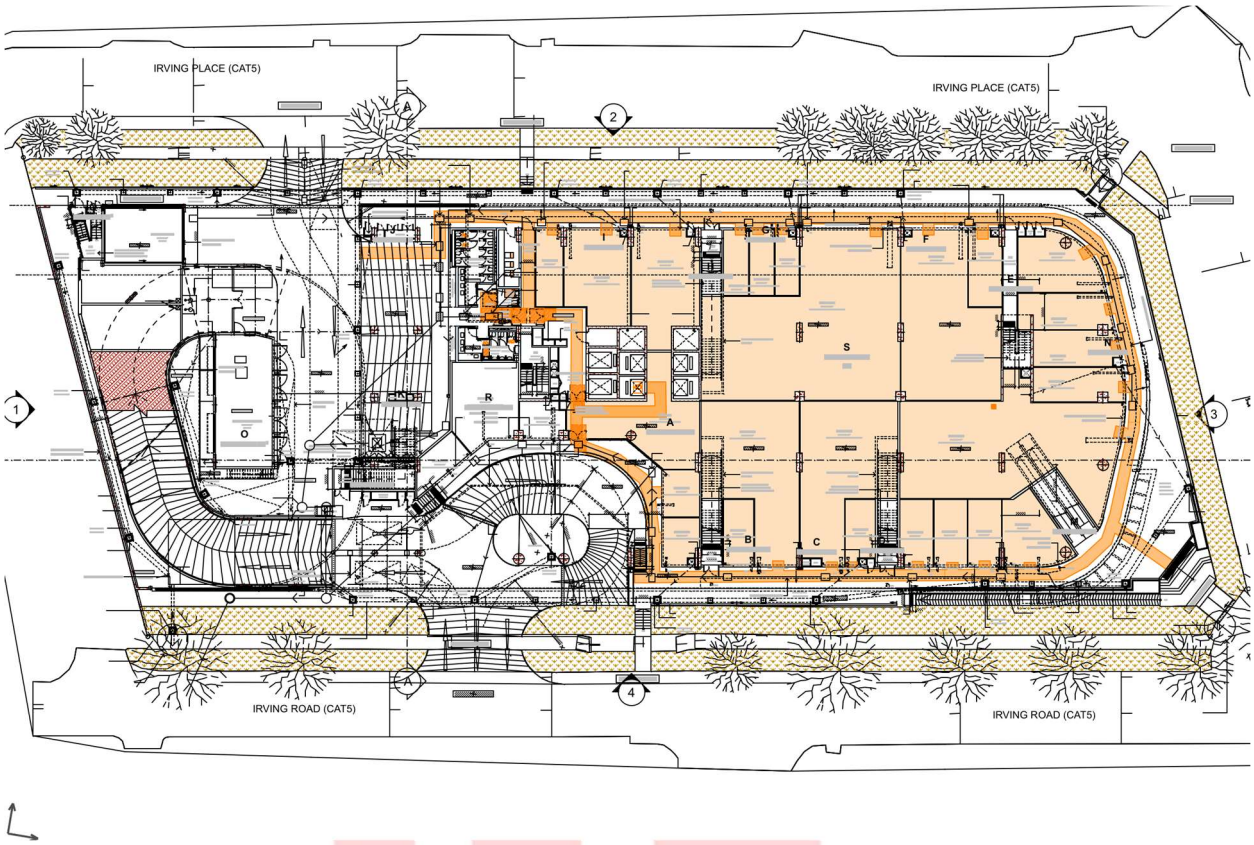
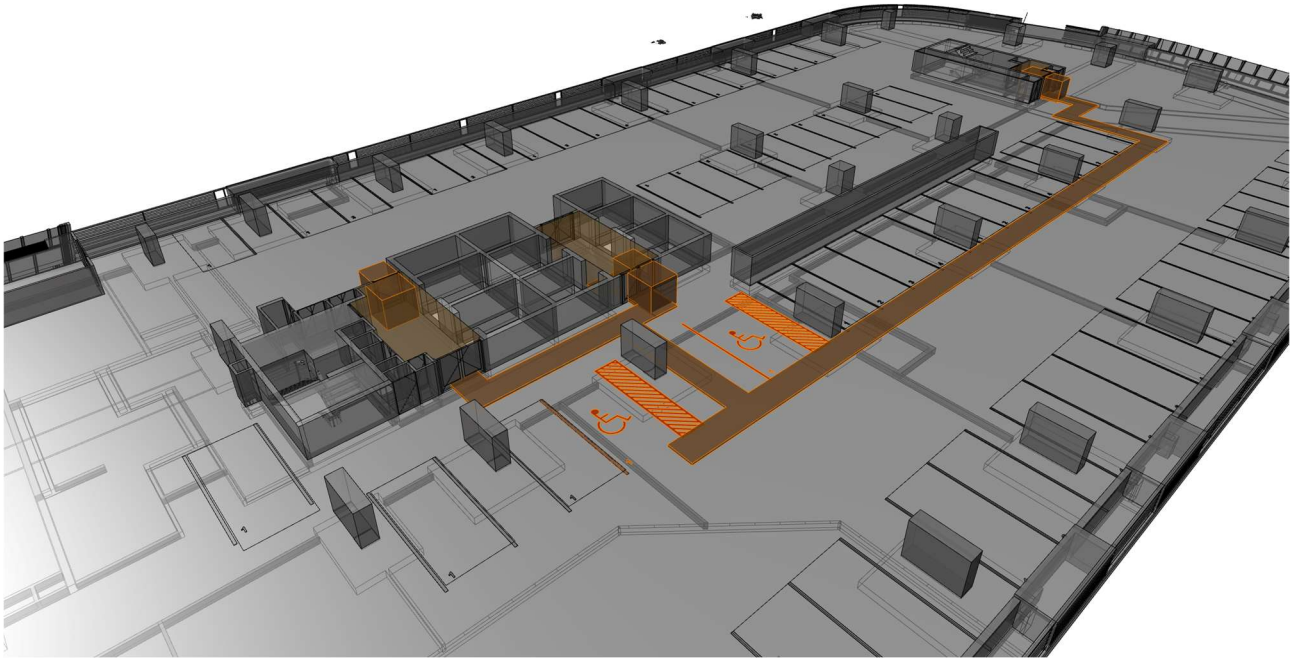
Examples of 2D plans and 3D showing accessibility:



Courtesy of P&T Consultants Pte Ltd.



Courtesy of P&T Consultants Pte Ltd.

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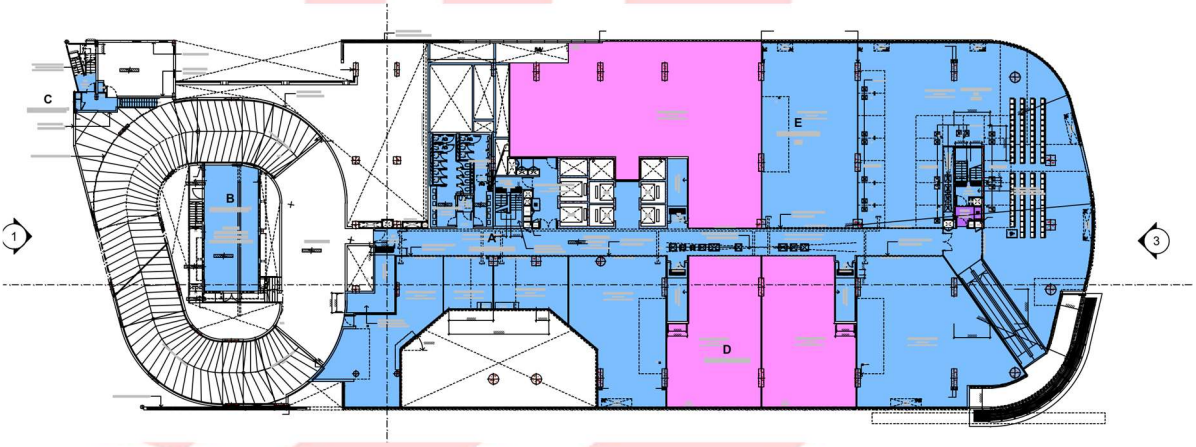
Modes of Ventilation

Setting the Mode of Ventilation for Zones follows the same method as accessibility described above, through either:

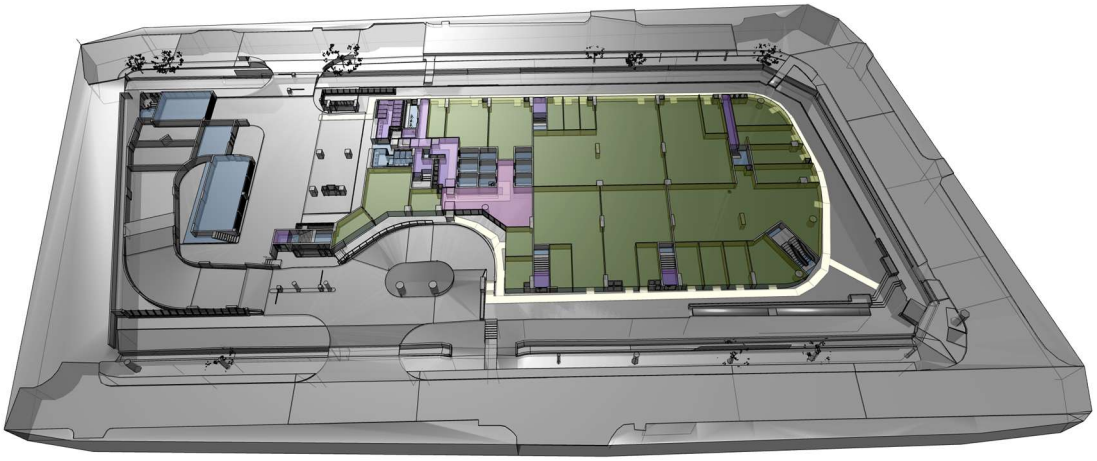
Zone Settings: Open the Zone settings **Classification and Properties** panel and set the **Mode of Ventilation** property value to the required one under **ARCH | REGULATORY REQUIREMENTS**.
or
Schedule: Open the **BCA_BP_ROOMS (All)** Schedule and click into any of the cells of the **Mode of Ventilation** column, then choose a value from the option list.

Note: The default Mode of Ventilation property value is *Mechanical*.

Examples of 2D plans and 3D showing accessibility:



Courtesy of P&T Consultants Pte Ltd.



Courtesy of P&T Consultants Pte Ltd.

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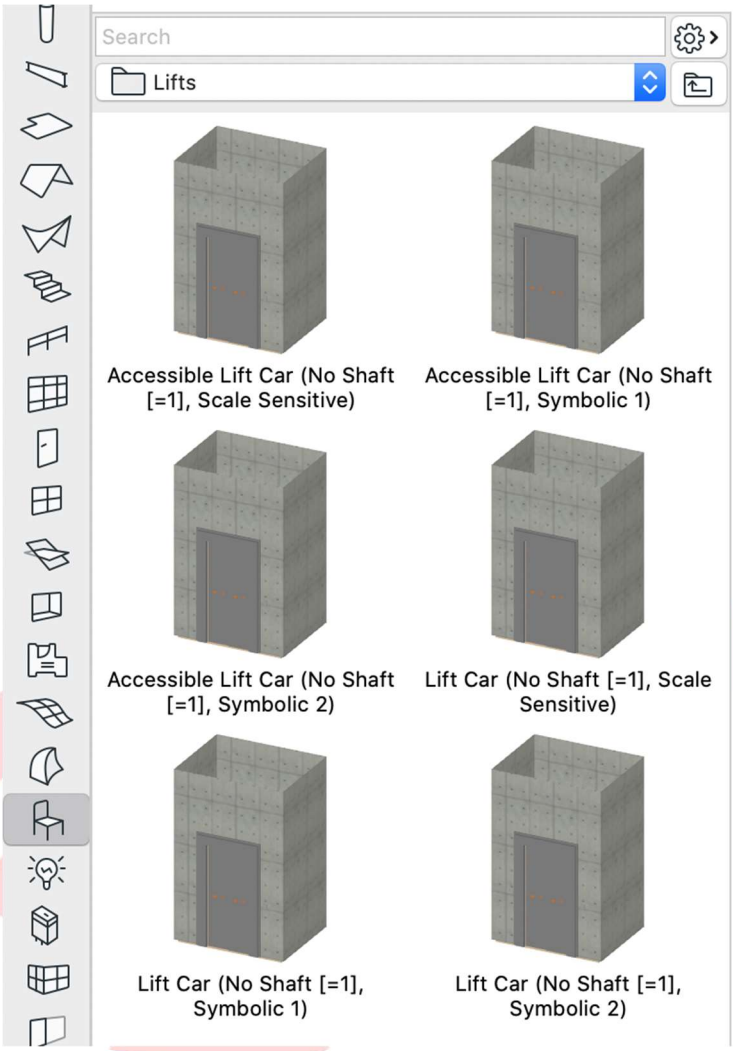
Lifts

Accessible lifts have to be set according to the accessibility code and will be highlighted on plans. For actual requirements please refer to the relevant codes.

1 Use the **Object** Favorite **Lift Car** or **Accessible Lift Car** under the **BIM SUBMISSION/Lifts** folder. Choose a version based on the required graphical appearance on plans (Symbolic 1/Symbolic 2/Scale Sensitive).



Note: The stored Favorites include the lift shaft set at a minimum thickness of 1mm. This is only necessary to make the lifts visible in their full heights when highlighted for accessibility. Actual shafts are to be built using the **Wall tool** and an additional **Empty opening** (Door tool) placed.

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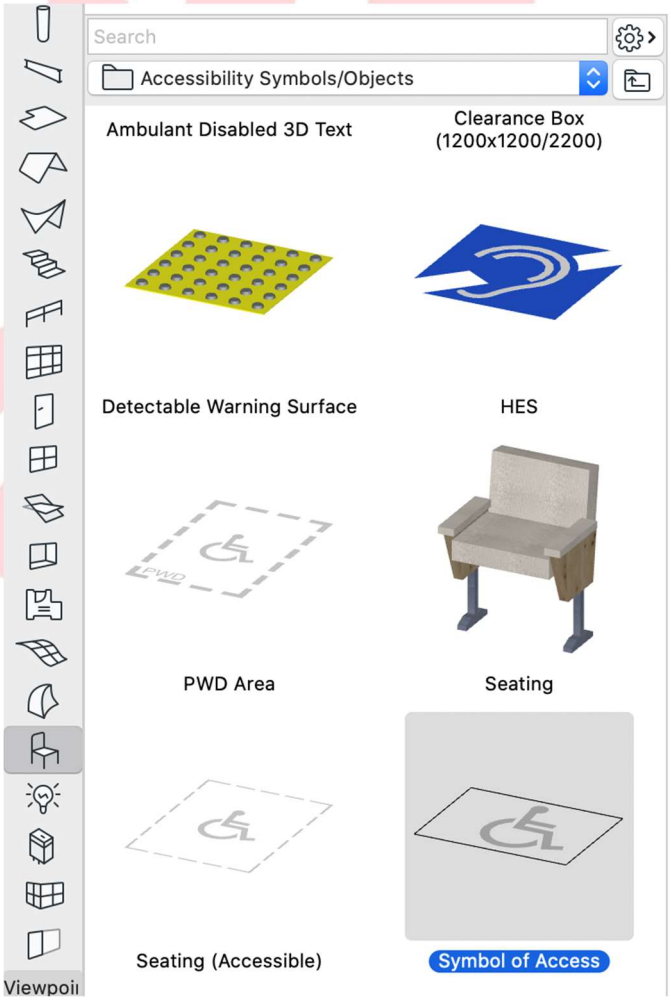
2 **Double-click the preview** to activate the Object tool and apply the Favorite settings.

Check the following **Classification and Properties** settings:
- Element Classification = **Elevator**
- ID = (**according to company naming standards)**
- Structural Function = **Non-Load-Bearing Element**
- Accessible = **False or True (as needed)**
- Layer = **A-_LIFT---_E-**

3 Place the necessary lifts.

Add the 2D symbol for accessibility to mark the elevators on plans as well.

1 Use the **Object** Favorite **Symbol of Access** under the **BIM SUBMISSION/Accessibility Symbols/Objects** folder.



2 **Double-click the preview** to activate the Object tool and apply the Favorite settings.

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Check the following **Classification and Properties** settings:

- Element Classification = **Building Element Proxy**
- ID = (**according to company naming standards)**
- Structural Function = **Non-Load-Bearing Element**
- Accessible = **True**
- Layer = **A-_ANOT----_A-**

3 Place the necessary symbol to the lifts which are to be marked as accessible.

4 Open the **Schedules/Element/A | Lifts** schedule in the **Project Map** to check the results and make the necessary changes as needed.

LIFTS						
Accessible	ID	Car Inner Dimensions			Quantity	Remarks
		Clear Opening Width	Width	Depth		
☒	AL - 001	900	2,000	1,500	1	
					1	
☐	L - 001	900	2,000	1,500	1	
☐	L - 002	900	2,000	1,500	1	
					2	
					3	

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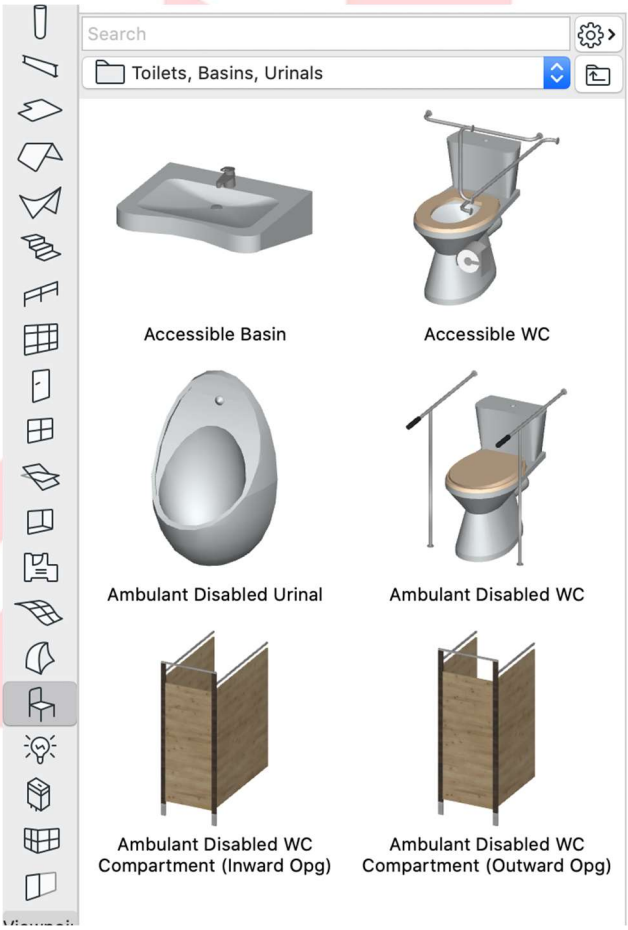
Toilets and Toilet Compartments

Accessible toilets have to be set according to the accessibility code and will be highlighted on plans. For actual requirements please refer to the relevant codes.

Note: There is a difference between individual toilets and toilet compartments. If you want to add compartments to your model you may decide whether to **use the Commercial Bathroom Stall objects** with or without the stall separators **or built walls with single WC elements**. **Mixing the different types is not recommended**.

---

1 Use the **Object** Favorites under the **BIM SUBMISSION/Toilets, Basins, Urinals** folder.



Note: A default Cluster ID property is stored with the Favorites, therefore it has to be changed manually.

---

2 **Double-click the preview** to activate the Object tool and apply the Favorite settings. Check the following **Classification and Properties** settings:
   - Element Classification = **MEP Element**

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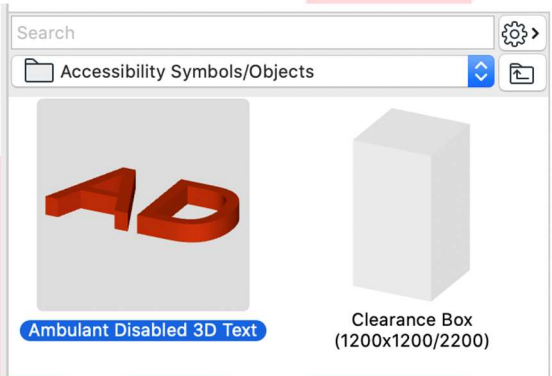
- ID = (**according to company naming standards)**
- Structural Function = **Non-Load-Bearing Element**
- Accessible = **False or True (as needed)**
- Layer = **A-_SANI----_E-**

3 Place the necessary toilets.

Add the 2D symbol for accessibility to mark the accessible and ambulant disabled toilets on plans as well.

1 Use the **Object** Favorites **Ambulant Disabled 3D Text** and/or **WC Clearance (d=1000)** under the **BIM SUBMISSION/Accessibility Symbols/Objects** folder.



2 **Double-click the preview** to activate the Object tool and apply the Favorite settings. Check the following **Classification and Properties** settings:
- Element Classification = **Building Element Proxy**
- ID = (**according to company naming standards)**
- Structural Function = **Non-Load-Bearing Element**
- Accessible = **True**
- Layer = **A-_ANOT----_A-**

3 Place the necessary symbol next to the toilets which are to be marked accessible to highlight the function and their clearances.

Note: The 2D linework of the compartment toilets is limited. Grab bars, toilet paper dispensers, etc. need to be added manually.

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4 There are separate Schedules for single toilets and compartment toilets. They should not be mixed.

Single Toilets: Open the **Schedules/Element/Toilets** schedule in the **Project Map** to check the results and make the necessary changes as needed.

TOILETS				
Home Story	**Accessible**	**Type**	**Quantity**	**Remarks**
1st STOREY, Cluster 01				
	☐	Urinal 20	3	
	☐	WC 20	6	
	☒	Urinal 20	1	
	☒	WC Disabled 20	1	
			11	
1st STOREY, Cluster 02				
	☐	Urinal 20	2	
	☐	WC 20	4	
	☒	Urinal 20	1	
	☒	WC Disabled 20	1	
			8	
2nd STOREY, Cluster 03				
	☐	Squatting Toilet 20	4	
	☐	Urinal 20	3	
	☐	WC 20	2	
	☒	Urinal 20	1	
	☒	WC Disabled 20	1	
			11	
			30	

Compartment Toilets: Open the **Schedules/Element/Toilets (Compartments)** schedule in the **Project Map** to check the results and make the necessary changes as needed.

TOILETS (Compartments)			
Home Story	**Accessible**	**Number of Stalls (toilets)**	**Remarks**
1st STOREY, Cluster 01			
	☐	3	
	☒	1	
		4	
2nd STOREY, Cluster 02			
	☐	3	
	☒	1	
		4	
		8	

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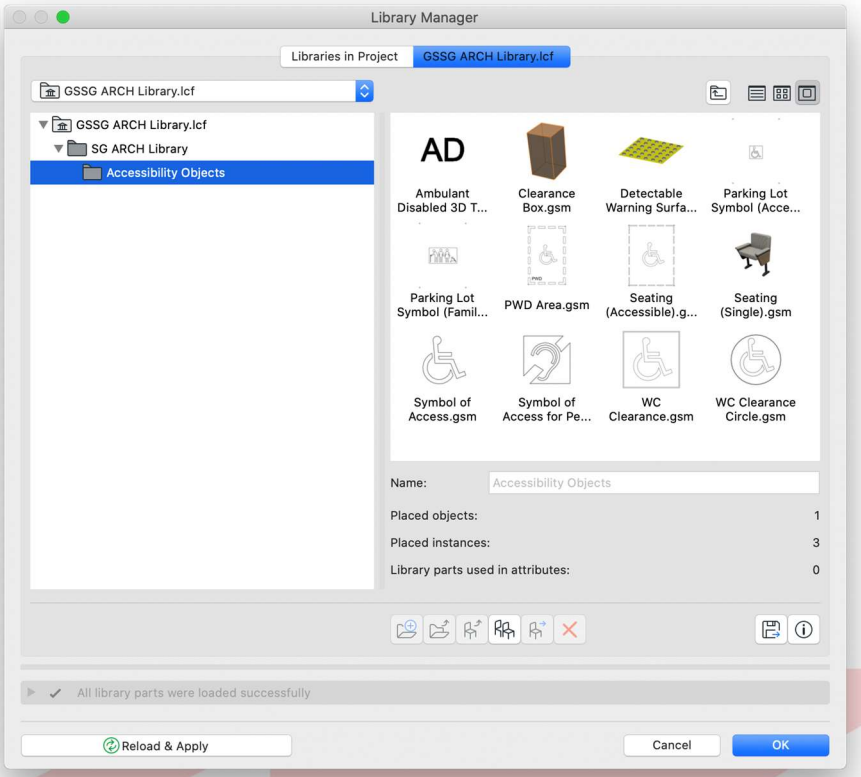
Accessibility Objects

The linked *GSSG ARCH Library.lcf* contains objects that can be used during the submission phase, such as the **Detectable Warning Surface** and **PWD Area** objects and the **Parking Lot Symbol** objects (2D only).



When using these objects, make sure that their settings (for example Accessible: True/False) will allow them to be highlighted in the relevant views and schedules. Refer to object settings of similar objects in this chapter.

The additional 2D parking lot symbols are only to be used if the built-in representation of the parking lots does not suffice. However, note, that the submission process only requires the function and accessibility of the parking lots and not their final appearance, therefore the default ones can be replaced later for tendering, construction, etc. phases.

Note: The final parking lot schedule has to indicate the number of all parking lots and the breakdown in between accessible and regular spaces. If needed, change the schedule criterion accordingly when using these additional elements.

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SCHEDULES

The officers will use the Schedules to perform manual code-checking to see whether the model is built according to the regulations and will comment as necessary. The following sections will introduce the template schedules and present the necessary settings for the related elements.

To access, go to the **SCHEDULES** folder in the **View Map**.

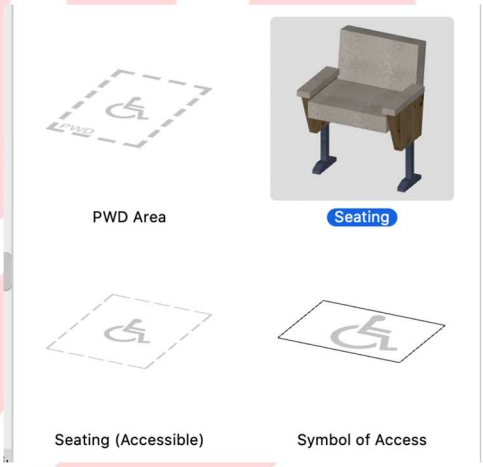
Accessible (Audience) Seating

This schedule lists the total number of auditorium-type seating and the number of accessible seating and sorts them based on accessibility per stories/rooms. For actual requirements please refer to the relevant codes.

Note: The schedule does not list the *Audience Seating 24* object in the *Archicad Library 24*.

---

1 Use the **Object** Favorite **Seating** or **Seating (Accessible)** under the **BIM SUBMISSION/Accessibility Symbols/Objects** folder.



2 **Double-click the preview** to activate the Object tool and apply the Favorite settings. Check the following **Classification and Properties** settings:
- Element Classification = **Furniture or Building Element Proxy (as needed)**
- ID = (**according to company naming standards)**
- Structural Function = **Non-Load-Bearing Element**
- Accessible = **False or True (as needed)**
- Layer = **A-_FURT----_E-**

3 Place the necessary objects.

4 Open the **SCHEDULES/BCA_BP_AUDIENCE SEATING** schedule to check the results and make the necessary changes as needed.

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ACCESSIBLE SEATING			
Home Story	**Accessible**	**ID**	**Remarks**
1st STOREY, Auditorium			
	☐	REGSEAT	
		121	
	☒	ACCSEAT	
		5	
		126	

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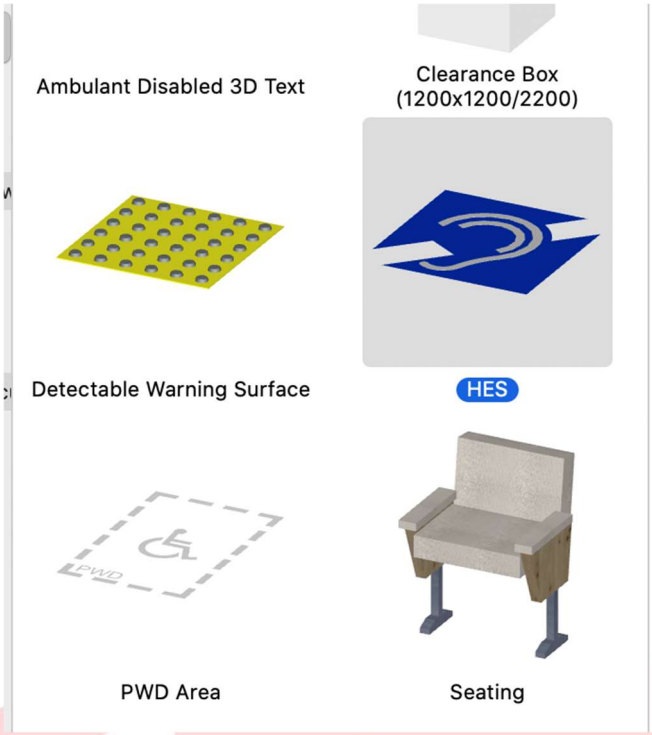
Hearing Enhancement Systems

This schedule lists the number of Hearing Enhancement Systems (HES) symbols per rooms. For actual requirements please refer to the relevant codes.

1 Use the **Object** Favorite **HES** under the **BIM SUBMISSION/Accessibility Symbols/Objects** folder.



2 **Double-click the preview** to activate the Object tool and apply the Favorite settings.

Check the following **Classification and Properties** settings:

- Element Classification = **Building Element Proxy**
- ID = (**according to company naming standards)**
- Structural Function = **Non-Load-Bearing Element**
- Accessible = **True**
- Layer = **A-_ANOT----_A-**

3 Place the necessary objects.

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4 Open the **SCHEDULES/BCA_BP_HEARING ENHANCEMENT SYSTEMS** schedule to check the results and make the necessary changes as needed.

HEARING ENHANCEMENT SYSTEMS			
Home Story	**Room**	**Quantity**	**Remarks**
1st STOREY			
	Auditorium	1	
		1	
2nd STOREY			
	Training Room 1	1	
	Training Room 2	1	
		2	
		3	

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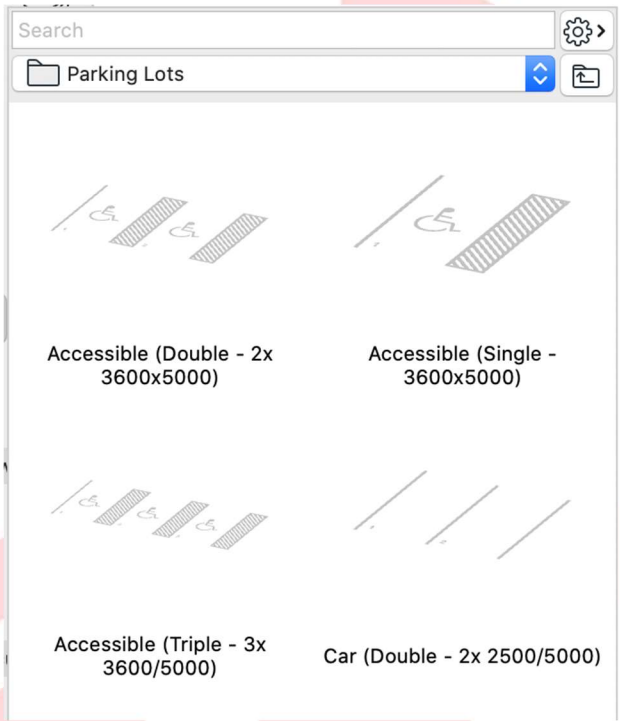
Parking Lots

This schedule lists the number of parking spaces and sorts them based on accessibility. For actual requirements please refer to the relevant codes.

Note: The schedule only lists the variants of the *Parking Place 24* object of the default *Archicad Library 24*.

---

1 Use the **Object** Favorites under the **BIM SUBMISSION/Parking Lots** folder.



2 **Double-click the preview** to activate the Object tool and apply the Favorite settings. Check the following **Classification and Properties** settings:
- Element Classification = **Building Element Proxy**
- ID = (**according to company naming standards)**
- Structural Function = **Non-Load-Bearing Element**
- Accessible = **False or True (as needed)**
- Layer = **A-_CPRK----_E-**

3 Place the necessary objects.

4 Open the **SCHEDULES/BCA_BP_PARKING LOTS** schedule to check the results and make the necessary changes as needed.

5 **Add remarks** to the Accessible/Family Car Park Spaces to confirm that the required total width is provided.

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PARKING LOTS						
Home Story	Accessible/Family Car Parking Lot	ID	Minimal Width	Length	Number of Parking Spaces	Remarks
1st STOREY						
	☐	CPRK - 001	2,500	5,000	38	
	☐	CPRK - 002	2,500	5,000	38	
	☐	CPRK - 003	2,500	5,000	38	
	☐	CPRK - 004	2,500	5,000	38	
	☐	CPRK - 005	2,500	5,000	38	
	☐	CPRK - 006	2,500	5,000	38	
					228	
	☒	A-CPRK - 001	2,500	5,000	2	additional width of 1100 provided
	☒	A-CPRK - 002	2,500	5,000	2	additional width of 1100 provided
					4	
					232	

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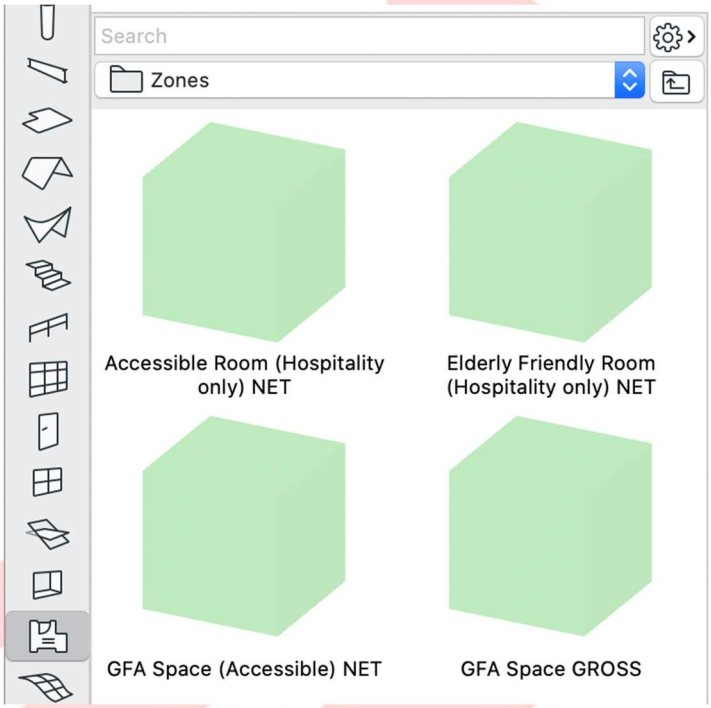
Accessible/Elderly Friendly Rooms (Hospitality Projects Only)

This schedule lists the number of Accessible Rooms in hotels, dormitories, guesthouses and other hospitality buildings. For actual requirements please refer to the relevant codes.

Note: All Accessible Rooms and Elderly Friendly Rooms are Accessible spaces; other room type may or may not be considered Accessibly spaces.

---

1 Use the **Zone** Favorite **Accessible/Elderly Friendly Room (Hospitality only) NET**.



2 **Double-click the preview** to activate the Zone tool and apply the Favorite settings.

Check the following **Classification and Properties** settings:
- Element Classification = **Space**
- Accessible = **True**
- Accessible Room/Elderly Friendly = **True (only one applies)**
- Layer = **A-_AREAGFAA_A-**

3 Place the necessary zones.

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4 Open the **SCHEDULES/BCA_BP_ROOMS (Accessible)** and **(Elderly Friendly)** schedule to check the results and make the necessary changes as needed.

ACCESSIBLE ROOMS (Hotels, guesthouses, dormitories, etc.)				
Home Story	**Room Name**	**Room No.**	**Quantity**	**Remarks**
1st STOREY				
	Room	101	1	
	Room	102	1	
	Room	103	1	
			3	
2nd STOREY				
	Room	201	1	
	Room	202	1	
	Room	203	1	
			3	
3rd STOREY				
	Room	301	1	
	Room	302	1	
	Room	303	1	
			3	
			9	

ELDERLY FRIENDLY ROOMS (Hotels, guesthouses, dormitories, etc.)				
Home Story	**Room Name**	**Room No.**	**Quantity**	**Remarks**
2nd STOREY				
	Room	201	1	
	Room	202	1	
	Room	203	1	
			3	

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All Rooms

This schedule lists all rooms with their ventilation types, accessibility options and areas. The main purpose of this list is to enable easy data handling as described in the ACCESSIBILITY & VENTILATION section of this document.

1 Open the **SCHEDULES/BCA_BP_ROOMS (All)** schedule to check the results and make the necessary changes as needed.

2 Click into the Mode of Ventilation cells and use the arrow to open the option list or check/uncheck the checkboxes.

ROOMS (All Types)

Mode of Ventilation	Area	Accessible (space)	Hotels, guesthouses, dormitories, etc.		Quantity
			Accessible Room	Elderly Friendly Room	
Mechanical		☐	☐	☐	1
Mechanical			☐	☐	1
Mechanical and Air-Conditioned			☐	☐	1
Mechanical and Air-Conditioned			☐	☐	1
Mechanical and Air-Conditioned	62.78	☐	☐	☐	1
Mechanical and Air-Conditioned	104.97	☒	☐	☐	1
Mechanical and Air-Conditioned	15.06	☐	☐	☐	1
Mechanical and Air-Conditioned	15.07	☐	☐	☐	1
Mechanical and Air-Conditioned	16.63	☐	☐	☐	1
Natural and Air-Conditioned	24.64	☒	☒	☐	1
Natural and Air-Conditioned	14.46	☒	☒	☐	1
Natural and Air-Conditioned	30.98	☒	☒	☐	1
	605.12 m²				**12**

Natural
✓ Mechanical
Natural and Air-Conditioned
Mechanical and Air-Conditioned
Undefined

Natural and Air-Conditioned	24.64	☒	☐	☒	1
Natural and Air-Conditioned	14.46	☑	☐	☑	1
Natural and Air-Conditioned	30.98	☒	☐	☒	1
Mechanical	30.81	☐	☐	☐	1
Mechanical	30.81	☐	☐	☐	1
	131.70 m²				**5**

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Stairs

This schedule lists all Stairs elements. The main purpose of this list is to check the tread sizes and number of steps per flights. For actual requirements please refer to the relevant codes.

1 Open the **SCHEDULES/BCA_BP_STAIRCASE** schedule to check the details of the stairs you created and make the necessary changes as needed (might not be possible within the schedule).

2 Add Comments/Remarks as needed.

BCA_BP_STAIRCASES														
ID	Home Story	Quantity	Detectable Warning Surfaces	Number of Risers per Flights	Tread Depths (by rule)		Riser Heights (by rule)		Railings					Remarks
					min.	max.	min.	max.	Distance Between Railing Posts	Distance from Landing/Flight	Height of Curb (perpendicularly)	Height of Curb (vertically)	Height of Railing	
STAIR - 001														
	1st STOREY	1	☐	20	250	350	150	200	100	150	115	115	100	
STAIR - 002														
	1st STOREY	1	☒	20	250	350	150	200	100	150	115	115	100	
STAIR - 003														
	1st STOREY	4	☐	6; 13	250	350	150	200	100	150	115	115	100	
		6												

Stairs that were created by other tools, will NOT be listed therefore need additional comments/remarks in the remark field stating:

- **Tread sizes** (riser and run)
- **Railing height** (total, including plinths/curbs)
- **Number of steps per flight**
- **Flight widths**

Using non-stair modeling tools is not recommended, but if used always **set the Element Classification to Stair** and adjust the Schedule criteria to include them.

The remarks can also be used to refer to Railings that will be used with the Stair.

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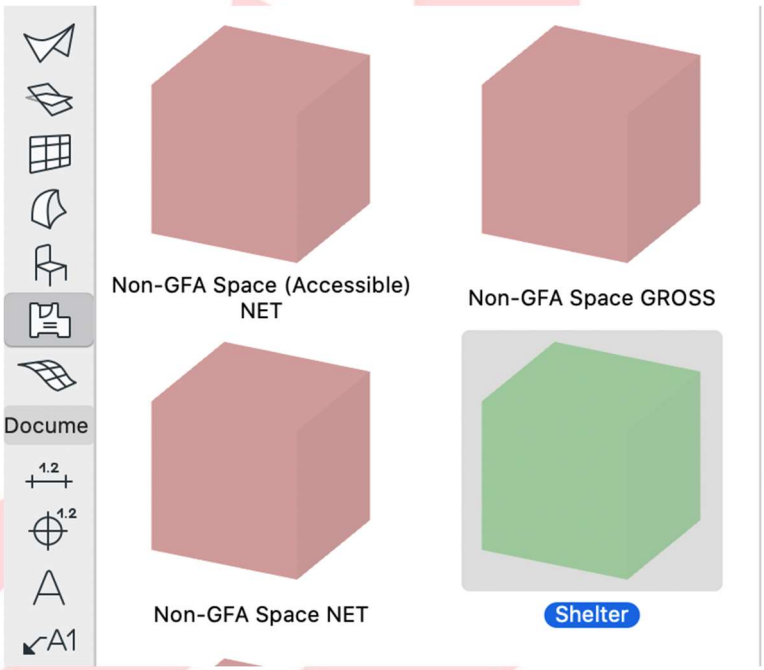
Shelters

These schedules list all household and staircase shelters. Shelters use the Zone tool for the area calculation as ordinary spaces, the setbacks are represented by Morphs. The list needs manual filling of properties of the above-mentioned elements as follows.

Note: The shelter setbacks are using one common layer that is only shown on the FSSD layer combination. Any additional layers that might be needed for shelter (setbacks) must be incorporated into the FSSD layer combination.

---

1 Use the **Zone** Favorite **Shelter**.



2 **Double-click the preview** to activate the Zone tool and apply the Favorite settings.

Check the following **Zone** settings:

- Zone Category = **CDHS Household Shelter**/**CDSS Storey Shelter**/**CDSSS Staircase Storey Shelter** (according to the type of actual shelter)
- Element Classification = **Space**
- Property Group = **ARCH | SHELTERS** the content of this group is only to be used for shelter zones
    - Dwelling Unit Type: according to the type of unit (create more property value options under **Options/Property Manager...** as needed
    - GFA of Unit: input the total GFA of the unit in which the shelter is located
    - Shelter Type (not for Staircase Storey Shelter): **HA**/**HB**/**SA**/**SB** according to the position of the shelter, this value can be set in the schedules as well

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- No. of Square Units: expression-based calculation, according to the code of practice
- Required Internal Area: expression-based calculation, according to the code of practice
- Required Internal Volume: expression-based calculation, according to the code of practice

- Layer = according to the **GFA/NonGFA** type of actual shelter

3 Place the necessary Zones.

4 From the **Project Map**, open the **Element/Shelters | ...** schedules to check the results and make the necessary changes as needed.

5 Click into the Schedule cells to change details as needed.

DATA OF HOUSEHOLD SHELTERS						
Dwelling Unit Type	**GFA of Unit**	**No. of HS**	**Internal Area**	**No. of Square Units**	**Internal Volume**	**Shelter Type**
Type 1	45.30	2	9.72	27	31.14	HA
Type 2	60.20	2	14.34	39	45.88	HA
Type 3	87.40	2	9.72	27	31.14	HA

DATA OF STOREY SHELTERS								
Home Story	**Dwelling Unit Type**	**GFA of Unit**	**Quantity**	**Internal Area of SS**		**Internal Volume of SS**		**Shelter Type**
				Required	**Provided**	**Required**	**Provided**	
1st STOREY								
	Undefined	132.50	1	3.00	14.95	9.00	47.86	HA
2nd STOREY								
	Undefined	132.50	1	3.00	14.95	9.00	47.86	HA
			2					

Find more information on the **Expressions in Properties**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide-chapter/85576/

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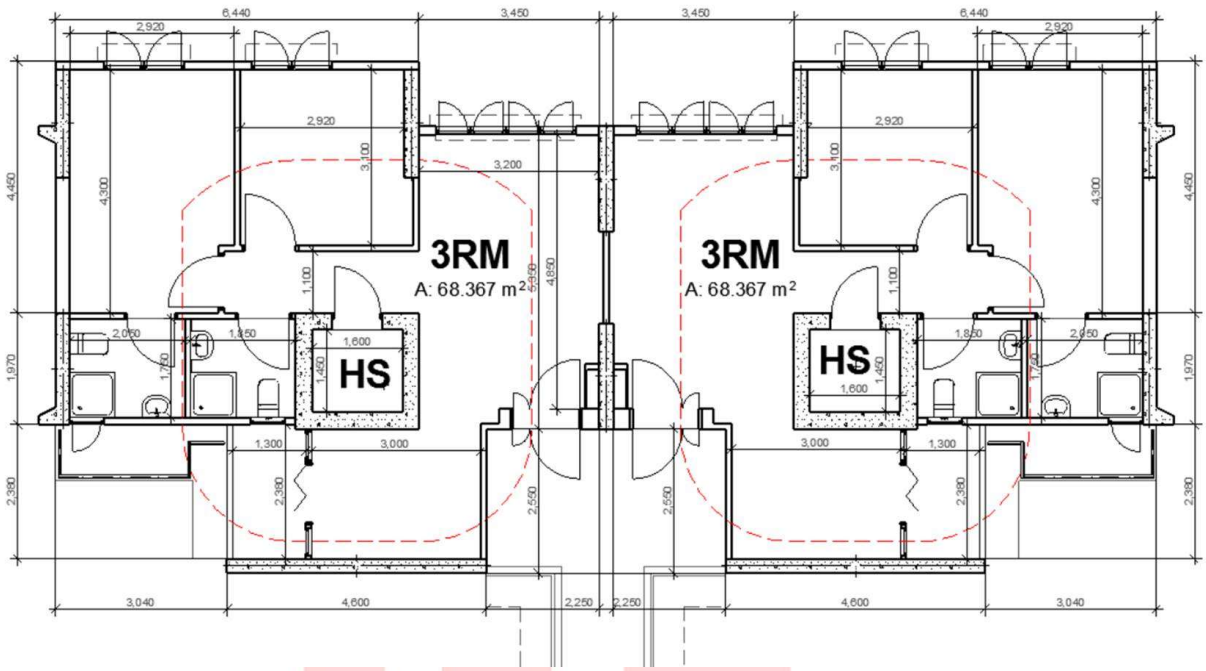
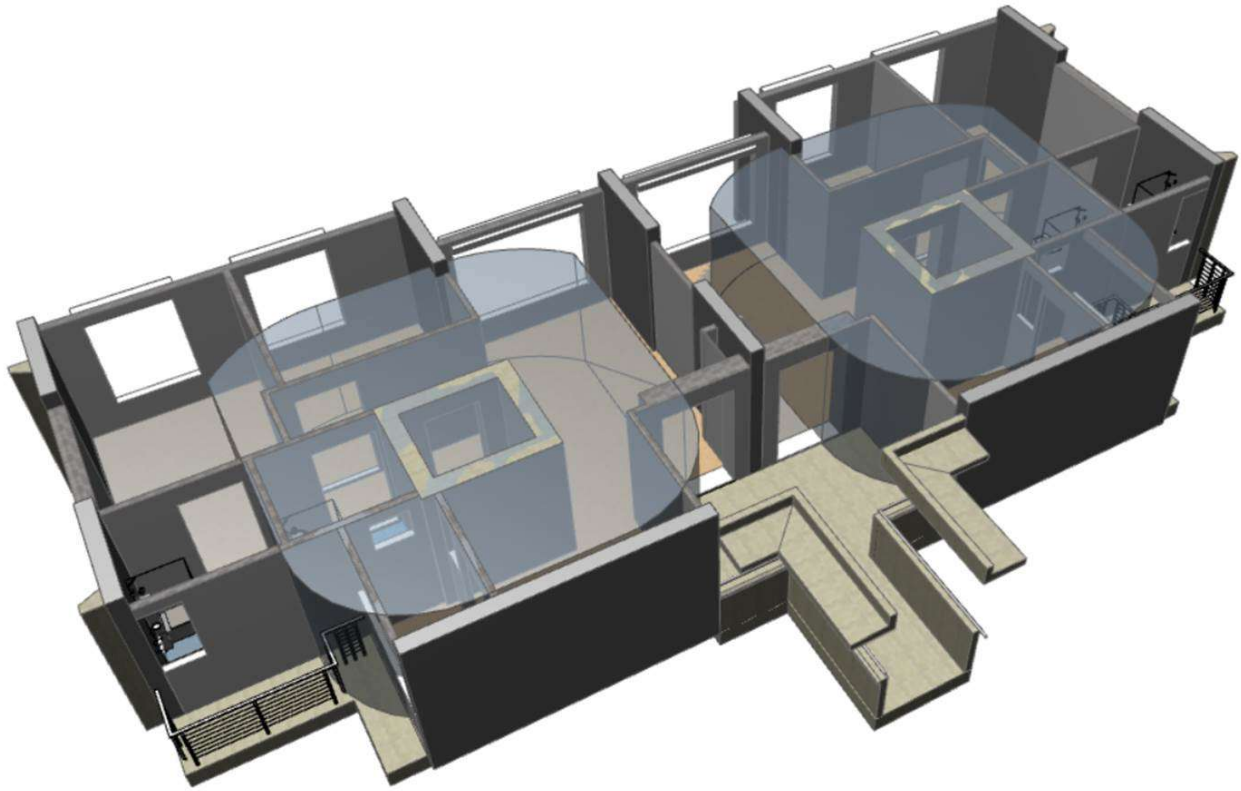
Examples of a Floor Plan and 3D view showing shelters:



Courtesy of P&T Consultants Pte Ltd.



Courtesy of P&T Consultants Pte Ltd.

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AREA TABULATION

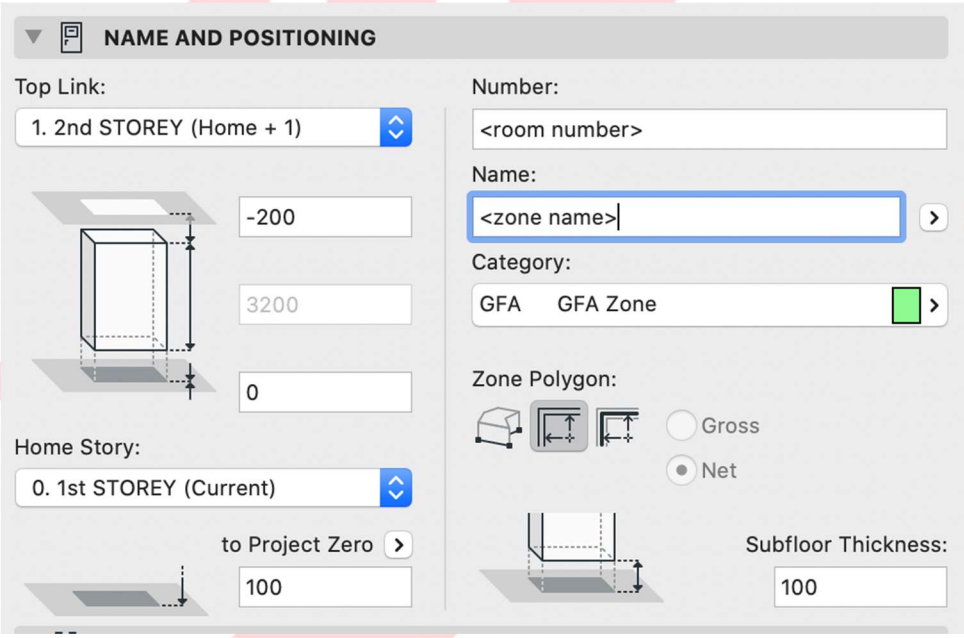
GFA

Schedule **URA_LV_ SUM OF GROSS FLOOR AREA (GFA) (New)** can be viewed under the **SCHEDULES folder** of the **View Map**.

1 Open a **Floor Plan** viewpoint from the Navigator.

2 Activate the **Zone tool** and open its settings and choose the appropriate **Favorite** (any of the GFA Spaces/Non-GFA Spaces).

3 Set **Zone Category** and insert a **Zone Name**. Always set the **Zone Top** according to the actual story heights, consider top offsets when linked to a story above. The top of the Zones should always touch the bottom surface of the element(s) above. Subfloor Thickness also has to comply with the actual composite settings (finishes) of the bottom construction.



4 In the **Classification and Properties panel**, change the **Mode of Ventilation** property to define the type of ventilation. This will be displayed in the Zone Stamp. Also fill the **BlockNo (Pset_SpaceCommon)** IFC property at the bottom of the list as necessary.

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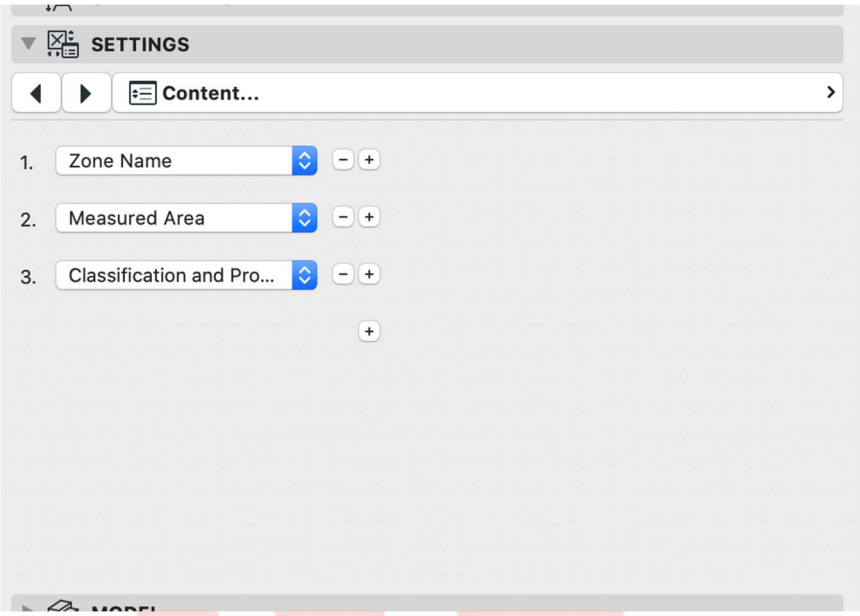
5 Check the appearance of the Zone Stamp under **Zone Settings**: Zone Name, Measured Area and Classifications and Properties should be displayed.



6 Set the Layer to **A-_AREAGFAA_A-_.GFA** and create the Zone polygon of the floor plan. Click with the hammer icon to place the Zone Stamp.

Note: To turn on/off the display of the Ventilation Type parameter (or other properties from the Tags and Categories panel) in the **Zone Settings** dialog, go to **Settings panel, Classification and Properties page/1. Row** and change the value to **None** or select one from the available parameters.
To turn off the display of all metadata in general go to the **Zone Settings panel/Content page** and click the **(-) button** besides the Classification and Properties row.

---

7 Open the **URA_LV_ SUM OF GROSS FLOOR AREA (GFA) (New)** schedule.

8 To configure the contents of this and other Schedules, click the **Scheme Settings...** button at the top right.

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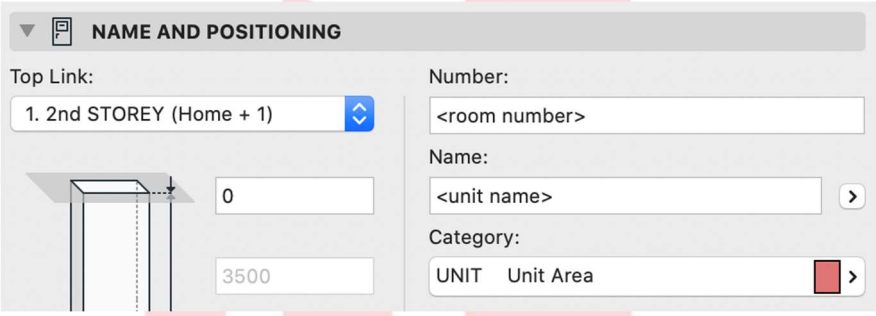
STRATA

Schedule **URA-_LV_ STRATA** can be viewed under the **SCHEDULES folder** of the **View Map**.

1 Open a **Floor Plan** viewpoint from the Navigator.

2 Activate the **Zone tool** and open its settings and choose the Favorite **UNIT**.

3 Set **Zone Category** and insert a **Zone Name**. Always set the **Zone Top** according to the actual story heights, consider top offsets when linked to a story above. The top of the Zones should always touch the bottom surface of the element(s) above. Subfloor Thickness also has to comply with the actual composite settings (finishes) of the bottom construction.



4 Place the necessary Zones.

5 Open the **SCHEDULES/URA_LV_STRATA** schedule to check the results and make the necessary changes if needed.

STRATA (Units)			
Home Story	**Name**	**Area**	**Quantity**
1st STOREY			
	Unit A	137.75	1
		137.75 m²	**1**
	Unit B	64.34	1
		64.34 m²	**1**
2nd STOREY			
	Unit A	137.75	1
		137.75 m²	**1**
	Unit B	64.34	1
		64.34 m²	**1**
		404.18 m²	**4**

SGFA

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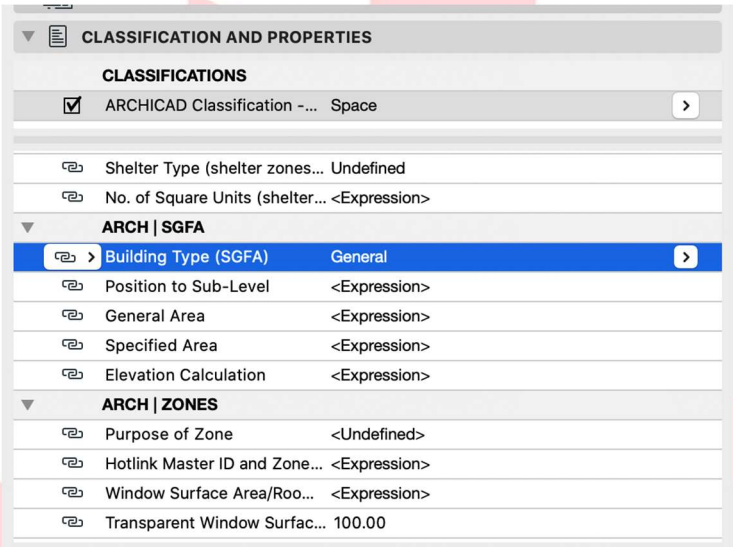
These Schedules are found in the **SCHEDULES** folders of the View Map.

- **BCA_LV_ STATISTICAL GROSS FLOOR AREA (SGFA) 2**
- **BCA_LV_ STATISTICAL GROSS FLOOR AREA (SGFA) GENERAL**
- **BCA_LV_ STATISTICAL GROSS FLOOR AREA (SGFA) SPECIFIED**
- **BCA_LV_SUM OF AREAS NOT INCL IN GFA COMPUTATION**

To generate the SGFA table for areas NOT calculated as GFA automatically:

1 Activate the **Zone tool** and open its settings and choose the appropriate **Zone Category** and insert a **Zone Name**.

2 Set the building type of the Zone under **Classification and Properties/ARCH | SGFA/Building Type (SGFA)**, the other Properties in this group are expression-based.



3 Set the Layer to **A-_AREAGFAD_A-.NonGFA** if the Zone is a Non-GFA Zone and create the Zone polygon on the floor plan.

4 Open the respective schedules under the **SCHEDULES** folder of the View Map.

Note: Always check the Scheme Settings of each schedule before using and make sure you understand its Criterion and Fields.

---

5 To view the final SGFA plans, open views from the **BCA/BP/2D PLANS/SGFA PLANS** folder in the View Map.

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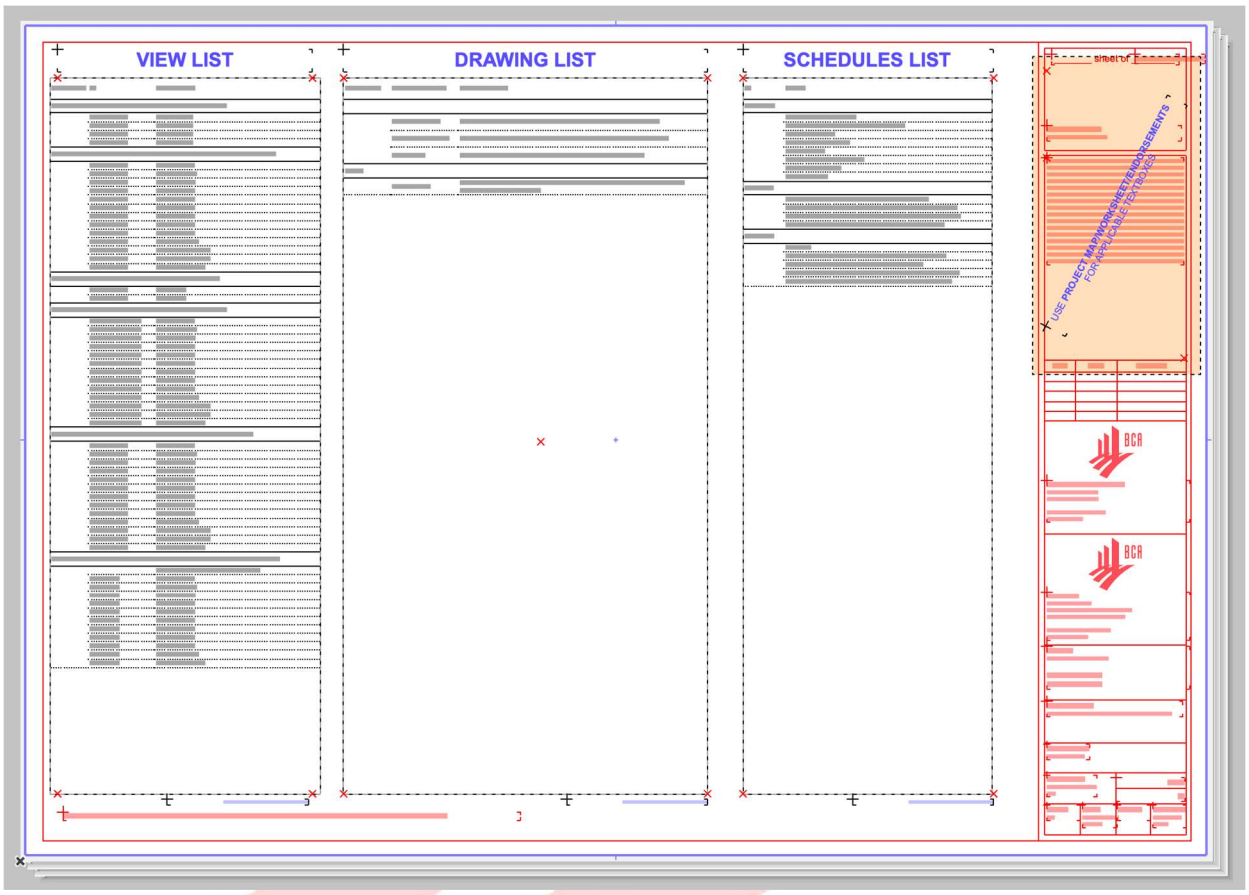
COVER PAGE

Though the Native BIM Submission is mainly based on views, Layouts are still required for submission. The Layout Book contains a COVER PAGE (which contains all the required project information), and some Sample layouts if needed.

1 Open the **COVER PAGE** layout from the Layout Book.



2 Fill the necessary project information using **Project Info**, access dialog from the context menu of the Layout Book or go to **File/Info**.

3 Use the revisions according to the project status to make use of the **Revision History Object** or remove the object on the **A1 LANDSCAPE** master layout and use the free space for your convenience.

Find more information about **Revision Management**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide-chapter/85600/

---

4 Make sure that the **View List**, **Schedule List** and **Drawing List** are clearly visible. If necessary, change the cell sizes of the schedules in the **View Map/COVER PAGE** folder. If

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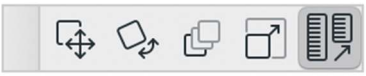
line breaks occur at wrong positions, modify the drawings using the **Restructure Table** command of the Pet palette. Click the bottom corners to activate it.



5 Fill the **Custom Fields** in the title block (remove the highlight boxes first) as needed.

6 Replace the Endorsements on the Master Layouts. Go back to the **Project Map/Worksheets/1 ENDORSEMENTS** and look for the necessary textbox. Copy and paste it to the **COVER PAGE** master layout.

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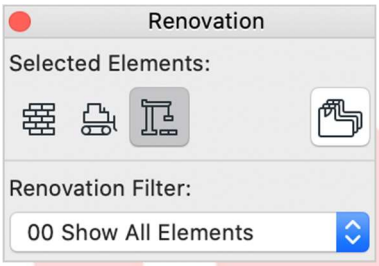
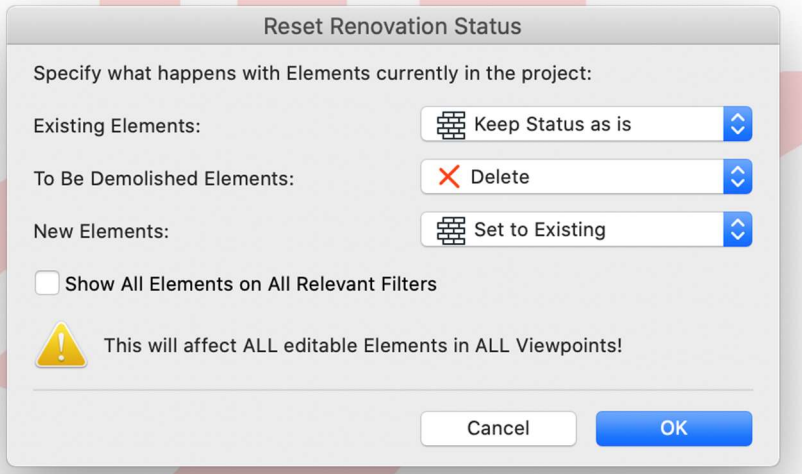
A&A WORKS (RENOVATION)

By default, all elements are defined as *New*. Renovation Filter colors are based on the CP83 color coding.

Use the Renovation palette (find in menu **Window/Palettes/Renovation**) to change the default renovation status of elements or change the current renovation status of specific elements, which are selected.



To change all Renovation Statuses of all elements (for example change all *New* elements to *Existing* after finishing a phase) use the **Document/Renovation/Reset Renovation Status...** dialog.



Find more information about the **Renovation** feature
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide-chapter/85569/

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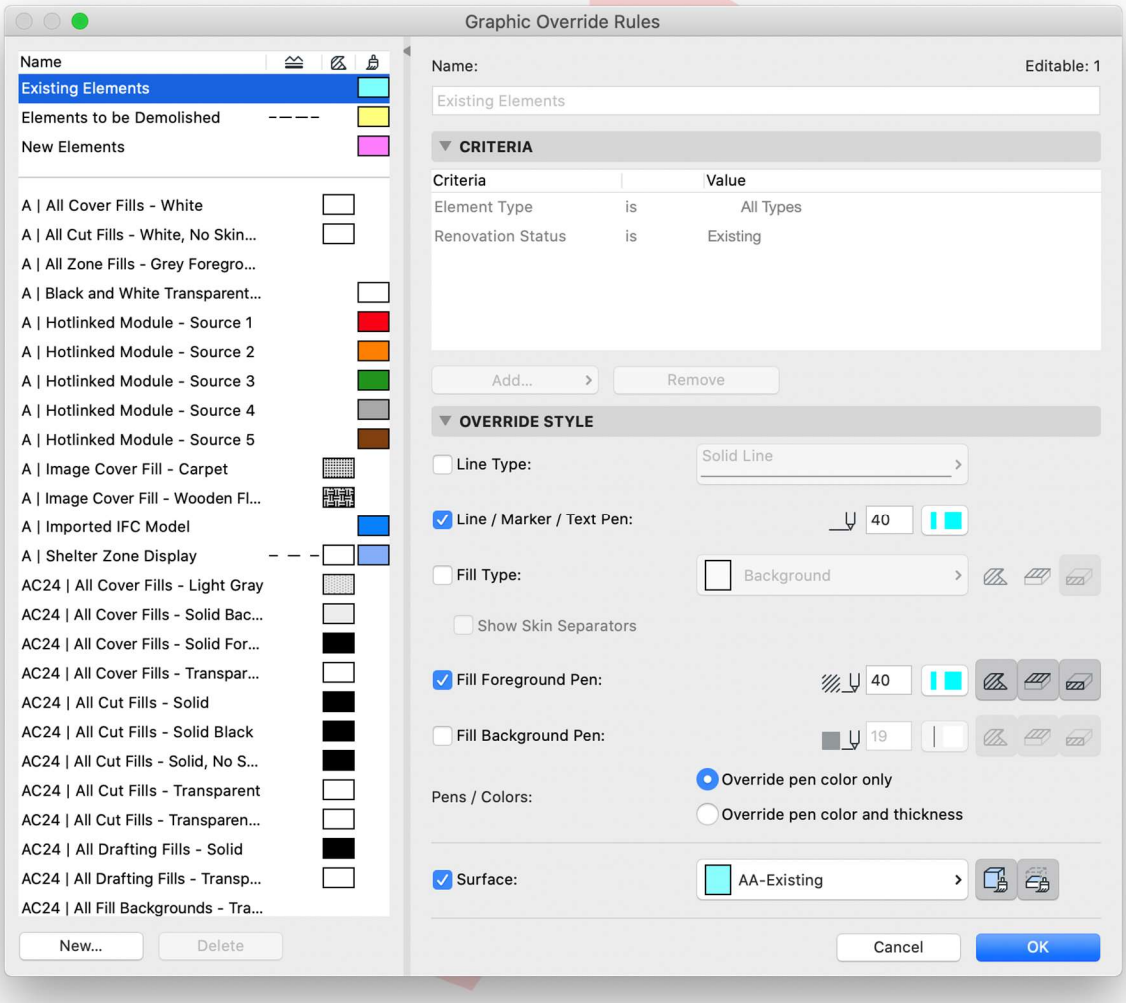
For additional Renovation filtering options:

1 Go to **Document/Renovation/Renovation Filter Options...**.

2 Under Filter Settings, filtering options can be changed per filter. To edit the graphical appearance of elements with different statuses use the **Graphic Override Rules...** button at the bottom right.

3 Select the status at the top left to override to modify the 2D/3D representations under Override Style.



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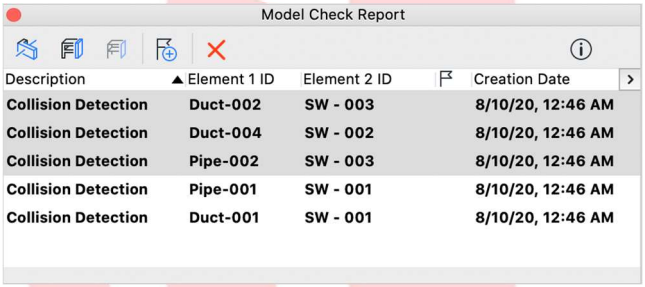
COLLISION DETECTION (OPTIONAL)

Collision detection is optional and can be carried out in between accessibility elements and regular building elements to ensure access and clearances. This is completely voluntarily and will not be checked by the officers, however it can increase the quality of the BIM project.

1 Launch the **Design/Model Check/Collision Detection...** dialog.

2 **Define the two groups** you wish to check for collisions between. Pre-set Find & Select Criteria Sets can be used for this purpose. Then click **Check**.

3 The **Model Check Report** palette will open indicating all found collisions. If there are too many, it may be worth to delete the entries and run the Collision Detection again after adjusting the criteria between each group to fine tune the check.



4 Review each entry by double clicking each to select and zoom to the elements in either the Floor Plan or 3D Window.

5 If the collision is a valid issue, either the issue should be fixed now or an **Issue** created, which can be managed by the team, by selecting the entry and clicking the icon with the Flag. If the collision is not a valid issue, then the Collision Detection criteria and/or visible Layers may need be adjusted to avoid the issue reappearing next time the Collision Detection is run.

6 If Collision entries have been added to the **Issue Manager**, a Flag icon will appear next to the entry in the report. To review all created Issues, go to **Document/Issue Manager**. From here, issues can be assigned to Teamwork members and managed.

Find more details on the **Issue Manager**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/128778/

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MERGING THE TEMPLATE INTO AN EXISTING COMPANY TEMPLATE

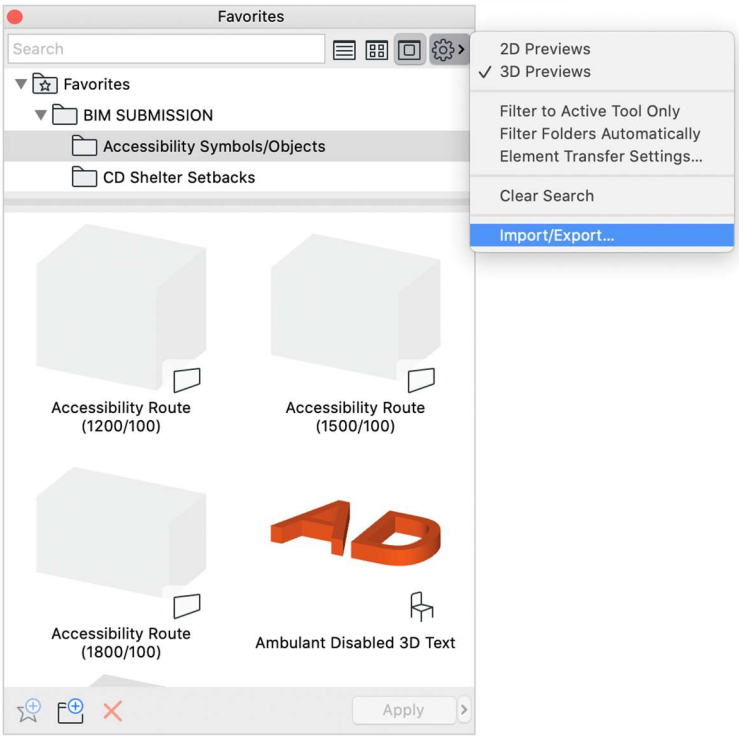
The current version of the template contains most of the default settings that are shipped with the Archicad INT (International) version and the additional customizations to comply with the Native BIM Submission requirements. These template settings can be migrated into your existing company templates as follows.

Favorites

The template contains many pre-defined favorites. To migrate and transfer these:

1 Open the favorites palette from the menu **Window/Palettes/Favorites** from either the company template or submission template.

2 Click the **cogwheel button** at the top right and choose **Import/Export...**.



Find more details on the **Favorites Import/Export process** on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/127930/

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Attributes

Attributes include data such as Layers, Layer Combinations, Pens and Pen Sets, Lines, Fills, Composites, Complex Profiles, Surfaces and Building Materials.

1 Open **Options/Element Attributes/Attribute Manager...** of the **company template file**.

Find more information on the **Attribute Manager**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide-chapter/85473/

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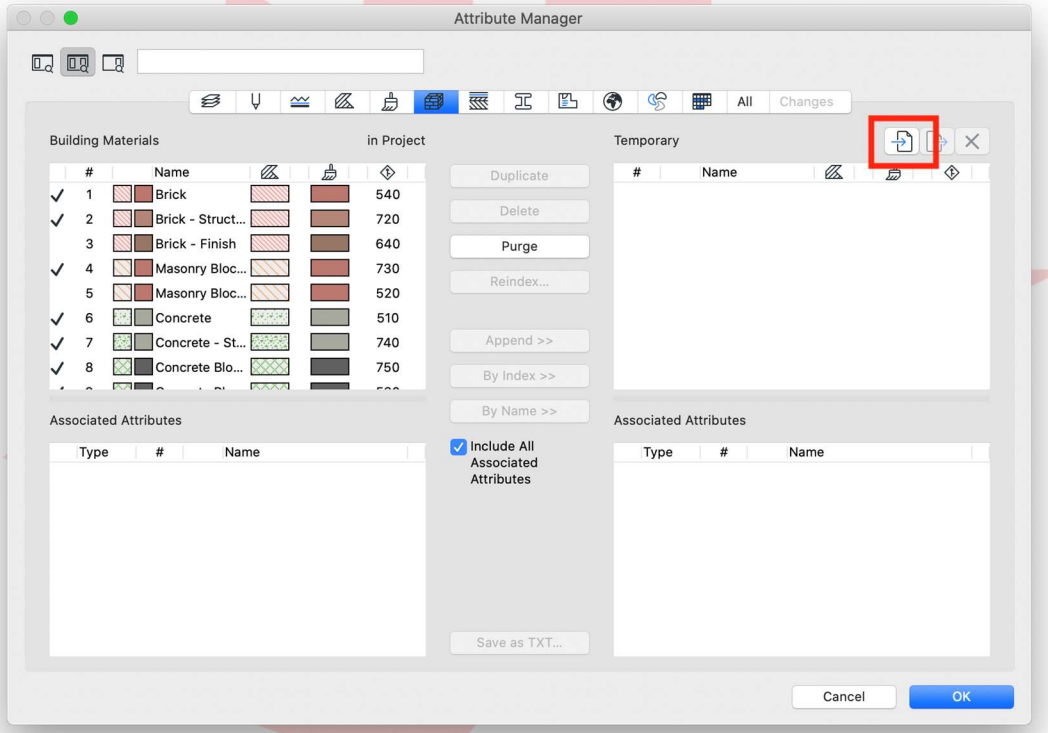
2 On the right side of the Attribute Manager you can import attributes from another file, by clicking the **Import** button.



3 After the attributes are added to the Temporary list, select the different types of attributes using the selector tabs on the top of the dialog.

4 Select the attributes to import on the right, and choose **Append/By Index/By Name** to add them to the current project, the left list.

5 Click **OK**/**Apply**, a dialog will appear indicating number of changes being applied.

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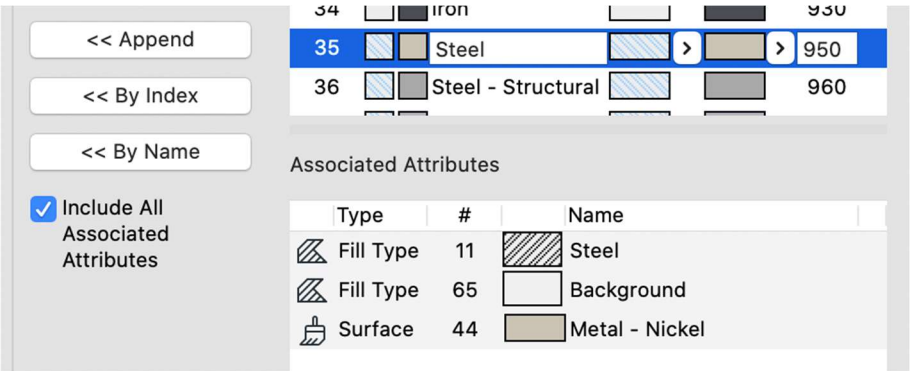

Note: Some attributes are connected to other attributes, what is referred to as 'associated attributes', (for example Building Materials are linked to Surfaces and Fills). When transferring, some attributes might get duplicated, if an already existing associated attribute was added via their dedicated attribute panel for example. Check the **Changes** panel, to review all attributes being created before committing to avoid unnecessary attributes being generated.

Attributes in the downloaded templates are arranged with **Index number** sequencing to comply with the one-model concept as well as detailed in the following table (STR and MEP attributes are not appearing in the current template for Architectural BIM submission, but in their respective templates).

	Archicad Defaults/General	**ARCHI**	**STR**	**MEP**
Layers	1-89	101+ Landscape 201+	301+ Civil 401+	Electrical 501+ Mechanical 601+
Layer Combinations	1-3	101+	301+	501+
Pen Sets	1-5	-	301+	501+
Lines	1-25	-	301+	501+
Fills	1-161	201+	uses ARCHI	uses ARCHI
Composites	1-25	201+	-	-
Profiles	1-42	201+	-	-
Surfaces	1-230	-	-	-
Building Materials	1-60	201+	-	-
Zone Categories	1-12	201+	12	12
MEP Systems	1-6	1-6 (defaults)	1-6 (defaults)	1-33

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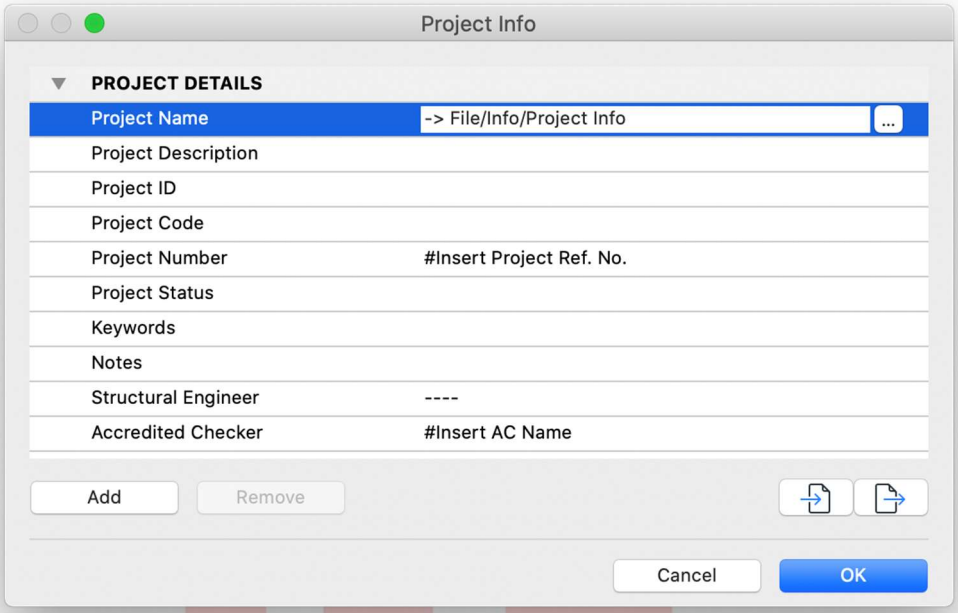
Project Info

Open the **File/Info/Project Info…** dialog and fill out the relevant information for the project. To transfer between projects, use the Export and Import buttons



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Views, Layouts and Master Layouts

Views, Layouts (and Layout Subsets) and Master Layouts cannot be exported directly.

However, by using the **Organizer**, and both project files open, you can show the contents of the second Project on the left, and use Drag/Drop to the current project on the right. Copied Drawings and Views will be linked from the second Project - which is a good method for splitting a project between Model and Documentation. Doing the same for Masters, will copy the Master content from one file to the other.

Alternatively, and maybe simpler, **copy** the contents of a Master Layouts from one file, and **paste** to the other file.

Find more information on **Accessing Views/Layouts from another Archicad**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/127947/

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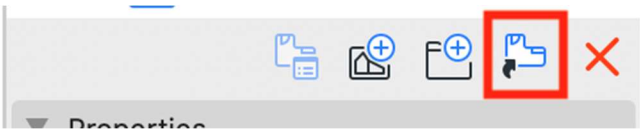
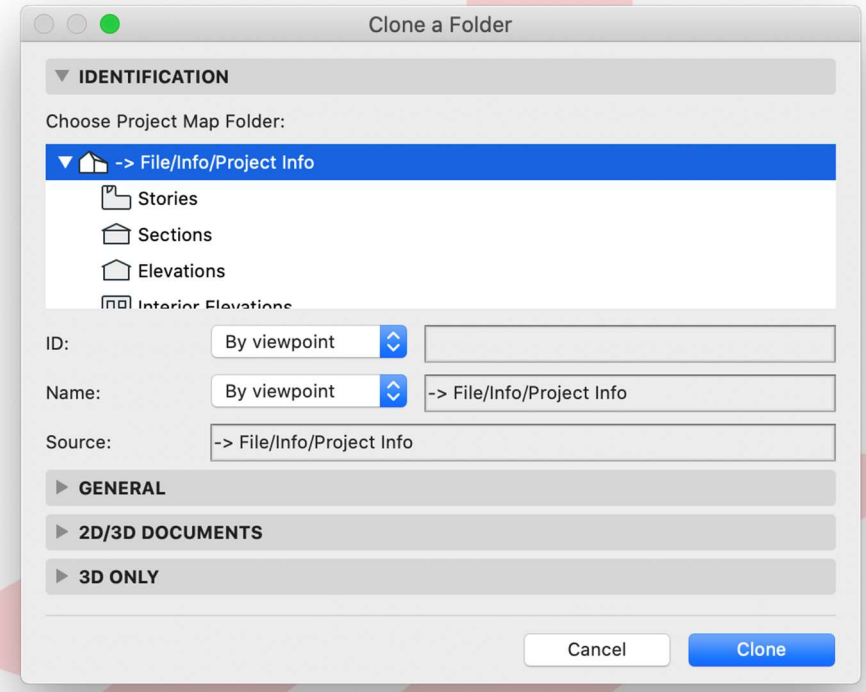
The View Map folders are generally using cloned folders. To create cloned content:

1 Use the **Clone a Folder...** button from the View Map.



2 Select the **Project Map folder** you want to clone, and review the ID, Name and General parameters, these will be used to generate the Views, and click **OK**, to automatically create views in the View Map that match the Project Map's content.



3 In the Organizer (under **Window/Palettes/Organizer**), **Drag** the content of the cloned folders or the folders themselves **from the View Map to the Layout Book**. When dragging onto an existing Layouts, this will add those Views onto the Layout; when dragging between Layouts or onto a Subset, this will create a new Layout per View.

Find more information on **Cloning a folder**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide/127944/

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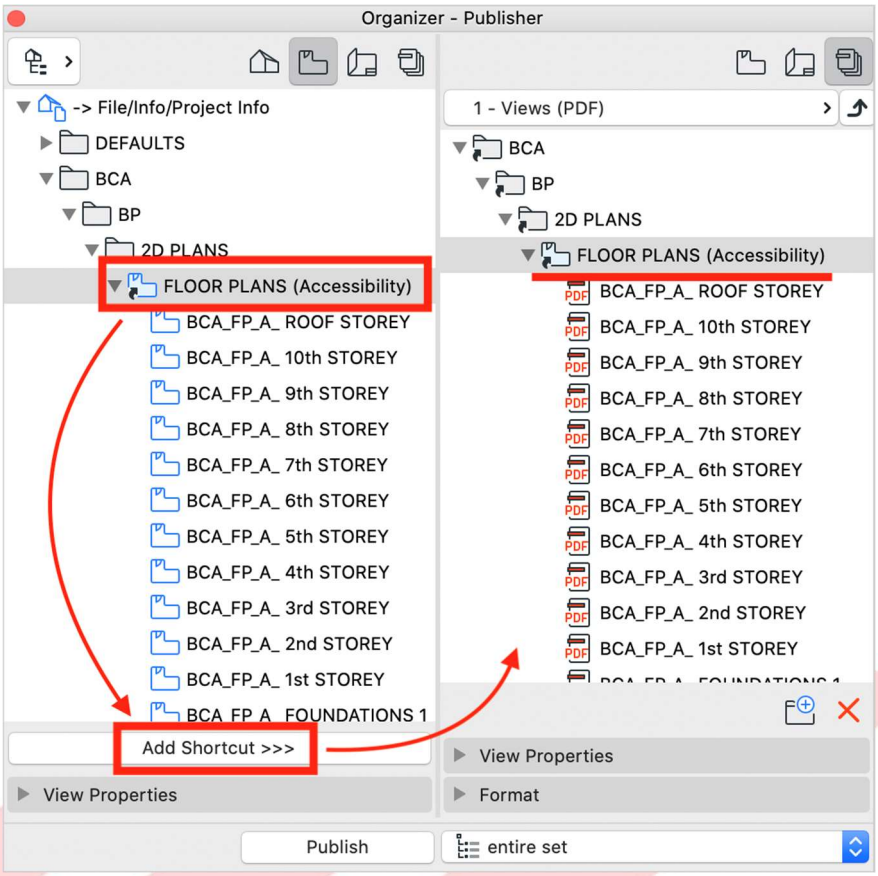
Publisher Sets

Publisher Sets have to be created in the company template file. After the Layout Book subsets are created, use the **Add Shortcut** ››› button in the Organizer to create auto-updated content within the Publisher Sets (same as the Clone function described earlier, notice the additional arrow symbol on the icon in the Publisher Set).



The Publisher Set item names can also include Autotexts, such as codes, IDs, revision numbers, etc. Those custom fields that were created under the Layout Info Scheme can also be inserted.

1 **Right-click** on any item(s)/folder **and choose Rename Items...**.

2 **Add Autotexts from the Insert Autotext control,** these can be combined with custom text as well.

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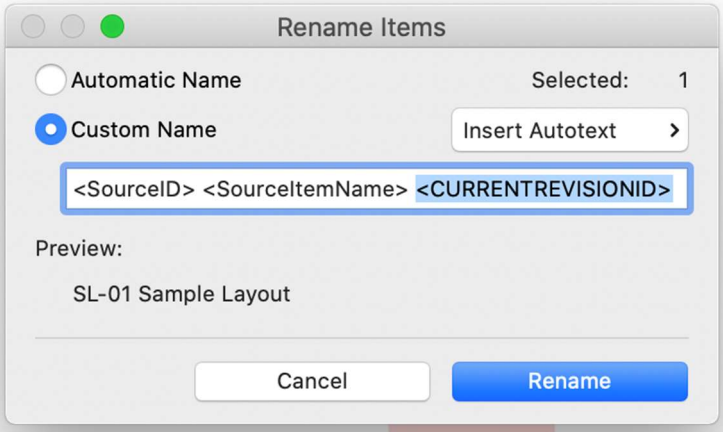

Find more details on **Renaming Items in the Publisher**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide-chapter/85603/#XREF_50310_Rename_Publisher

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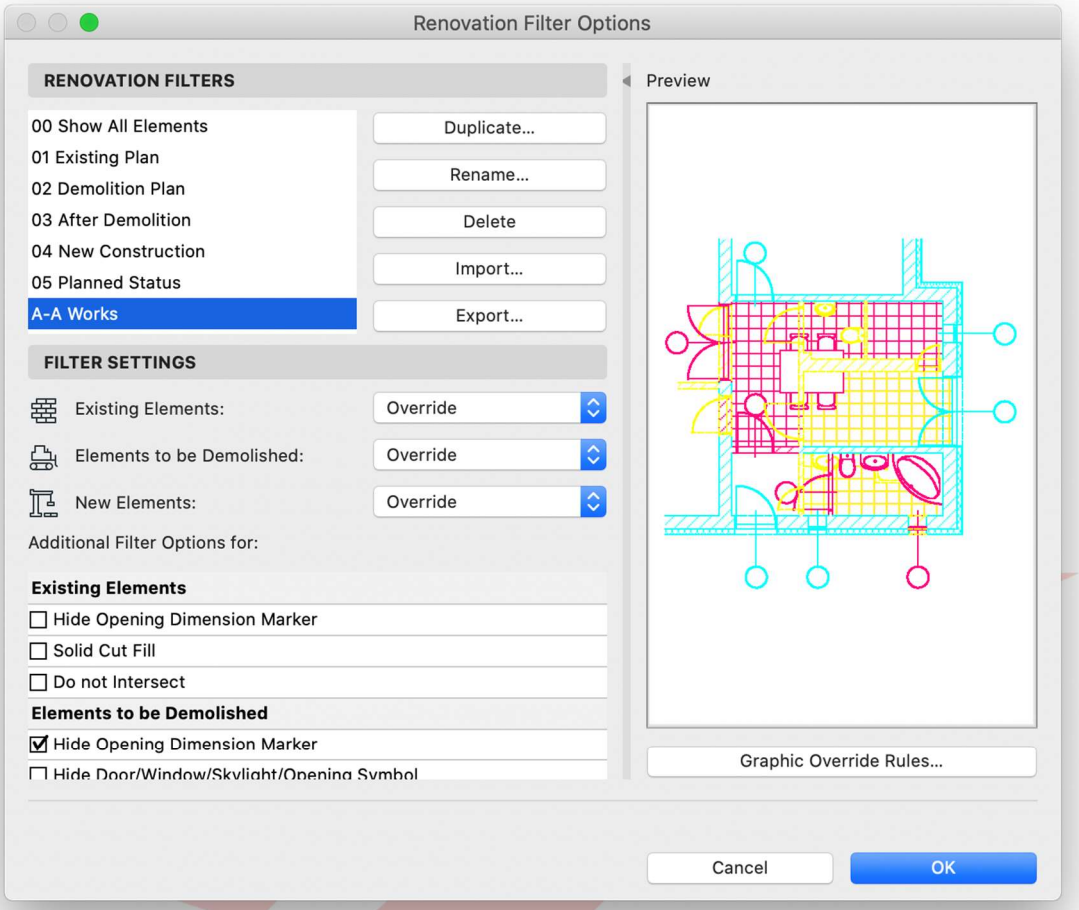
Renovation Filters

To transfer Renovation Filters between projects, do the following:

1 Open **Document/Renovation/Renovation Filter Options...** from the download template.

2 Select the **A-A Works** renovation filter on the left and click **Export...**.



3 From your company template file (or other project), use the **Import...** button in the same dialog, and select the previously Exported Renovation Filter.

Find more details on **Revision Management** in general
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide-chapter/85600/

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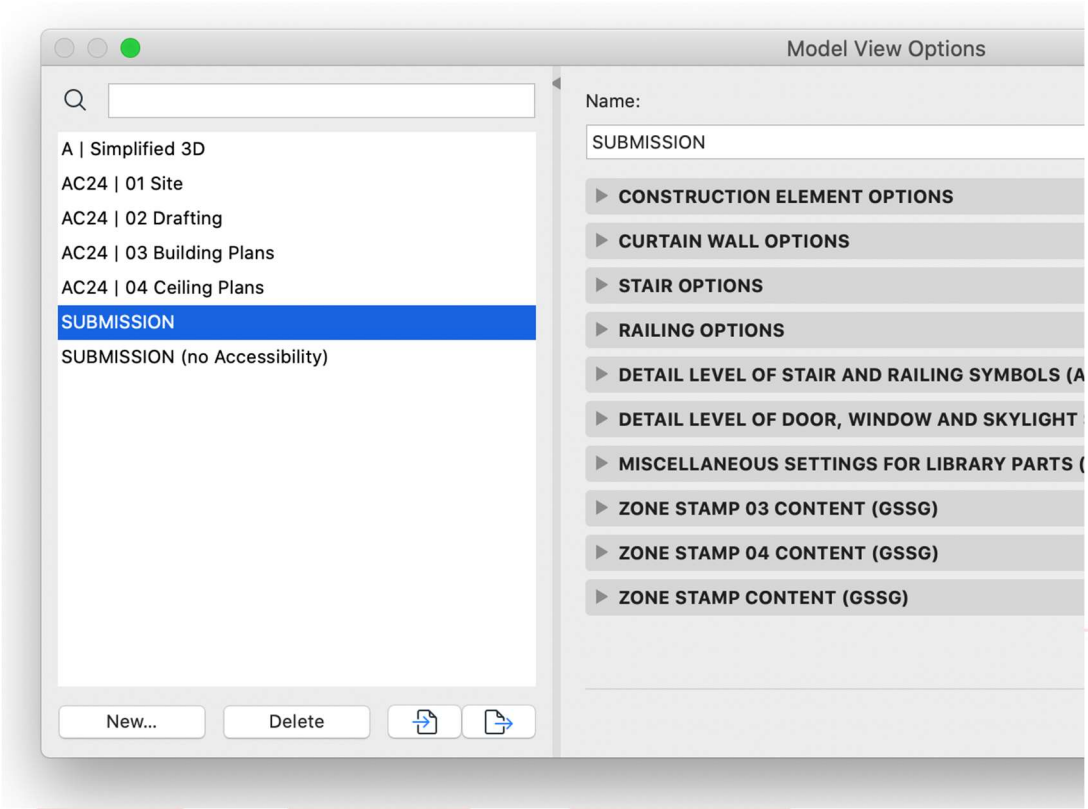
Model View Options

To transfer Model View Options between projects, do the following:

1 Open **Document/Set Model View/Model View Options...**.

2 Select the **Model View Option** on the left and click the **Export** icon button.



3 From your company template file (or other project), use the **Import** icon button in the same dialog, and select the previously Exported Model View Option.

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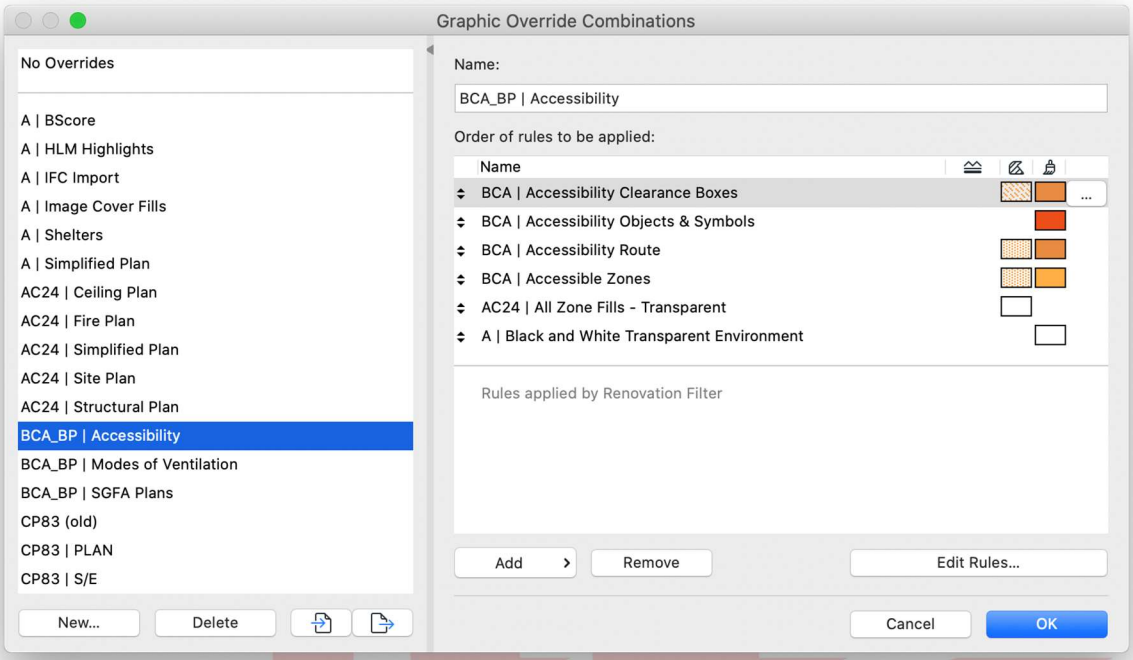
Graphic Override Combinations

1 Open **Document/Graphic Overrides/Graphic Override Combinations...**.

2 Select the **Graphic Override Combination** on the left and click the **Export** icon button.



3 From your company template file (or other project), use the **Import** icon button in the same dialog, and select the previously Exported Graphic Override Combination.

Note: Graphic Override Rules cannot be exported/imported individually but will transfer with the Combination.

Find more information about **Graphic Overrides**
on the GRAPHISOFT Help Center here:
https://helpcenter.graphisoft.com/user-guide-chapter/85573/

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SUBMISSION REQUIREMENTS

Saving the files requires a specific naming format to define the following.

1 Make sure that the **COVER PAGE layout is opened** and **moved to the beginning** of the Tab Bar, followed by the Floor Plan of the project (which must be open to keep the file open in Archicad). This COVER PAGE has to be the first one that officers see when they open the file. All other tabs are to be closed.

2 Use **File/Save as...** menu command and save you file in one of the different formats.

- **BIM native file format and software version in a single file:**

  Archicad **.PLA**, version **24**, indicated in the file name, for example:

  ABCDEF_A1_BLK01_A_**A24**_123456**.pla**

Note: PLA files include all library elements used in a project and make the file management easier for the submission, therefore it is highly recommended to use this format.

File naming conventions – as per the **BCA General Requirements**, indicating maximum number of characters per part:

Project ID (6)	_	Author (2)	_	Model Part (6)	_	Submission Version (1)	_	Software Version (3)	_	User Defined (6)
A B C D E F	_	A 1	_	B L K 0 0 1	_	A	_	A 2 4	_	1 2 3 4 5 6

Before submitting the file make sure all necessary views are set correctly and show the relevant information.

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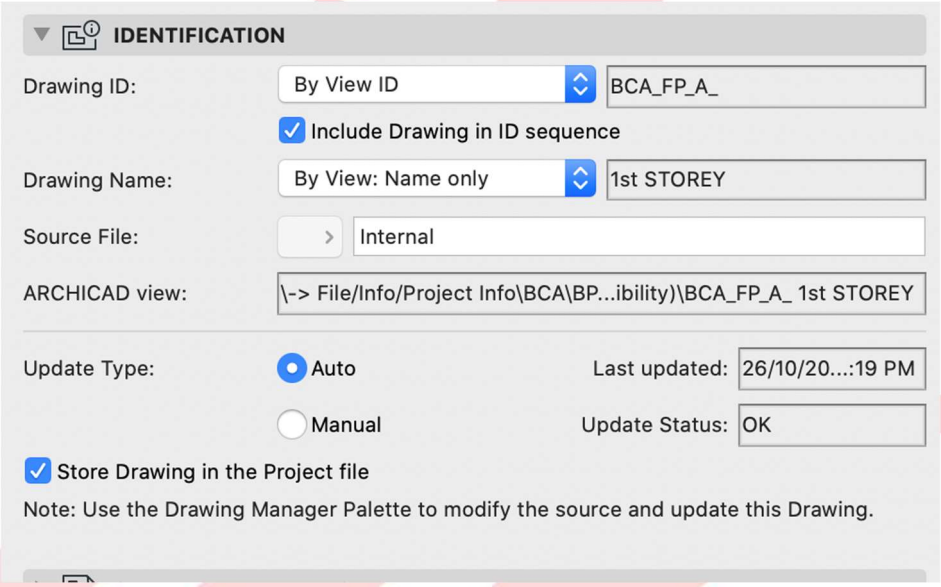
Final Check

Before submitting the file, make sure all necessary views are set correctly and show the relevant information. Check the highlights using the **Graphic Override Combination** options **BCA_BP | Accessibility** and/or **BCA_BP | Modes of Ventilation**.

Make sure that all external references (2D drawings) are stored within the project file, to ensure that the checking officers will see the same content as the QP.

1 Select the linked drawings (this can be done through the **Drawing Manager**) and open their settings.

2 Check the **Store Drawing in the Project file** checkbox for each drawing.



File Formats

Based on the BIM e-Submission General Requirements (v1.1, 2017), the deliverables must be submitted in the following formats. Before submission, always check the requirements as they may change from what are outlined in this document.

- **URA and BCA**:
  - Native file format: **.PLA**
  - Lightweight file format: **.PDF** and/or **.BIMX**
- **SCDF, NEA, PUB, NParks, LTA, HDB, JTC**:
  - Lightweight files format: **.PDF** and/or **.BIMX**

All drawing views (plans, elevations, sections, layout views or sheets) must be compiled into a single file with the 3D model.

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ACKNOWLEDGEMENT

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