ArchiCAD 19 NZE Template

The NZE Template has been developed by Cadimage Group especially for ArchiCAD customers within New Zealand. This document is designed to help you install and use the template, and is divided into 3 Sections:

Section One:	**Getting Started**
Section Two:	**Template in Depth**
Section Three:	**Renovation Template**
Section Four:	**Appendix**

To Get Started using the Template, you can read about the NZ Template Workflow on page 4.

Alternatively jump straight into Section Two: Template in Depth on page 10.

Contents

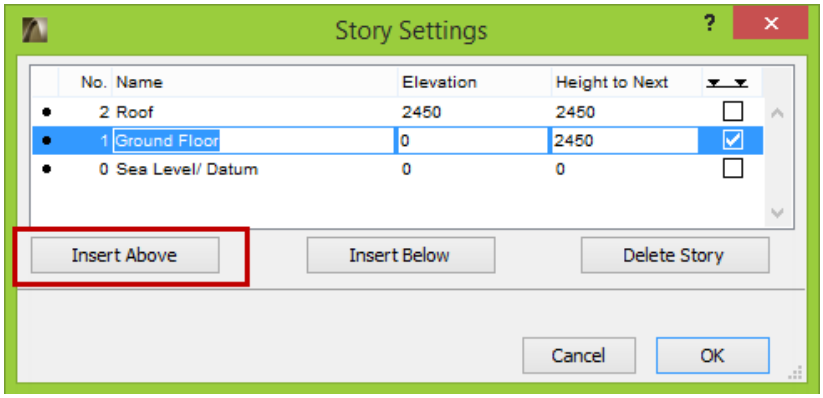
Section One: Getting Started

NZ Template Workflow

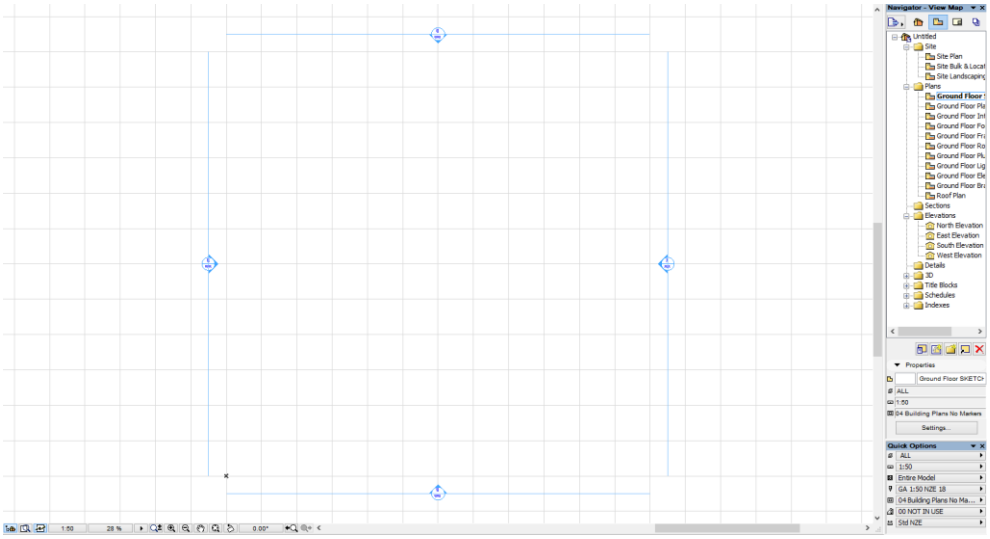
The default template installed and used by **ArchiCAD 19** has been designed as a great starting point for a **single story timber framed residential dwelling**. It begins at a basic level allowing for all common construction types in NZ and can be easily modified to allow for large residences to full commercial premises.

We have designed the template to be used in a certain way that will automatically produce full documentation sets using the correct weight of pens and at appropriate scales.

If your building is larger you will just need to adjust the **Story Settings** under **Design>Story Setting** to allow for this. You can just click the **Ground Floor** & '**Insert Above**' to add as many stories as you require.



When you first open **ArchiCAD** you will be presented with the **Ground Floor SKETCH** view which has **ALL** layers turned on.



With this view it means you are able to very quickly create a design without having to worry about being in the relevant view. As long as all items placed are put on the correct layer, then the subsequent **Views** and **Layouts** will automatically update showing only the relevant information.

There are 4 **Elevation markers** placed on the **Floor Plan,** your building should be modelled in this area. They can be easily moved particular to your building size. By using these **Elevations** the **Views** & **Layouts** are refencing these and will automate the documentation for you.

When designing your building you will be using the **Design Tools** which are 3D elements and can be viewed in all **Views**. We have set up the **Default** of all these tools to use the correct **Layer** and **Pens**. The **Layers** have been made to follow this **Toolbox** structure (Design, Document, More) so all 3D Elements will go on Layers beginning with **Des**. For example:

- **Walls** go on the **Des: Walls** layer
- **Roofs** go on the **Des: Roofs** layer
- **Slabs** go on the **Des: Floors** layer
- **Stairs** go on the **Des: Fittings General** layer etc

When you begin designing it is best to start with the **Default** settings; we have also set up **Favorites** for each tool that act as a great starting point. When you apply a **Favorite** it will set the correct **Setout**, **Layer** & **Pens** and any minor modifications of the setout will retain those settings.

The only **Tool** that you need to be extra careful of which **Layer** you are using is the **Object** tool, because an **Object** can do any number of tasks from structural to visualisation or documentation and the layer that they use is critical. So **Objects** could use these layers:

- **Des: Furniture**
- **Des: Fittings General**
- **Des: Fittings Joinery**
- **Des: Fittings Plumbing**

With this in mind you could quite quickly model the entire structure of a house and place all relevant **Objects** in the first view shown (**Ground Floor SKETCH**) without needing to worry about **Scale** or **Layers**.

For Annotation you will need to use many of the **Tools** from the **Document Toolbox**; all these are 2D elements and only appear in the **View** you place them. For all these **Tools** there is a relevant

Layer starting with **Doc** for **Document Toolbox**. These **Layers** relate to what **Layout** or **View** you would want to see the annotation on, for example:

- **Doc: Floor** - **For Construction Floor Plans**
- **Doc: Sections** - **For Sections**
- **Doc: Plumbing** - **For Plumbing Plans**
- **Doc: Electrical** - **For Electrical Layout Plans**

Now when you start to place annotation there is a high chance that they will overlap; ie the **Plumbing** annotation will be in the same place as a **Floor plan dimension** and an **Electrical set-out** description because none of these elements will be shown at the same time. For this reason as you start to get further into detail in your design & begin annotating, it is best to use the relevant saved **View** in the **View Map**.

The greatest benefit of using the appropriate **View** when designing or annotating is you get an immediate notification of whether the **Layer** you are placing an **element** on is turned **on** or **off**. So if it's off it may not be the correct **Layer** to be using in that particular **View**.

With this in mind we have created several **Views** that use the correct **Scale**, **Pens** & **Layer Combination**. There are some general rules we have set for the **View Map** that are worth noting as to how the output will be presented:

All Views have their own dedicated **Layer Combination** which makes it easy to manage.

Scales and are broken down to 4 categories:

- **Detail** 1:1-1:10,
- **General Annotation** 1:20-1:50
- **General Annotation** 1:100
- **Site** 1:200

Each **Scale** has its own **Pen Set** so the pens get thinner with larger scales. For example the **Window Pen** will be 0.18mm at 1:50 and 0.13mm at 1:100.

Every **View** has an appropriate **Model View Option** designed for its use. Model View Options add an extra layer of control beyond **Layers** & each **View** has been set to use the correct one. So there is an **Elevation Model View Option**, a **Section MVO** and **2 Plan Model View Options** that allow you to show/hide the **Window** & **Door** marker.

With this in mind the output is based on those general rules and applied to documents:

- All **Floor Plans** are at **1:50**
- All **Site Plans** are at **1:200**
- All **Elevations** are at **1:100** so all 4 can fit on 1 **Layout**

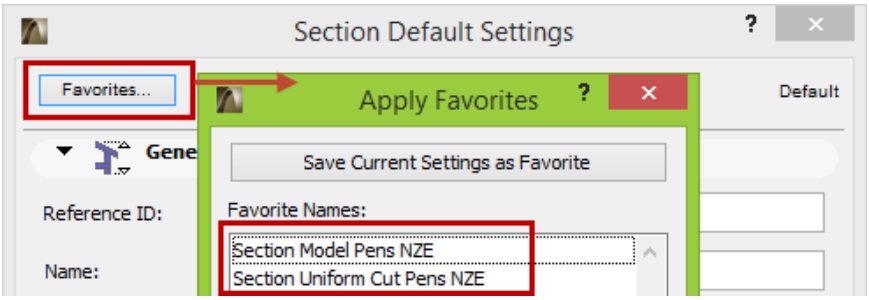
As a result of these settings, all **Views** are placed onto **A1 Layouts**. This ensures that the **1:50 Floor Plan** fills the page and 4 **1:100 Elevations** can fit on one page.

There are certain **Views** we could not create because these are placed specific to every project; these **Views** include:

- **Sections**
- **Details**
- **Interior Elevations**

These of course will be needed and the process of placing a **Section Marker** to your design, creating a **View** from it and placing that on a **Layout** is as follows:

The **Section Tool** is in the **Document Toolbox** (as it is a 2D element); if you open its settings and click **Favorite** you will see 2 **Favorites**:



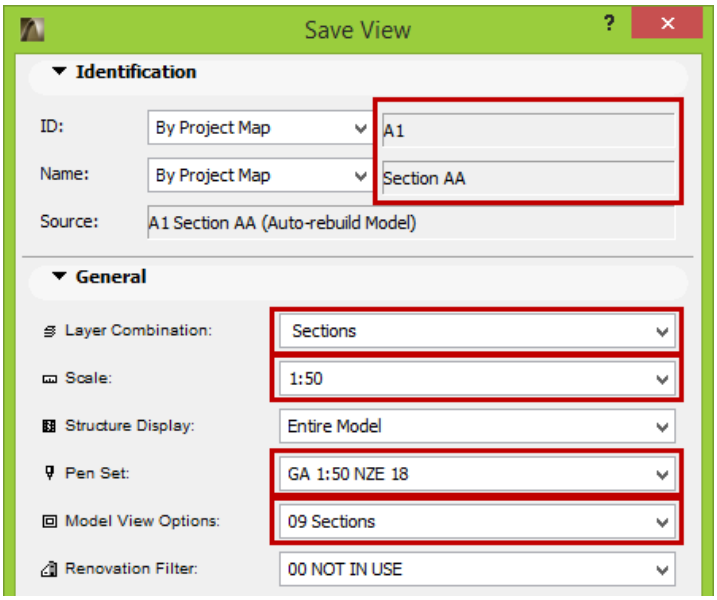
The **Section Model Pens NZE** uses the **Fills** & **Pens** as per the settings in all of the elements the Section cuts through while the **Section Uniform Cut Pens NZE Favorite** uses the same pen for all Cut elements. Regardless of which **Favorite** you choose **New Viewpoint** will be created in the **Project Map** and the **Marker** will reference the **Drawing** on the **Layout** of the Section when you document it and, of course, uses the **Doc: Sections** layer.

What this all means is that when you place it you can be confident that the **Section Marker** will appear correctly on only the relevant **Floor Plans**. The **NZE Template** turns off **Section Markers** in the **Presentation** & **Finishes Plan,** for example.

Once you are in the **Section** you will want to create a **View** as it is this **View** that will store the **Scale**, **Pens** & **Layers** and this will be placed on a **Layout**. So in the **Navigator,** change to the **View Map**, click the **Section Folder** and click the '**Save Current View…**' button at the bottom:

Now in this **Save View** window, the **ID** & **Name** will be based on the **Project Map** which should be correct (your first section will be called **A1: Section AA**). In the **General** tab you will want to set up your **Section** with the correct **Layer Combination**, **Scale**, **Pen-Set** & **Model View Option**:

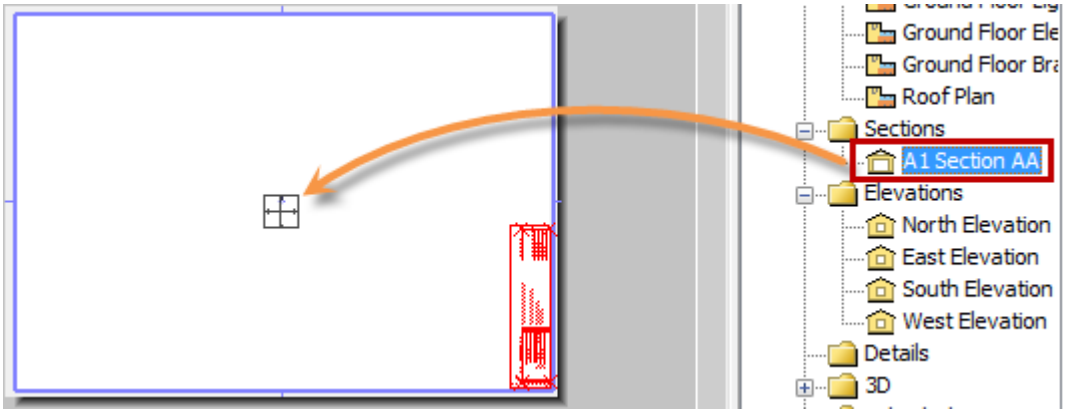
So the **Layer Combinations** and **Model View Options** are really self-explanatory choosing **Sections** for both. Since I want a **1:50 Section** I set **1:50** as the scale & choose the appropriate **Pen Set** which reflects the **Scale** chosen.



This means that when working on the **Section** from now on you can go to the **View** & be sure that modifications you make here appear in the **Layout Drawing**.

To place it on the **Layout** go to the blank **Sections Layout** and open it. Then go to the **View Map** and drag your newly created **Section View** onto the **Layout**:

Because of how the **Drawing Too**l is set up, this **Section View** on the **Layout** will automatically turn



Black & White as it will be using the **GA 1:50 Printing NZE** Pen Set.

The same principle can be used for **Interior Elevations**, **Details** or any other extra **Views** you need to create specific to your project. So as a summary: **Project Map** -> **View Map** -> **Layout Book**.

Many of the **Layouts** you will require have been automatically made for you already including:

- Ground Floor Plan
- Foundation Plan
- Framing Plan
- Plumbing Plan
- Elevations

So by just designing your building in the first **Ground Floor SKETCH View,** these **Layouts** will populate themselves so you can immediately print a full set of documents which show only their relevant elements.

This goes further than just the set of Documents; extra necessary elements like a **Sheet Index** or **Door & Window Schedule** can be created automatically using your BIM model and it will work as you would expect without any real need to change settings.

Section Two: Template in Depth

Full Template Explanation

We have covered all aspects of the **Template** in much more detail through the rest of this **ArchiCAD 19 NZE Template** document. It is structured from settings & setups that you will deal with from the very start of a project through to the intricate aspects of the **Template** that make the **ArchiCAD 19 NZE Template** your most powerful start yet!

The **NZE Template** is based on the International ArchiCAD Standard & has been an ongoing development since **ArchiCAD 6.5**. It is designed to give a solid starting point for all NZ Customers.

This Template is the one that is installed by default when you install the NZE version of ArchiCAD 19; it is called **ArchiCAD 19 Template.tpl**.

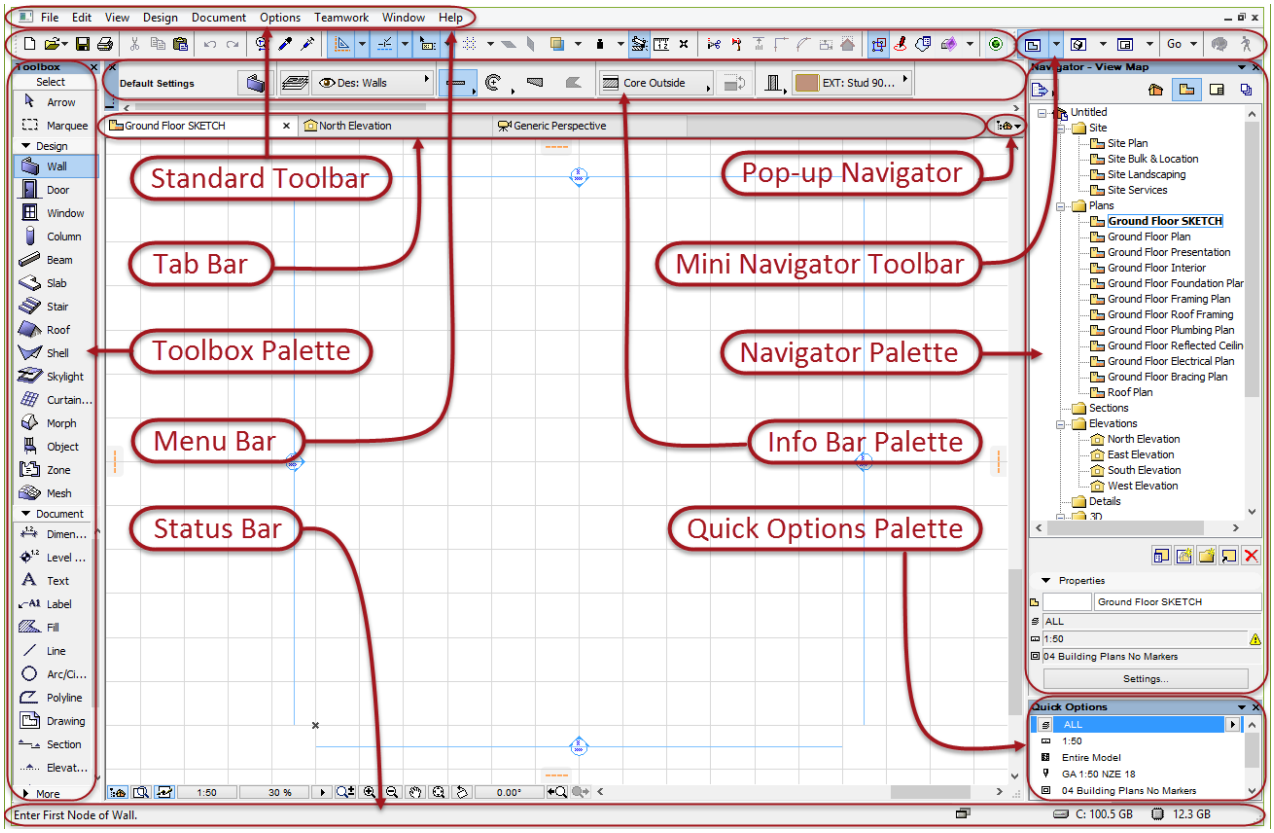
This Template should form the basis of your office template. If the only thing you change at the beginning is the title block information this will suffice, but you may want to modify many aspects over time.

NOTE: Our recommendation is that you record your modifications, so that you can replicate them in future versions of **ArchiCAD Templates**.

Work Environment

The **Work Environment** is the layout of **Toolbars** & **Palettes** on your screen when using ArchiCAD, this is independent of the **Template** and can be modified to your preferences. By default when your first start **ArchiCAD 19** it will appear using the **Standard Profile 19** as described below.

The layout of **ArchiCAD** has been consistent for several years with the **Palettes** you are familiar with remaining in static locations. For the purposes of the document we will highlight the Standard Work Environment Profile which we recommend you use. You can find the Work Environment under **Options>Work Environment>Work Environment**. The **Standard Profile 19** is laid out like so:



You can find all the **Toolbars** and **Palettes** in the window menu:

- **Window>Toolbars** - Standard & Mini-Navigator applied
- **Window>Palettes** - Toolbox, Info-Box, Status Bar, Navigator & Quick Options

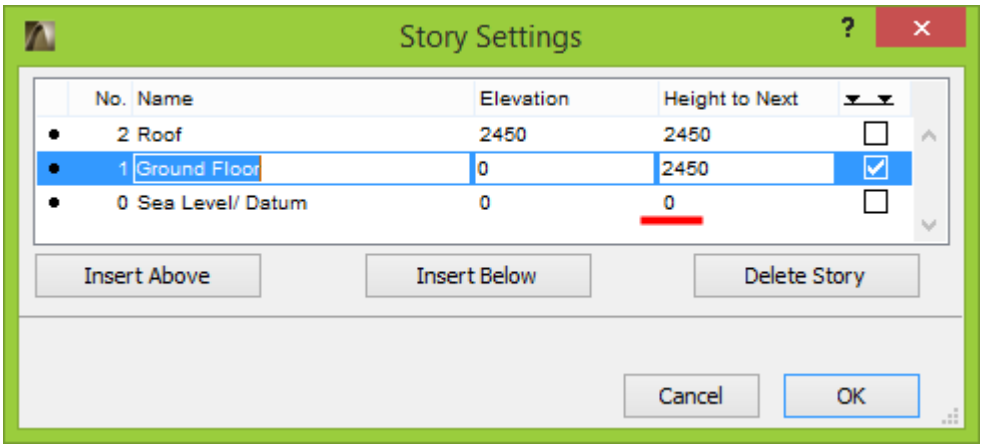
As a NZ ArchiCAD customer you are supplied with a selection of **Cadimage Tools which** require some modifications to the Work Environment to appear. We have created a work environment to do this automatically called '**Cadimage Profile 19**' which adds only items specific to the Tools.

For **ArchiCAD 19** the Cadimage **Work Environment** is available from mycadimage.com. The Profile is called "**Cadimage Profile 19**" and simply contains a **Tool Scheme** called **Cadimage Tools 19**. It will modify the **Toolbox** and and **Info bar** contents to include the Tools. You can import this work environment at **Options>Work Environment>Work Environment** or use the automatic Work Environment installer.

When you start up **ArchiCAD 19**, you can choose to use the **Cadimage Profile** by choosing it from the installed **Work Environment** list.

Story Settings

We have set **Story 0** to **R.L. 0.000** and named it **Sea Level/Datum**. Story 1 is set to R.L. 0.000 also:



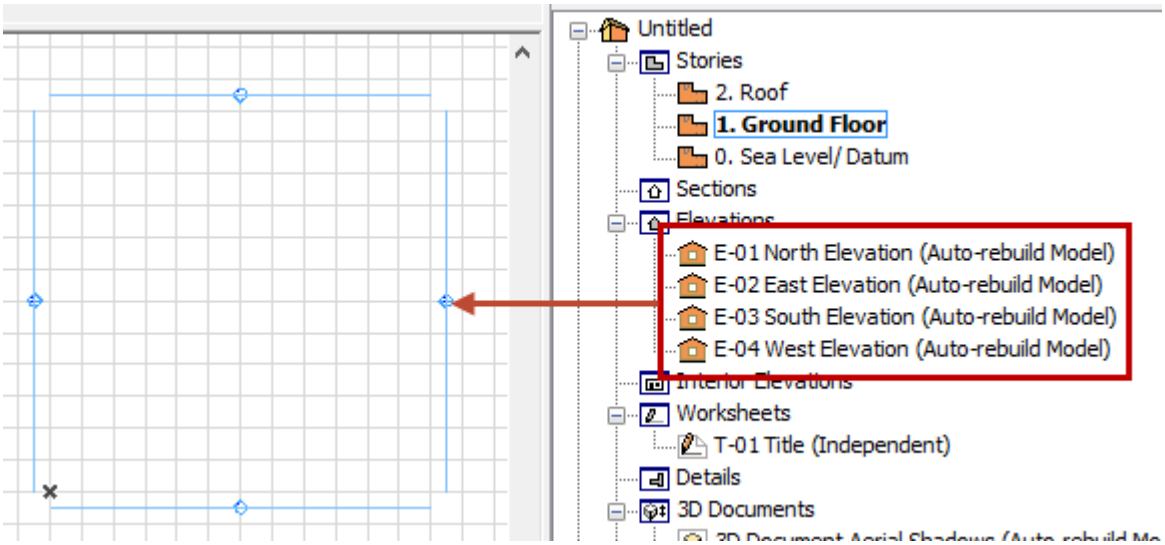
Story 1 should be your lowest building level, either **Ground Floor** or **Basement**. This is set to the same R.L. as the Datum level, when you know what the R.L. of your lowest level is you simply modify this in the **Height to Next** field in the **Story Settings** highlighted with a red underline and the entire project moves to the correct R.L.

We have also added a Roof level on Story 2, and set the Level Markers to only display for Story 1 in Section and Elevation. These settings assume a single story building and a stud height of 2450mm. A 2 Story building will be a Story inserted between Ground Floor & Roof & the height to next adjusted to encompass the mid floor structure.

Project Map

The **Story settings** are reflected in **Stories** in the **Project Map**:

We have also placed 4 **Elevation markers** (North, East, South & West) close to the Project Origin for optimum performance. Your building should be placed in this area & the Elevations adjusted to suit your design.



The View Map

The **View Map** is set up to mimic the **Project Map** and standard sets of documents you may require, the general rule is that **everything** in the **View Map** is to be included in the **Layout Book**. Everything else in terms of management of your project is done via the **Project Map**. Ideally all work should be completed from a **View** in the **View Map** as this is what is to be documented and each View controls the scale and overall appearance of the View.

The **Site** folder has 4 different **Views** based on the **0.Sea Level/Datum** story with different Layer combinations placed in the **Site** Folder:

- **Site Plan** – This uses the 0. Sea Level/Datum with Plan Site Layer combination at 1:200, this is placed on Layout 101
- **Site Bulk & Location** - This uses the 0. Sea Level with Plan Site Bulk & Location Layer combination at 1:200
- **Site Landscaping** - This uses the 0. Sea Level/Datum with Plan Site Landscaping Layer combination at 1:200
- **Site Services** - This uses the 0. Sea Level/Datum with Plan Site Services Layer combination at 1:200

The **Plans** folder are all based on the **1.Ground Floor** story except for the **Roof Plan** which is based on the **2.Roof** Story set up as following:

- **Ground Floor SKETCH** – This uses the ALL Layer Combination to easily model and is placed it in the 'Ground Floor Sketch' Layout at 1:50
- **Ground Floor Plan** – This uses the Plan Floor Layer combination at 1:50; this is placed on Layout 102
- **Ground Floor Interior** - This uses the Plan Room Interior Layer combination at 1:50. (This is not placed on a Layout)
- **Ground Floor Foundation Plan** - This uses the Plan Foundation Layer combination at 1:50; this is placed on Layout 104
- **Ground Floor Framing Plan** - This uses the Plan Floor Framing Layer combination at 1:50; this is placed on Layout 105
- **Ground Floor Roof Framing** - This uses the Plan Roof Framing Layer combination at 1:50. (This is not placed on a Layout)
- **Ground Floor Plumbing Plan** - This uses the Plan Plumbing Layer combination at 1:50; this is placed on Layout 106
- **Ground Floor Lighting/RCP** – This uses the Plan Reflected Ceiling Layer combination at 1:50; this is placed on Layout 107
- **Ground Floor Electrical Plan** - This uses the Plan Electrical Layer combination at 1:50. (This is not placed on a Layout)
- **Ground Floor Bracing Plan** - This uses the Plan Bracing Layer combination at 1:50. (This is not placed on a Layout)
- **Roof Plan** - This is based on the 2.Roof story from the Project Map and uses the Plan Roof Layer combination at 1:50, this is placed on Layout 108

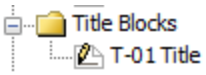
The **Elevations** folder in the **View Map** contains the 4 **Elevations** from the **Project Map**. These are all using the **Elevations** Layer Combination and are set to **1:100**. All 4 Elevations are placed in order onto **Layout 301**.

The **Details** & **Sections** folders in the **View Map** are empty to facilitate you to create your own **Details** or **Sections** for your design and place the required **Views** neatly in the folders.

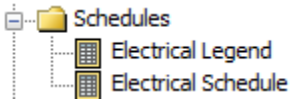
The **3D** folder in the **View Map** contains contains some useful **3D** views which will work with any building placed in the area between the Elevations on the Floor Plan. These include:

- **Generic Axonometric** – this is a view of the entire space between the Elevation markers shown as a standard axonometric 3D view (45° to the top left & top right)
- **Generic Perspective** – this is a view of the 3D window shown as an OpenGL perspective with shading.
- **Generic Perspective H/L** – this is a view of the 3D window being shown in Hidden Line view so no shading or textures, and uses the internal engine so less responsive in navigating
- **Sketch Koh-I-Noor** – this is the same view as 'Generic Perspective' but is using the Sketch rendering engine using the Koh-I-Noor view
- The **3D Document Perspective Shadows** view shows the entire 3D window in a clever 'Fit in Window' view shown in a simplistic Line & Shaded colour view
- The **3D Document Aerial Shadows** view shows the entire 3D window in a parallel view shown from directly above to give a Plan appearance. This is represented in a shaded view with Shadows for a Sun study/Shadow diagram.

The **Title Block** folder contains the **T-01 Worksheet** and is placed on each **Master Layout**. The idea here is if you change the title in one place, it updated all **Masters** and subsequent **Layouts**.



The **Schedules** folder contains 2 **Electrical** schedule which work seamlessly with the **Cadimage Electrical** tool but can be easily modified to accommodate most methods of creating an **Electrical Layout**. The folder is particularly useful to place extra **Schedules** which you will find in the **Project Map** or when you create your own like the **Cadimage Door & Window schedule**.



The Indexes folder contains the 2 Project Indexes used in the Layout Book in the NZE Template:

- **Sheet Index** – This lists all Layouts in your Layout book on an A4 sheet
- **Issue History** – This lists all Layouts issued through the life of the project

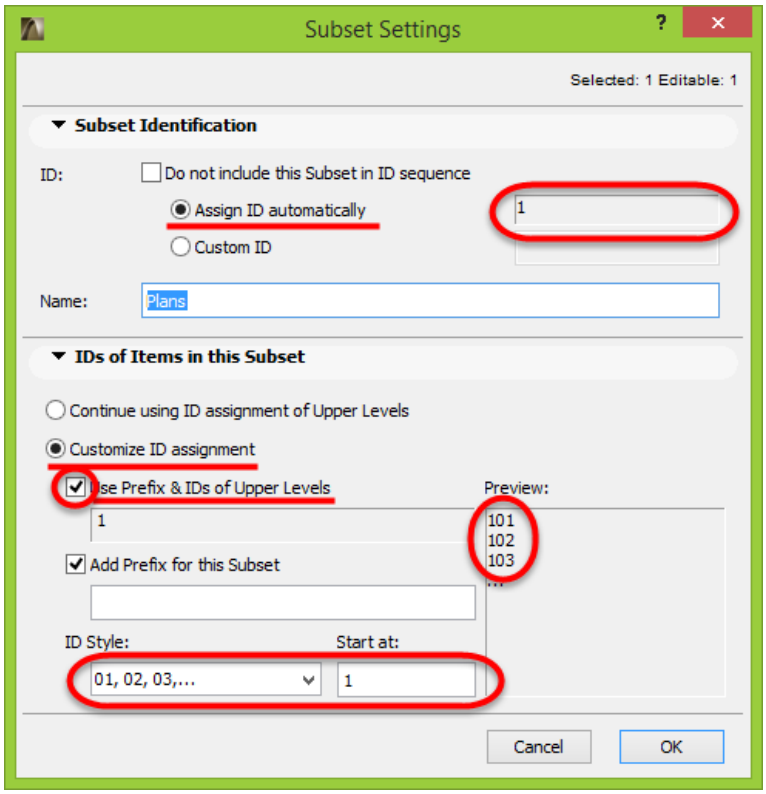
The Layout Book

The **Layout Book** in the NZE template is set up similar to the **View Map**, so a lot of the Views listed above are placed individually onto **Layouts** using their correct **Scale** & **Layer combination**. It is organized into folders containing the type of drawings within, eg: Plans, Section etc.

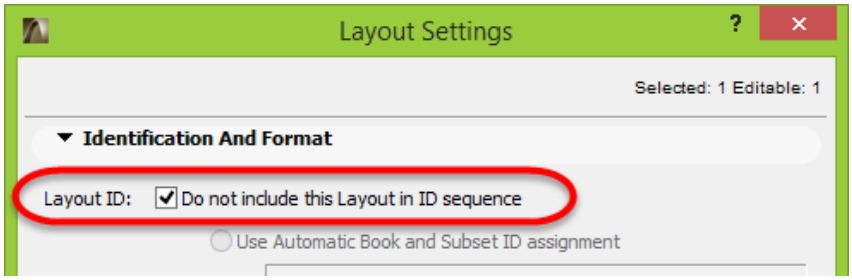
The Subset folder have been organized so that their ID is assigned automatically, if their order is changed, the Folder ID will update. The default folders are set up as:

1. Plans
2. Sections
3. Elevations
4. Details
5. 3D

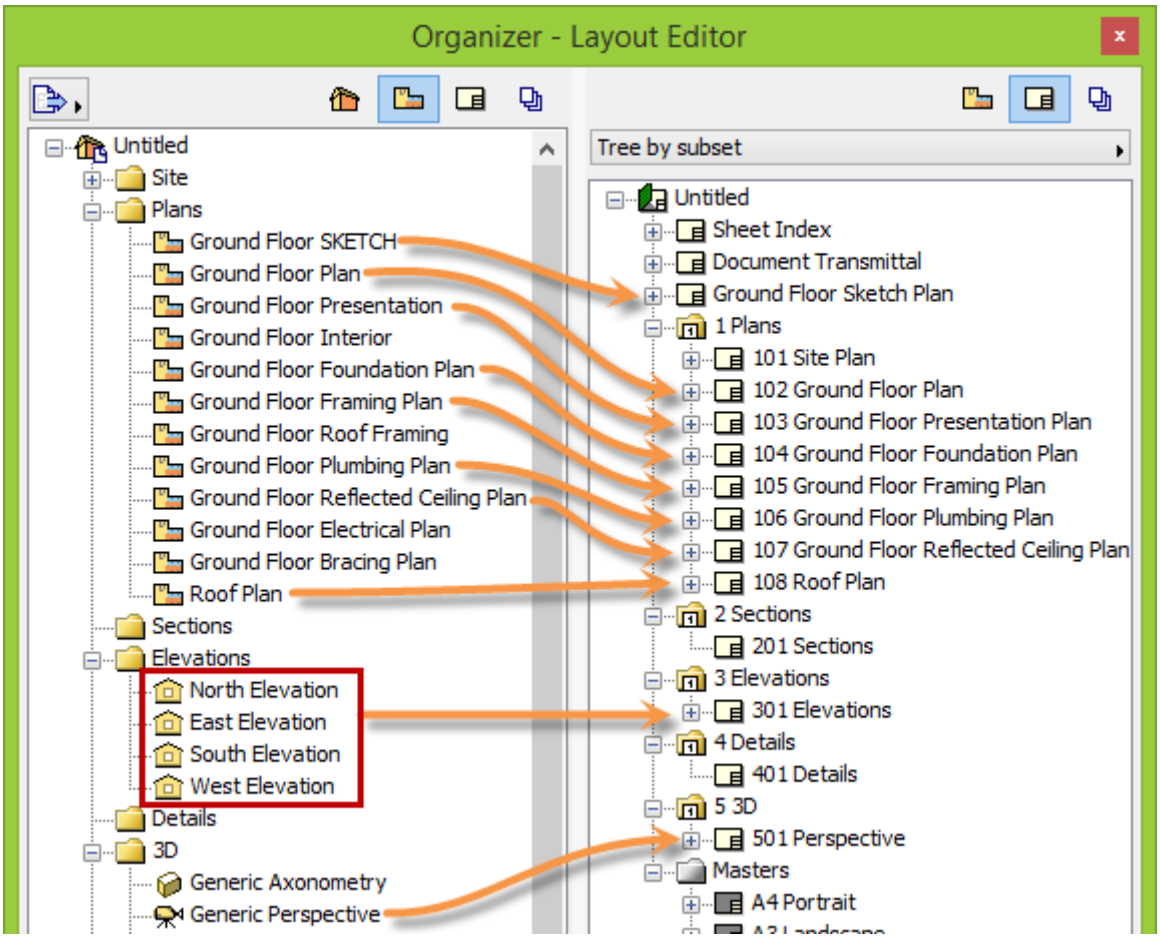
Each of these subset folders have been also set up to automatically assign all included Layouts a Layout ID based on the folder they are in. So all pages placed in the 1.Plans folder will have a 3 digit ID starting from 101 upwards, the 2.Sections folder will set all Layouts to 201 upwards etc. This is controlled in the Subset folder settings:



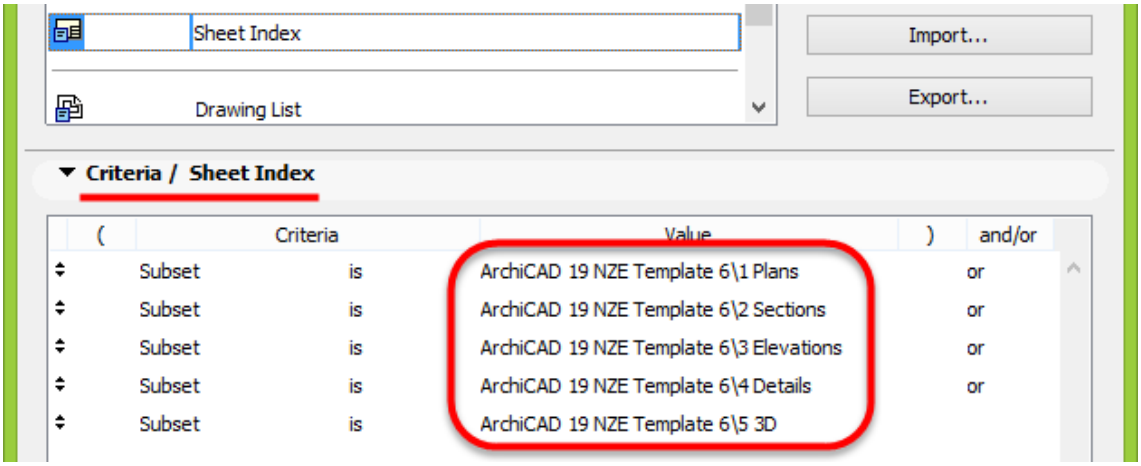
The first 3 Layouts do not have a Layout ID as they have been excluded in their settings:



The default Layout Book contains 15 Layouts, 2 of which are blank. The below diagram shows what Views are placed on each Layout:



The **Sheet Index** Layout uses the **A4 Portrait** master and contains the Sheet Index Project Index as found in the **View Map**. This Sheet Index does not include the Sheet Index, Document Transmittal or Ground Floor Sketch Plan as they are not contained within one of the 5 folders.



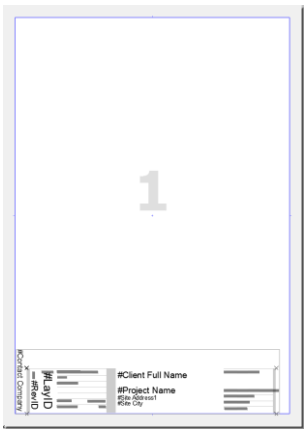
This criteria can be modified in the Sheet **Index Settings** to include/exclude additional Layouts.

The **Document Transmittal** sheet is part of the Revisions functionality and is described in the Revisions section at page 44.

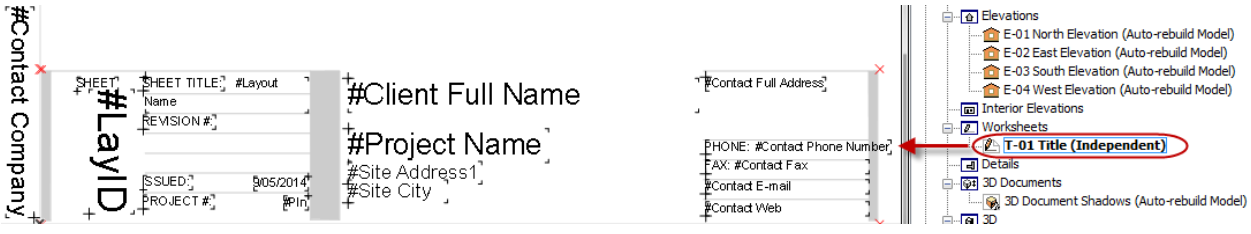
The **Ground Floor Sketch Plan** is a basic Layout that has All layers turned on for initial concept.

Master Layouts

Following on from the **Layout Book**, we include **4 Master Layouts** by default which are the 4 standard paper sizes. This list should be expanded by offices as the appearance and variance of Layouts depends on Office standards. The 4 Master Layouts we have are:

A1 Landscape	A2 Landscape
Used for Architectural/Construction drawings	Used for Architectural drawings
	
A3 Landscape	**A4 Portrait**
Used for Presentation/Concept drawings	Used for Sheet Index & Document Transmittal
	

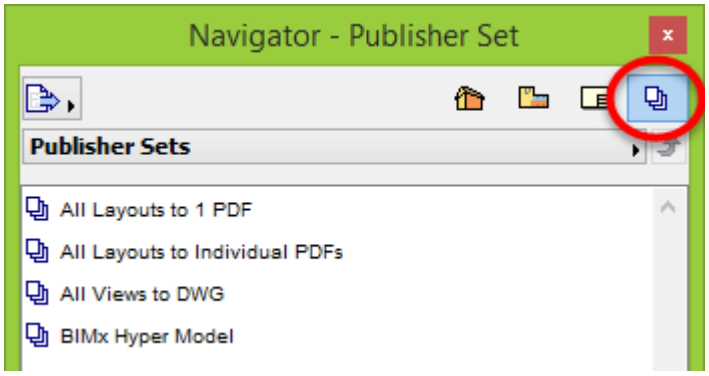
Each of these **Layouts** use the same **Title** which is located in the **Project Map** & **View Map** as a **Worksheet** called **T-01 Title**. This allows you to make edits to the title in the Worksheet and the changes will appear in all the layouts:



The # items are Autotext which have been set up to be the correct font and size. These are filled in automatically using the **Project Info** dialog found at **File>Info>Project Info**.

Publisher

Following on from the Layout Book, the **Publisher** allows you to save or print multiple Layouts out in one go. Four publisher sets have been created for the different output options you may require:



All Layouts to 1 PDF

This contains the entire Layout Book folder set to **PDF** format and '**Merge to one PDF file**' has been checked at the bottom. This will produce a single PDF file with multiple pages.

All Layouts to Individual PDF's

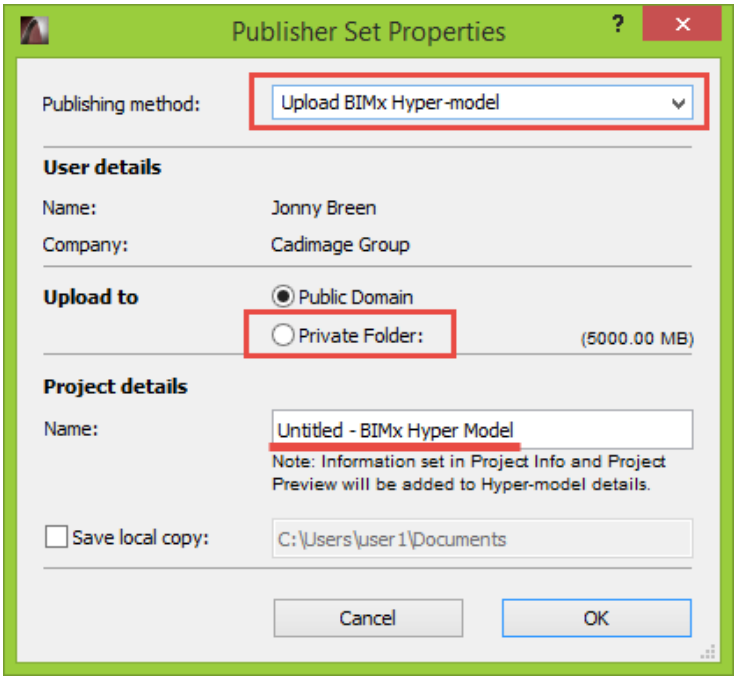
This is the same as the 'All Layouts to 1 PDF' Publisher set described above, but has the checkbox for '**Merge to one PDF file**' unchecked

All Views to DWG

This Publisher set contains the entire **View Map** with the format set to **DWG** and using your default DWG translator for export.

BIMx Hyper Model

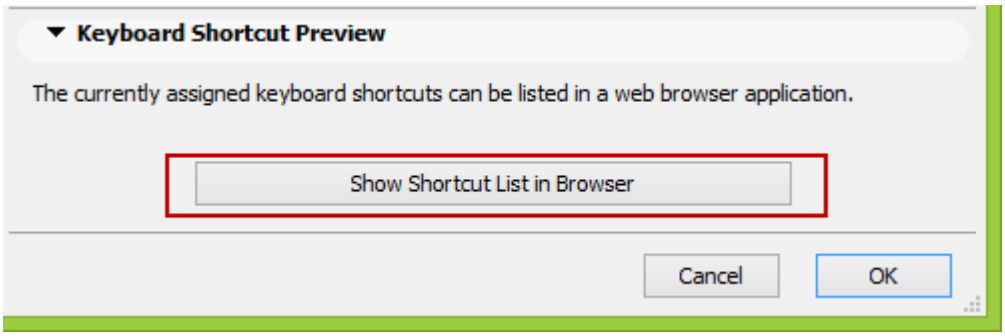
This Publisher Set has been set up to Save Files as a single file with the format set to **BIMx** which is to be **uploaded**. You will need to Sign in using your Graphisoft ID and set it to use **Private Folder** so it is not available for everyone globally to download. Name the project appropriately as it will appear on the client's/contractor's tablet device.



You can retrieve the link for the project to send on at https://bimx.graphisoft.com/ .

Keyboard Shortcuts

As part of the **Standard Profile 19** we have used the International list of shortkeys which work on most ArchiCAD's globally. You can see the full list by going to **Options>Work Environment>Keyboard Shortcuts** and choosing **Show Shortcut List in Browser**:



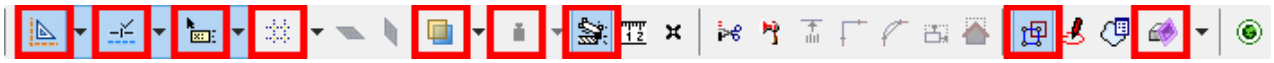
For convenience we have listed the most commonly used ones here on 2 pages so this can be printed and the relevant side used at your desk:

Command	Mac Shotcut	PC Shortcut
Select All	Command + A	Ctrl + A
Copy	Command + C	Ctrl + C
Drag	Command + D	Ctrl + D
Rotate	Command + E	Ctrl + E
Find & Select	Command + F	Ctrl + F
Layers Dialog	Command + L	Ctrl + L
Multiply	Command + U	Ctrl + U
Tool Settings	Command + T	Ctrl + T
Paste	Command + V	Ctrl + V
Drag a copy	Option (while dragging)	Ctrl (while dragging)
Drag multiple copies	Command + Option	Ctrl + Alt
Up/Down a Story	Command + up/down arrow	Ctrl + up/down arrow
Navigate to next tab	Command + Tab	Ctrl + Tab
Navigate to previous tab	Command + Shift + Tab	Ctrl + Shift + Tab
Trim	Command + Click	Ctrl + Click
Select element	Shift + Click	Shift + Click
Pick up Properties	Option + Click	Alt + Click
Inject Properties	Command + Option + Click	Ctrl + Alt + Click
Magin Wand	Space + Click	Space + Click
Floor Plan View	F2	F2
3D View	F3	F3
View Selection in 3D	F4	F5
Layout View	F7	F7
Trace Reference	Shift + F2	Alt + F2
Cancel Operation	Esc	Esc
Quide Lines	` (key above tab)	` (key above tab)
Create Guide Line Seqment	Shift + `	Shift + `

Default Functions

Much like the Work Environment the Functions of ArchiCAD can be controlled independently to your personal preference.

As part of the **Work Environment** we have turned on several functions which allow you to use ArchiCAD productively, while some functions have remained turned off because they can otherwise be cumbersome. You can find these in the Standard Toolbar:

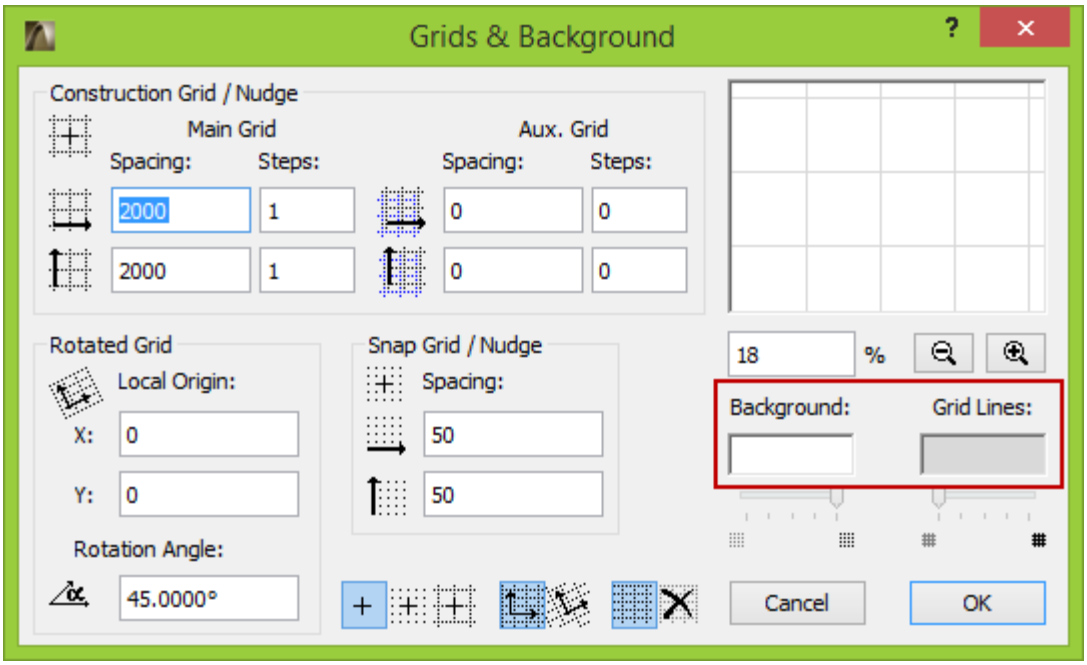


We have listed these below:

- **Permanent Guide Lines** - Turned **ON** to aid with drawing
- **Snap Points** - Turned **ON** and set to show Mid-Point
- **Snap Guides** - Turned **ON** and set to show orthogonal guide lines
- **Tracker** - Turned **ON** to aid with dimension input
- **Grid Snap** - Turned **OFF** as it restricts your graphical input
- **Trace Reference** - Turned **OFF** as required view needs to be selected
- **Gravity** - Turned **OFF** as placement will be done by settings
- **Element Snap** - Turned **ON** to easily draw from element to element
- **Suspend Groups** - Turned **ON** to easily edit individual elements
- **Cutting Planes** - Turned **OFF** as its placement is design dependant

2D Window

This has been set to **White.** You can set the background colour at **View>Grid & Editing Plane Options>Grids & Background**:



As highlighted in the **Grids & Backgrounds** window, the **Grid** has been turned on in the 2D window and uses a light grey line with 2 metre spacing to give you an idea of scale when drafting.

On Screen View Options

How elements appear on screen in the 2D window is largely determined by the **On Screen View Options**; this can be found under **View>On Screen View Options**. These generally do not print.

We have turned the relevant items ON as listed below:

- **Clean Wall & Beam Intersections** - this cleans up the joints of Walls & Beams
- **Roof Pivot Lines** - shows the pivot line for Roofs, doesn't print
- **True Line Weight** - shows the true line weight & how it will print
- **Vectorial Hatching** - shows hatching as applied by the settings of elements
- **Marker Range** - shows the entire range of Sections & Elevation markers
- **Drawing Frames** - shows the corners of Drawings to know their extents
- **Master Items on Layout** - shows the Master Layout items on normal Layouts
- **Fill Handles** - shows direction arrow of Fills if option is chosen
- **Textbox Handles** - shows the corners of Text to know its extents
- **Figure Handles** - shows the corners of Figures to know its extents
- **Spline Handles** - shows the points that help define the Spline shape

Some optional elements that we have turned off by default are:

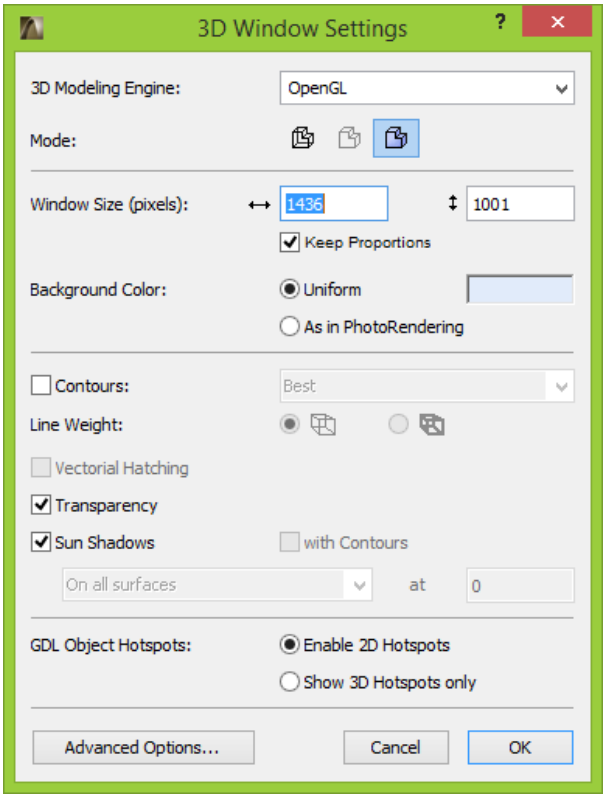
- **Wall & Beams Reference Lines** – Highlights the Reference Line & its direction
- **Bold Cut Lines** - Highlights all Cut lines as Bold
- **Highlight Source Markers** - Highlights Section, Elevation & Detail source Markers
- **Hide Drafting & Editing Aids** - Hides Spline and Fill handles
- **Trimming Bodies** - Highlights volume under roofs red.

3D Window Settings

The 3D engine has been set to use OpenGL which has had major advancements in ArchiCAD 19 to be smoother and faster than ever. **Transparency** and **Sun Shadows** are both **ON** which means the windows ***ARE*** transparent in 3D. The background has been set to a pale blue to represent the sky.

Contours have been turned **Off**, which means all elements in the 3D view will not have an outline, giving a cleaner 3D view.

All Hotspots are shown to give you maximum editing options.

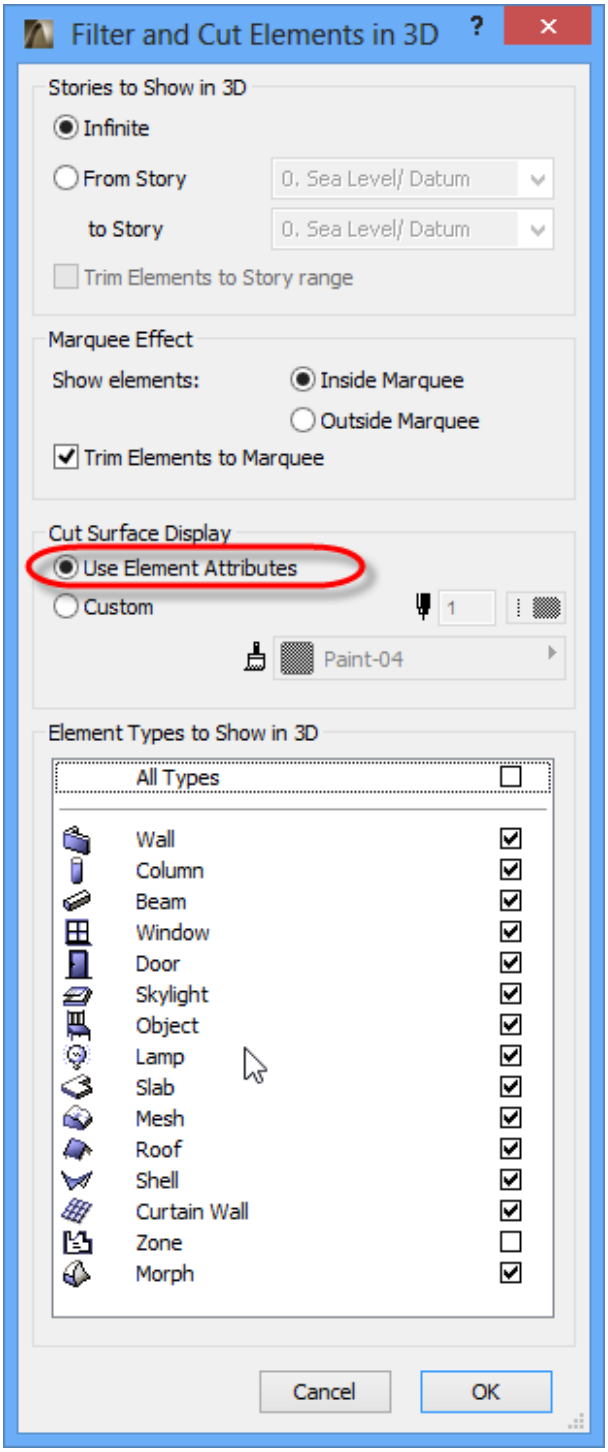


Filter Elements in 3D

All stories are being shown in the 3D window. If a **Marquee** is placed and the '**Show Marquee in 3D**' option is used then only elements within the Marquee are shown.

If using the **Cutting Planes** or **Marquee,** the 3D window now shows the **Elements Attributes** on the **Cut Surface** rather than black – this provides the ability to produce 3D Details and see the intersections of elements using **Priority Based Connections**.

The only Element that is not shown in 3D is **Zones**, this is because they can get in the way when navigating inside a building as you won't be able to zoom or select elements as easily inside the house. You can turn **Zones** on for the purpose of Energy Evaluation under **View>Elements in 3D View>Filter and Cut Elements in 3D…**



The Toolbox

The **Toolbox** in ArchiCAD has been organised into 4 sections:

Select - The Arrow tool to select items and Marquee tool to narrow selection
Design - 3D tools, building elements that will appear in all views
Document - 2D tools, will only appear in the view that they are placed
More - Mixture of 2D and 3D tools that are rarely used in design process

This section will go through the individual **Tools** and their default set-up as we have designed them to work within the New Zealand Template. We will review only the relevant settings like **Story linking**, **Layer** & default setup/sizes. Generally each **Tool** has a corresponding saved **Favorite** of its default settings which you can easily restore.

Select Tools

Arrow This is how you select anything in ArchiCAD. It can be easily gotten to by holding SHIFT which temporarily activates the Arrow tool. Or hitting Esc twice will revert to the Arrow Tool.

Marquee This Tool is an aid to help narrow your selection in Plan or the 3D window.

Design Tools

Wall Default Setout is using the EXT Stud 90 composite by default and its height is linked to its Home Story and the Story above. It is using the Des: Walls layer. Its Reference Line is set to Core Outside and uses Building Material Surfaces. Favorite stored as EXT: Stud 90 Pb NZE.

Door Default Setout is using the ArchiCAD Door 19 and its sizes are 810x2025 with a 25mm frame resulting in a 760x2000 door leaf. The Anchor point is set to Sill to current story which is set to zero so it sits on the ground level. Default Setout stored as 'ACd' Favorite.

Window Default Setout is using the ArchiCAD Window 19 and its sizes are 900x1500. The Anchor point is set to Header to Current story so that all windows align with their headers and this is set to 2200 by default. Default setout stored as 'ACw' Favorite.

Column Default Setout is a 90x90 Timber Post using the Timber – Structural Building Material. Its height is linked to the Home Story and the Story above. It is on the Des: Columns layer. It uses the Building Material Surface. Default setout saved as 'Timber 90sq NZE' Favorite.

Beam Default Setout is 140x90 Timber Beam using the Timber – Structural Building Material. The Surface is set to override with Wood – Pine Grained Horizontal except for the end which is Wd – Oak. It is saved as 140x90 Exterior Beam NZE Favorite so appears dashed on the Home Storey and solid on the Story above.

Slab Default Setout is using the Floor: Concrete 100 composite. It is set to start on the F.F.L of the current story & grow down with the Reference Plane on top. It is set to show the Building Materials surface of Concrete - 02. Favorite is '100 Conc Slab NZE'

Slab Edge Default Setout is set to use the Cadimage Counter Edge Slab Edge which has been set up to give a 20mm bullnose to the top & bottom edges of the Slab. It is set to show on Home Story Only & is on the Des: Fittings Joinery layer. Favorite is saved as'Bullnose NZE'

Stair - Default Setout is to use ArchiCAD's Stair L-Shape 19, this has been set to 2710 tall. It shows on Home & One Story Up and its Layer is set to Des: Fittings General as it is set it out as a Timber stair. This has been stored as a Favorite named L-shape Stair NZE.

Polystair – Default Setout is set to start with a straight flight as 1200mm wide. This is a Concrete s tair where the base starts at the Current Story and is also set to show on Home & One Story Up. It is on the Des: Fittings General layer. Default is saved as Polystair NZE Favorite.

Railing - This is set to use the Cadimage Railing object which appears as a Timber balustrade on the Des: Fittings General layer. Because these are generally part of the Stair tool this has been set to show on Home & One Story above. Favorite is stored as Railing NZE.

Roof Default Setout is set to be a simple roof; using Timber – Roof Building Material set to 90mm thick. It has Surface overrides of Metal - Corrugated Sheet on top and Paint - Light Gray as the side material. Its layer is Des: Roofs and favorite saved as 'Variable Roof NZE'

Shell This is set to use a simple Shell instead of a Composite. It's set to use the Timber – Roof building material & set to 300 thick. It is set to show on Stories All Relevant Stories and Floor plan Display Projected with Overhead. Its default layer is Des: Roofs. Favorite is 'Shell NZE'

Skylight Default Setout is set to use the Skylight Pivot Hung 19 and size is 600x1600. It no longer has a layer as Skylight display is now controlled by Model View Options. The default setout has been saved as a Favorite named 'Skylight NZE'

Curtain Wall The Curtain Wall has been set up so the Frame & Main panel is set to use the Building Material Surfaces (Aluminium & Glass – Blue). The distinct panels are set to be Aluminium. Its Layer is set to Des: Walls as it is seen as a type of Walls. Favorite is Cutain Wall NZE.

Morph Default Setout is to use the Building Material Plywood & start with zero offset from the current story. Its Layer is set to Des: Furniture as the Morph tool's most common use is for bespoke pieces of fitted furniture. Favorite is stored as 'Morph NZE'

Object Default Object is set to use the Armchair NZE Favorite which uses Armchair 01 19 & is on the Des: Furniture layer and set to appear on Current Story only. The surfaces are set to Use Objects Surfaces. Favorite is stored as 'Armchair NZE'

Zone Default Setout is using 01 Residential and Recreation category which uses Zone Stamp_2 19 as set within Options>Elements Attributes>Zone Categories. Its base is linked to current story & top is unlinked. Set on the Des: Zones layer. Favorite is stored as 'Zone NZE'

Cabinet Default Setout is set to use the Cadimage Cabinet tool which is set as a basic 1200x200 unit with 2 doors. Its default Layer is set to Des: Fittings Joinery and is set to show on Home Story Only. Favorite has been stored as 'Basic 1200 Floor Unit NZE'

Electrical – (if owned) Default Setout is set to use the 2D Switch Component which is a good starting point for Electrical Setouts. It is set to show on Home Story Only. Its Layer is set to Des: Fittings Electrical as these components will turn into Wall Plates as the design progresses which have a 3D appearance. Saved as 'Component Switch NZE' Favorite.

Mesh Default Setout is set to Solid Body with a thickness of 1000mm. Its Building Material is set to Soil – Soil and it has a top surface override of Grass - Green. Cover Fill is turned on to be Grass. Ridge selection is set to Show User Defined Ridges. The default Layer is set to Des: Site Mesh Existing as the first Mesh you will draw is going to be the existing Site. This default has been stored as a Favorite called 'Mesh NZE'.

Document Tools

Detail Element Default Setout is set to the Cadimage Timber Member which will be using the Doc: Sections Layer. Since it is a 2D element it will only appear in its current Story.

Dimension Default set out is set to Dimensions NZE Favorite. This is the Linear method with crosshair appearance & 400mm witness lines. These use the Annotation pens and Layer is set to Doc: Floor.

Level Dimension Default Setout is set to be 4mm in size and use 2.5mm Arial text. It has an Opaque background and the Marker + Text is using Annotation pens. Layer is set to Doc: Floor. Favorite has stored as Level NZE.

Text Default Setout is 2.5mm high Arial text & aligned to the left using Pen 86 (Annotation Text – notes) and an Opaque background. Layer is also set to Doc: Floor. Favorite has stored default as Text NZE.

Label Default Setout is set up similar to the text tool using 2.5mm high Arial text while the Label uses Pen 85. It is set to show only a Leader Line with no Frame & is on the Doc: Floor layer. Favorite has default as Label NZE.

Fill Default Setout is set to use the Grid 600x600 Fill using Pen 18 as the Fill pen and Pen 19 as the Background Pen. It is linked to Project Origin and uses Layer Doc: Finishes. Favorite has stored Default as 600x00 Fill NZE.

Line Default Setout is set to use a Solid Line using Pen 85 and are on the Doc: Floor layer. Uniform Settings for Line Tools is turned on. Favorite has stored default as Line NZE.

Arc/Circle Default Setout is set up the same as the Line tool because of Uniform Settings for the Line Tools using Solid Line and Pen 85 on Doc: Floor Layer. Favorite has stored default as Arc/Circle NZE.

Polyline Default Setout is set up with Uniform Pen setting so set up the same as the Line tool using Solid Line and Pen 85 on Doc: Floor Layer. Favorite has default stored as 'Polyline NZE'

Drawing Default Setout is set use the ArchiCAD Layer & uses the 1:50 Printing Pen Set so that drawings when placed on a layout turn Black & White according to Printing Pen set. Favorite has stored default as Layout 1:50 NZE.

Section Default Setout is set so that it Creates a New Viewpoint as no Sections are placed in the Default Template and set to show a unlimited depth horizontally and Vertically. Its Model Display is set to show the Cut Fills of all elements as in their settings & use their pens. The Marker itself is set to the Doc: Sections layer and it saved as 'Section Model Pens NZE',

Elevation Default Setout is set so that it Creates a New Viewpoint and its ID is set to E-05 since 4 Elevations are already placed on Plan. Its Model Display is set to show Uncut Elements as 'Own Surface Colors Shaded' & Cut Elements (likely to be the Mesh) as their Cut Fill settings. The Marker is set to the Doc: Elevations layer. Favorite has default stored as Elev Color NZE.

Interior Elevation Default Setout is set to be a Square room with 4 Elevations placed on all 4 Orientations (N,E,S,W) and each Create a New Viewpoint. The Model Display is set to Own Surface Colors (Non Shaded). The Marker is set to use use Doc: Elevations Interior. Favorite has stored default as 'Interior Elev Colour NZE'.

Worksheet Default Setout is set to use Worksheet NZE Favorite. This Creates a New Worksheet with the Marker referring to the First Placed Drawing on a Layout. Its Layer is set to Misc: Hidden as Details should be the only one left on Plan.

Detail Default Setout is set so the ID is left blank & name is just set as 'Detail'. The Marker refers to the First Placed Drawing on a Layout & the Layer is set to Doc: Details. Favorite has stored default as 'Detail NZE'.

Change Tools Default Setout is set to show the Cloud & Marker. The ID has been set to '1' and the Name has been left blank for you to fill in and is set to go on the Doc: Floor Layer. Favorite has stored default as 'Cloud + Marker NZE'.

More Tools

Grid Default Setout is set to show entire Grid Line as a Double Dashed Line with markers both sides. It is set to show on All Stories and in 3D also. Its Layer is set to Doc: Grids. Favorite has default stored as 'Grid NZE'.

Wall End Default Setout is set to use Wall End Chamfer with a 500mm length. (CHECK!) It is set to Fit to Wall so will be the same height. It doesn't have a Layer as it will belong to the Walls layer. Favorite has stored default as 'Structural NZE'.

Corner Window Default Setout is set so the Left Side of the window to have a 90 degrees angle. The Anchor Point is set similarly to the Window tool with Header to Current Story set at 2200. Favorite has default stored as 'Left Corner Window NZE'.

Lamp Default Setout is set to use the new Cinema 4D lights and is set to 100% brightness on the Des: Lamps Layer. Favorite has default stored as 'Halogen DL NZE'.

Radial Default Setout is set to show the Centre Point of a curve and the Radial Dimension is displayed in the Label-like style. Its Layer is set to Doc: Floor. Favorite has default stored as 'Radial NZE'.

Angle Default Setout is set to show the Inner dimension between 2 lines with an Arrow indication & dimension displayed horizontally. Layer is also set to Doc: Floor. Favoite has default stored as 'Angle NZE'.

Spline

Default Setout is set with Uniform Pen setting so set up the same as the Line tool. Favorite has stored default as 'Spline NZE'.

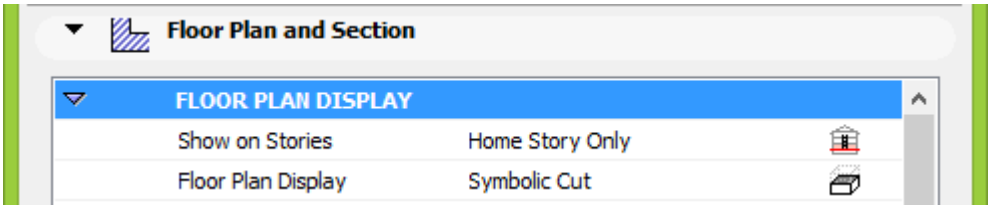
Hotspot Default Setout is set to use Pen 20 (which doesn't print) so set to use ArchiCAD Layer. Favorite has default stored as 'Hotspot NZE'.

Figure Default Setout is set to use the Import: Site Aerial Layer. A Favorite cannot be stored to this as this requires a Figure to be set already.

Camera Default Setout is set to show Camera at eye level (1700); this will need adjusting as per the R.L of your Floor Level adjusts. Sun is set to show as ArchiCAD settings.

Floor Plan Display

Most of the tools have been set to **Home Story Only** in their **Show on Stories** setting in Floor Plan:



This is because the most efficient workflow in ArchiCAD is to construct the model on a per story basis as they would arrive on site as opposed to using multi-story projected walls.

The **Floor Plan Display** is generally set to **Symbolic Cut** which means that items placed on a Story will show regardless of where they are in relation to the Projected Cut Plane.

The **Floor Plan Cut Plane** is only useful when you have sloping walls or multi-story walls with windows at mid floor, i.e. a wall in a stairwell. As these walls are the exception rather than the rule, it is simpler to set these specific walls to **Projected** and keep all the rest set to **Symbolic cut**. You can set up the Cut Plane at **Document>Floor Plan Cut Plane.**

The **Design tools** are 3D and can be seen on multiple stories so they have been set up like so:

- **Wall** - Show on Stories **Home Story Only** & Floor Plan Display **Symbolic Cut**
- **Door** - Floor Plan Display **Symbolic**
- **Window** - Floor Plan Display **Symbolic**
- **Column** - Show on **Home Story Only** & Floor Plan Display **Symbolic Cut**
- **Beam** - Show on **All Relevant Stories** and Floor Plan Display **Projected with Overhead**, this is set up for Exterior Beams (pergola members, external steel structure etc. Beams show dashed on Home story, Solid one story above, and nowhere else))
- **Slab** - Show on **Home Story Only**
- **Slab Edge** - Show on **Home Story Only**
- **Stair** - Show on **Home & One Story Up,** this will show the stair on its modelled story and on the story it goes up to (i.e. one story up).
- **Roof** - Show on **All Stories** Floor plan Display **Outlines Only,** this will show the roof slabs as solid lines on the Home Story and dashed elsewhere
- **Shell** - Show on **All Relevant Stories** and Floor Plan Display is set to **Projected with Overhead**.
- **Skylight** - Show on Stories is now controlled by **MVO's** and **Project Preferences**
- **Curtain Wall** - Show on **All Relevant Stories** and Floor Plan Display **Symbolic with Overhead**
- **Morph** - Show on **Home Story Only** and Floor Plan Display **Outlines Only** (assuming you will use the Morph Tool to create a new object – furniture etc)
- **Object** - Show on **Home Story Only**
- **Mesh** - Show on **Home Story Only**

Layers

The **Layers** in **ArchiCAD 19** have been developed to be as simple as possible aligning their names with the Toolbox and Tools. They are organised into 4 main categories:

1. **Des** - This stands for **Design** and relates to the 3D tools in the **Design Toolbox**. These are the 3D modelled elements that appear in multiple views.
2. **Doc** - This stands for **Document** and relates to the tools in the **Document Toolbox**. These are for 2D annotation elements that appear only in the view they're placed.
3. **Import** - This is for **Importing** any additional info like Site Aerials or Surveys. This relates to external files like DWG's or JPEGs that are manually imported to your file.
4. **Misc** - This is for additional information like hidden elements or Mark-Ups. Best used for Solid Element Operators or Design Images which you don't want to output.

As highlighted these relate to the **Toolbox** that the Layers refer to. And as documented above all of the tools are set to use their correct layer so Layer management should be a simple process.

A **Layer Matrix** has been included in the **Appendix** at the end of this document.

Layer Combinations

The **Layer Combinations** are based off the possible outputs of documentation you may require. The result being that every **View** has its own specific Layer combination showing and hiding the relevant information which can then be placed directly onto a **Layout**.

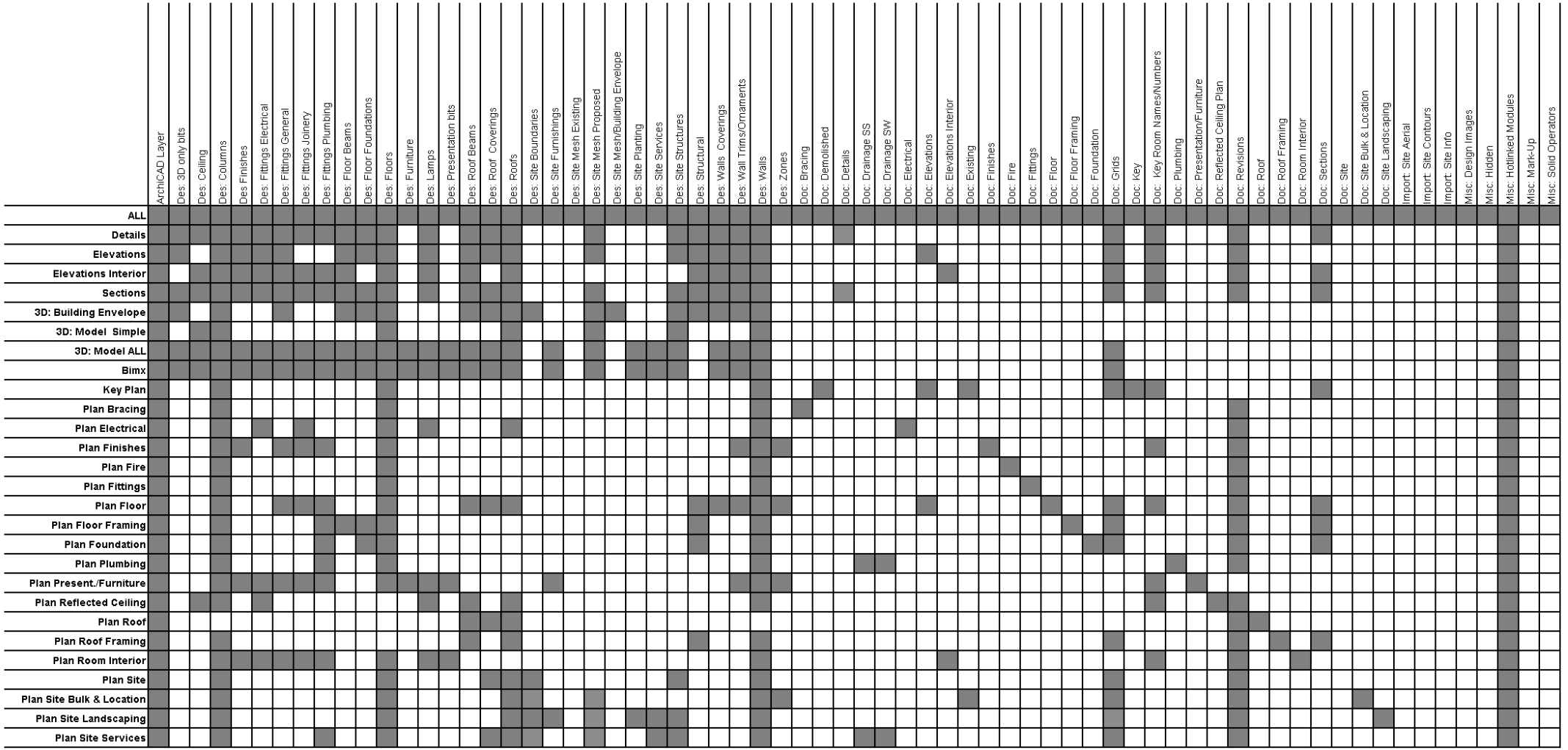
With each view using the **Layer Combination** it makes the project easier to manage. You can update **Layer Combinations** which will update any **View** using them, rather than managing the individual **Layers** shown on each **View**.

The Layer Combinations are organised into 6 main sections. Layer Combination is most critical in **Plan** where a single Story could produce 20 different documents. This doesn't happen as much with **Sections**, **Elevations** or **Schedules** so they only have 1 or 2 Layer Combinations. The categories are listed below:

1. **Details** - This single Layer Combination is for use for Detail Views
2. **Elevations** - There are 2 Layer Combinations for Elevations – Exterior & Interior
3. **Sections** - This single Layer Combination is for use with all Sections
4. **3D** - There are a few Layer Combinations to show different levels of detail
5. **Key** - This single Layer Combination is for producing a Key Plan
6. **Plan** - There is 15 Layer Combinations, each purpose is clearly defined

The **Layer Combination** table on the next page describes the intended use of each Layer Combination along with the Annotation Layer to use specific to that Layer Combination along with a suggested Model View Option to use in conjunction with the Layer Combination.

Layer Matrix



This Layer Matrix shows what Layers are visible in the Layer Combinations as set in the standard ArchiCAD 19 Template.

Layer Combinations

Index	Layer Combination	Description of Use	Annotation Layer	Model View Option
1	**ALL**	Displays ALL Layers *Note if a user creates additional Layers then this Layer combination will need to be updated to show these layers it will not automatically show all layers.*	NA	NA
2	**Details**	Displays Layers that are necessary for the production of Detail drawings this is primarily 3d (Model / Design elements) the exceptions are Section and Elevation information and Doc: Key Room Names/Numbers	ArchiCAD layer	02 Drafting
3	**Elevations**	Displays Layers for external Elevations this primarily consists of model elements that are visible from the exterior of the building	Doc: Elevations	10 Elevations
4	**Elevations Interior**	Displays Layers for interior room Elevations – Floor, Wall, Ceiling, and interior Fittings and Joinery	Doc: Elevations Interior	09 Sections
5	**Sections**	Displays Layers for Cross Sections this primarily consists of model elements	Doc: Sections	09 Sections
6	**3D: Building Envelope**	Displays Layers that describe the exterior envelope of the building – designed to used in conjunction with the Cadimage Tools, Site + Massing Tools, Building Envelope.	NA *Note: if 3D Document use ArchiCAD Layer*	07 3D Exterior
7	**3D: Model Simple**	Displays a simple fast generating set of Layers for the 3D visualisation of the Building in 3D	NA *Note: if 3D Document use ArchiCAD Layer*	07 3D Exterior or 08 3D Interior
8	**3D: Model ALL**	Displays all Layers for the 3D visualisation of the Building	NA *Note: if 3D Document use ArchiCAD Layer*	07 3D Exterior or 08 3D Interior
28	**BIMx**			
9	**Key Plan**	Displays layers for the production of a Key Plan which displays the buildings external envelope and Sections, Elevations and Grids	Doc: Key	01 Site
10	**Plan Bracing**	Displays the Walls, Columns, Floors, and *Doc: Bracing* which contains all bracing annotation and brace lines & braces if using the Cadimage Tools Bracing.	Doc: Bracing	04 Building Plans No Markers or 05 Ceiling Plans
11	**Plan Electrical**	Displays the Walls, Floors, Electrical Fittings, Joinery, Lamps	Doc: Electrical	04 Building Plans No Markers
12	**Plan Finishes**	Displays the Walls, Floors, Fittings, Wall trims, Zones	Doc: Finishes	04 Building Plans No Markers or 06 Room Layouts
26	**Plan Fire**	Displays the Walls, Floors, and *Doc: Fire* which contains all Fire Plan annotation and highlighting of Fire Walls.	Doc: Fire	04 Building Plans No Markers
27	**Plan Fittings**	Displays the Walls, Floors and all Fittings Layers including *Doc: Fittings* which contains all fittings annotation.	Doc: Fittings	04 Building Plans No Markers
13	**Plan Floor**	Displays the elements for a typical Construction / General Arrangement floor plan, walls roof overhangs, Detail, Elevation & Section markers	Doc: Floor	03 Building Plans Markers
14	**Plan Floor Framing**	Displays the Floor Beams, Structural elements, Floors, Walls and Grids	Doc: Floor Framing	04 Building Plans No Markers or 05 Ceiling Plans
15	**Plan Foundation**	Displays the Floor and Floor Foundations as well Plumbing fittings and Walls (depending on your documentation style you may want to turn these off)	Doc: Foundation	04 Building Plans No Markers or 05 Ceiling Plans
16	**Plan Reflected Ceiling**	Displays the elements for a Lighting / Reflected Ceiling Plan plan, Walls, Lamps, Ceilings and Roofs.	Doc: Lighting/Ceiling	05 Ceiling Plans
17	**Plan Plumbing**	Displays the Plumbing Fittings, Floors	Doc: Plumbing	04 Building Plans No Markers or 05 Ceiling Plans
18	**Plan Presentation/Furniture**	Displays all of the Fittings Layers, Furniture Lamps, Presentation Bits, Site Furnishings Walls floor and Zones, this Layer Combination is designed for Sketch Design, and Presentation Plans.	Doc: Presentation Furniture	04 Building Plans No Markers
19	**Plan Roof**	Roof Plan displays Roofs, Roof Beams, Roof Coverings	Doc: Roof	04 Building Plans No Markers
20	**Plan Roof Framing**	Displays Roofs, Roof Beams,Structural elements, Walls, Grids Section Markers	Doc: Roof Framing	04 Building Plans No Markers or 05 Ceiling Plans
21	**Plan Room Interior**	Designed for 1:25 / 1:20 room interior plans to complement Elevations Interior	Doc: Room Interior	06 Room Layouts
22	**Plan Site**	Displays main building elements Walls Roof Floors plumbing fittings (for drainage) and Site Services and Structures	Doc: Site	01 Site
23	**Plan Site Bulk & Location**	Displays the Primary building Envelope Walls Roof Floors & Site Boundaries	Doc: Site Bulk & Location	01 Site
24	**Plan Site Landscaping**	Displays the Primary Building Elements and all of the Site Planting, Site Structures, Site Furnishing	Doc: Site Landscaping	01 Site or 04 Building Plans No Markers if more detail required
25	**Plan Site Services**	Displays the Primary Building Elements along with the Plumbing Items and the Doc: Drainage layers	Doc: Drainage	01 Site or 04 Building Plans No Markers if more detail required

Model View Options

The **Model View Options** take over from where **Layers** stop. Layers are simple in that it can only turn an entire element **off** or **on**. But if the element is quite complex, like a **Door** which belongs to the Wall, Layer control is not sufficient. We may want to see the Door hole only, or turn off the Door leaf, or not see the Door Number.

These different parts of the Door are not on their own Layers (and cannot be made to do so) so we need another way of controlling them which is where **Model View Options** comes in. You can find these in **Document > Set Model View > Model View Options**

We have 11 Model View Options, each with different settings (and different purposes):

- **01 Site** – for Site Plans or larger scale drawings (1:200, 1:500)
- **02 Drafting** – designed for detail line work
- **03 Building Plans Markers** – for GA documentation with Door & Window markers ON
- **04 Building Plans No Markers** – as above but with Markers off
- **05 Ceiling Plans** – For Reflected Ceiling Plans
- **06 Room Layouts** – for mid scale detail Layouts i.e 1:25 Kitchen, Bathroom etc
- **07 3D Exterior** – for external 3D views (handles & taps set to off)
- **08 3D Interior** – for Internal 3D views (handles & taps set to on)
- **09 Sections** – for Sections
- **10 Elevations** – for Elevations
- **11 Electrical** - for creating Electrical Plans

A great way of thinking of Model View Options is changing the appearance of one element in different views. Some common elements that are controlled by Model View Options are:

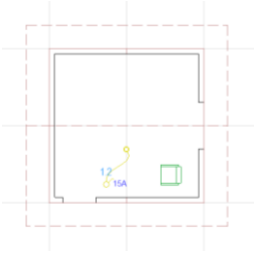
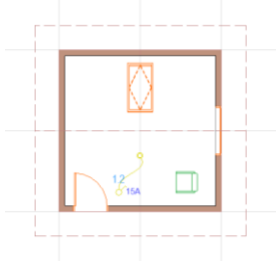
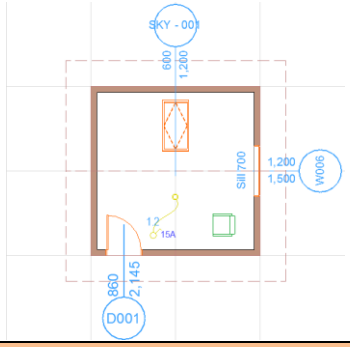
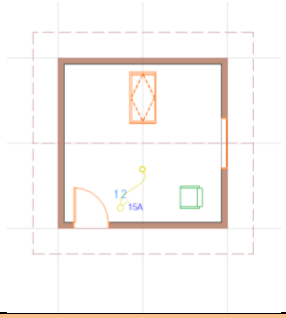
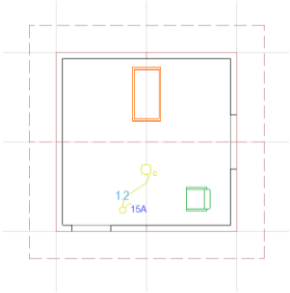
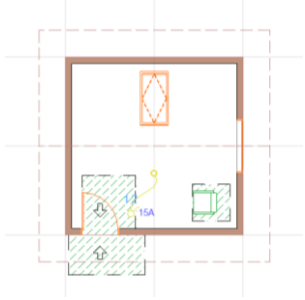
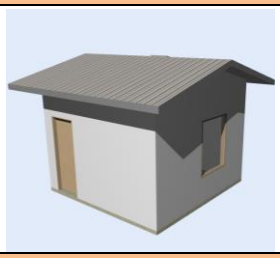
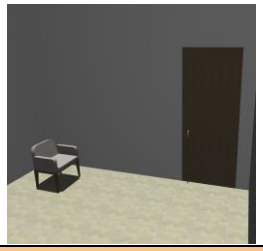
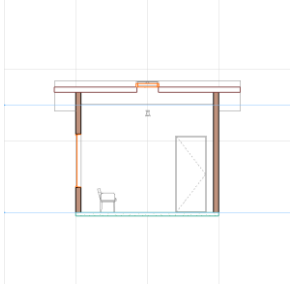
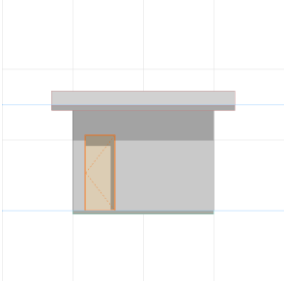
- Doors, Windows and Skylights
- Door & Window Markers
- Fill control/override
- Zone Stamps
- Handles and knobs in 3D
- Minimal Space around objects & joinery
- Stairs and Railings
- Electrical symbols
- Cabinetry

Each Model View Option has a large list of settings which we have set up and listed these in the table on the next page. These can be modified to your needs otherwise and good to use and you can simply choose which Model View Option you require by their name.

		01 Site	02 Drafting	03 Building Plans Markers	04 Building Plans No Markers	05 Ceiling Plans	06 Room Layouts	07 3D Exterior	08 3D Interior	09 Sections	10 Elevations	11 Electrical Plans
		Options for Construction Elements										
Show Beam	Entire Beam		x	x	x		x	x	x	x	x	x
	Reference Axis	x										
	Contour line					x						
Show Column		x	x	x	x		x	x	x	x	x	x
Show Curtain Wall	Full	x	x	x	x	x	x	x	x	x	x	x
Show Mark-Up Entires		x	x	x	x	x	x	x	x	x	x	x
Door Options	Show on Plan		x	x	x		x	x	x	x	x	x
	With Markers			x							x	
	Show Opening Only	x				x						
	With Contours					x						
Window Option	Show on Plan		x	x	x		x	x	x	x	x	x
	With Markers			x							x	
	Show Opening Only	x				x						
	With Contours					x						
Skylight Options	Show on Plan		x	x	x		x	x	x	x	x	x
	With Markers			x							x	
	Show Opening Only					x						
	Hide on Floor Plan	x										
		Override Fill Display										
Override Fill Background												
Override Cut Fills		x				x						
Override Drafting Fills												
Override Cover Fills						x						
Override Zone Fills		x	x	x		x						
	Hide Zone Stamp						x					
		Miscelleaneous settings for Library Parts										
Show Minimal Space		x					x					
Lamps & HVAC Symbols	Realistic	x	x	x	x		x	x	x	x	x	x
	Reflected Ceiling Plan					x						
Hide Furniture Knobs in 3D						x		x			x	
Hide Taps in 3D						x		x			x	
Hide Door Handles in 3D						x		x			x	
Show Opening Lines on	Doors	x	x	x	x		x		x	x	x	x
	Window	x	x	x	x		x	x	x	x	x	x
	Skylights	x	x	x	x		x	x	x	x	x	x

Model View Options Appearance

The following is the same Room showing the same Layers with the first 10 MVO applied:

01 Site	02 Drafting
	
03 Building Plans Markers	**04 Building Plans No Markers**
	
05 Celiing Plans	**06 Room Layouts**
	
07 3D Exterior	**08 3D Interior**
	
09 Sections	**10 Elevations**
	

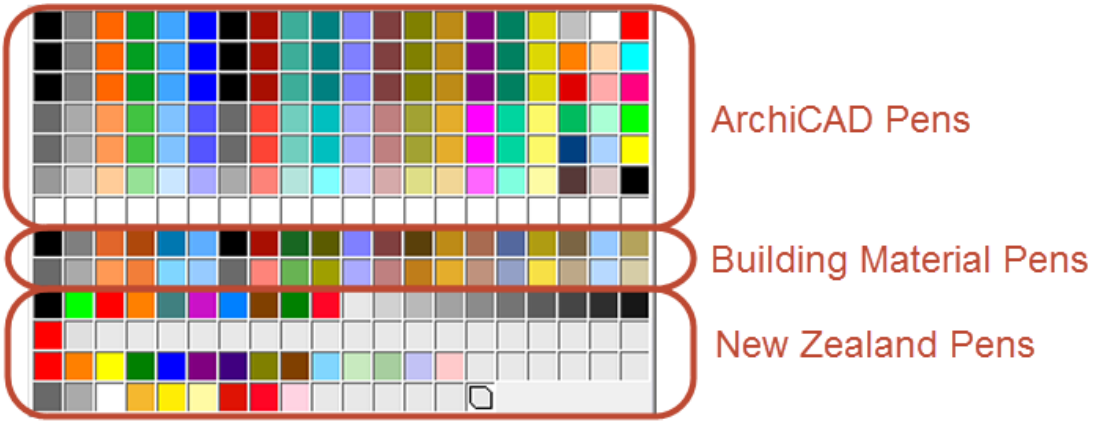
Pens

All Pen Sets are based on the ArchiCAD International Standard and are divided into 3 main sections; the **Tool** pens (1-140), the **Building Material** Pens (141-180) and the New Zealand Pens (181-194) which are to aid with drafting & accommodate traditional workflows.

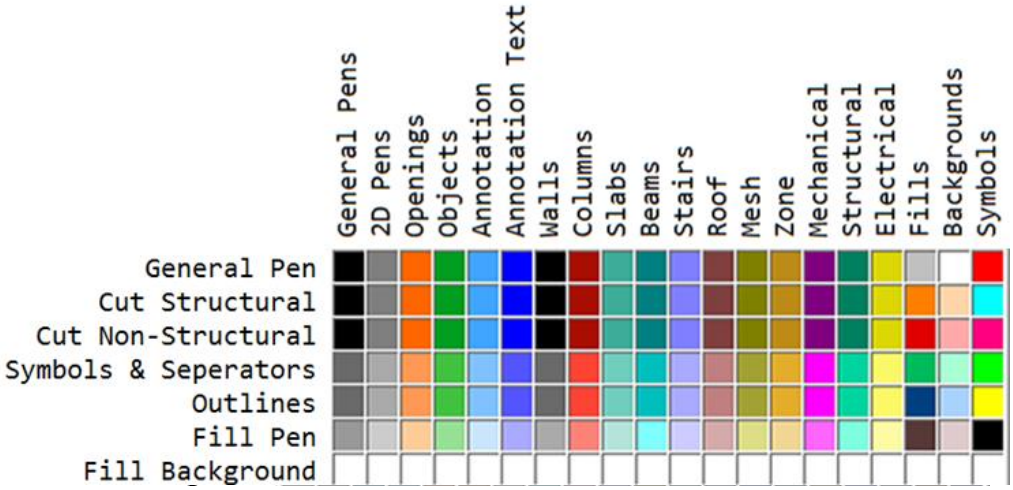
Generally we have edited pen weights to be consistent with ISO pen weights which goes as follows 0.13mm, 0.18, 2.5, 3.5, 5.0, 7.0 & 10.0. All Pens have been based on 1:50, then amended as in table below.

1:10	1:50	1:100	1:200
0.18	0.13	0.1	0.1
0.25	0.18	0.13	0.1
0.35	0.25	0.18	0.13
0.5	0.35	0.25	0.18
0.7	0.5	0.35	0.25
1	0.7	0.5	0.35
2	1	0.7	0.5

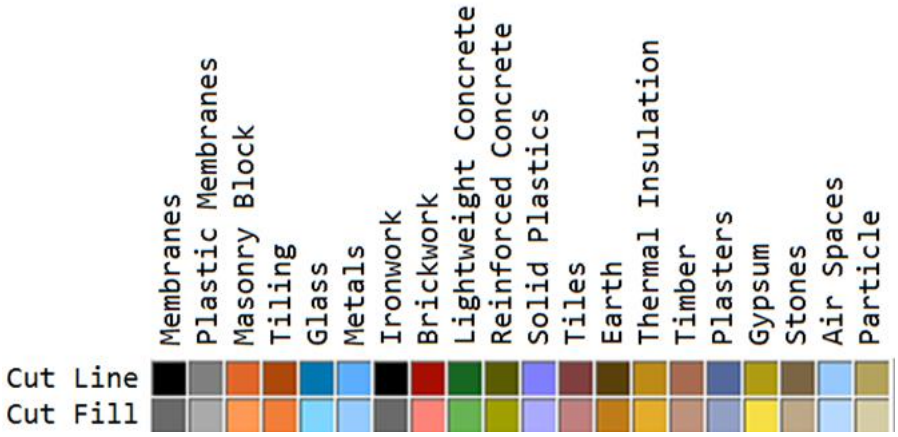
The Pen set is organised into 3 main sections:



The first 180 pens are standard ArchiCAD pens specific to the Tools, each column is a tool and each row is for a certain function. Combined they result is a very structured format which is best explained in the diagram below. Generally the first 180 pens are set correct for the scale of the output.



Then we have the new **40 Building Material Pens** in two horizontal rows; the top row being the **outline** & the bottom row being the **fill** pen.



Then we have 4 rows of **NZE Specific Pens**:

10 **Drafting pens** – colour & description describes pen weights no matter what scale you print from 0.001 to 3.0mm.

10 **Grey Scale pens** – different shades of grey (5%-90%) that are grey in the Printing Pensets also and all set to a thickness of 0.1mm.

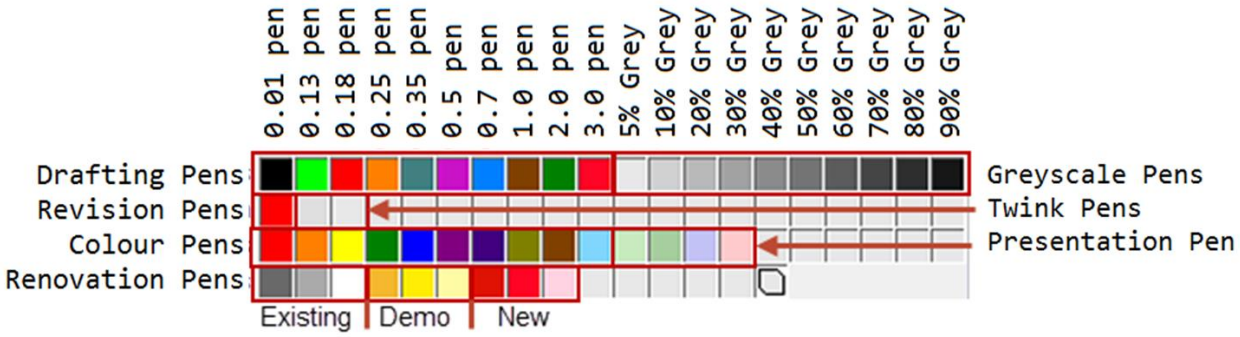
1 **Revisions pen** - for adding Revision Clouds using Change Tool and markups which stays Red in the printing pen sets also.

2 '**Twink' pens** - one thin (0.25mm) and one thick (1.0mm), designed to use when you want to remove a rouge line that you cannot resolve in the model.

10 **Colour pens** – these are set to dark shades of colour and are the only pens that retain their colour in the Printing Pensets & all set to 0.1mm.

4 **Colour pens** – these 4 pens are a continuation on the Colour Pen set and commonly created by customers for light shading in Plan & Elevation.

9 **Renovation Pens** - 3 for each Renovation status – Existing, Demolition and New. These 3 pens are the Line override, Fill Pen override and Fill Background Pen override.



As an additional help we have included a full table of all the pens in the 4 pen sets as a large table in the Appendix which you can use as a reference.

Default Pens

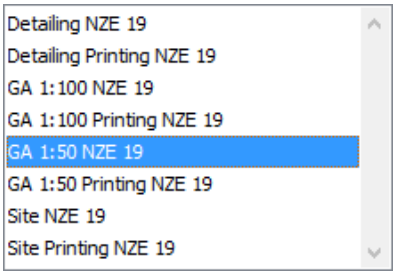
As a helpful guide, we have included a list of the most commonly used default Pens in the NZE Template and their Pen-weights at 1:100, for example.

Pen No.	Pen Name	GA 1:50	Use
1	General - General	0.13	Drawing Marker Pen
2	2D Elements - General	0.18	Section uncut pen
3	Openings - General	0.18	Door and Window Elevation Pen
4	Objects - General	0.18	Object Plan Pen
5	Annotation - General	0.25	Window Marker Text Pen
6	Annotation Text - general	0.35	Marker text pen
11	Stairs - General	0.18	Stairs Plan Pen
18	Fills - color 1	0.25	Light Grey Fill Pen
19	Backgrounds - color 1	0.18	White Background Pen
20	Symbols General	0.25	Change Tool Revision Clouds
25	Annotation - Markers	0.5	Markers Plan Pen
27	Walls - Cut Structural	0.35	Wall Section Pen
28	Columns - Cut Structural	0.5	Column Plan outline
36	Structural - Cut Construction	0.5	Detai Elements Outline
43	Openings- Cut Non-Structural	0.35	Door and Window Plan Pen
45	Annotation - Arrowheads	0.35	Label Arrowhead Pen
46	Annotation text - bold	0.35	Label Tool Text
53	Mesh - Cut Non-Structural	0.35	Mesh outline
66	Annotation Text - normal	0.18	Dimension Text
72	Roof - Symbols and Separators	0.18	Roof Plan Pen
75	Mechanical - Plumbing	0.18	Sanitary Plan Pen
77	Electrical - General Lighting	0.18	Lamp Tool Plan Pen
85	Annotation - Dimlines	0.18	Dimension and Label lines
86	Annotation text - notes	0.18	Text Tool Pen
87	Walls - Outlines	0.18	Wall Elevation Pen
89	Slabs - Outlines and Cover Fills	0.18	Slab Plan Outline
90	Beams - Outlines	0.18	Beam Plan Outline
91	Stairs - Outlines	0.18	Stairs Plan pen above breakline
93	Mesh - Outlines and Cover Fills	0.18	Mesh Cover Fill Pen
116	Structural - Hatching	0.13	Detail Elements sub-lines
155	Timber - Cut Lines	0.35	Timber Wall Outline
173	Earth - Cut Fills	0.13	Mesh Section Fill
175	Timber - Cut Fills	0.13	Timber Wall Fill Pen
222	ChowHill Orange	0.13	Used in Title Blocks
245	Reno Demo - Cut Fills	0.35	Demolition Fill Pen

All of these Pens have been named appropriately in the Pen Set. If you hover over a Pen while in the Pen table you will see the name and weight of the pen listed at the top of the Pen Set:

Pen Sets

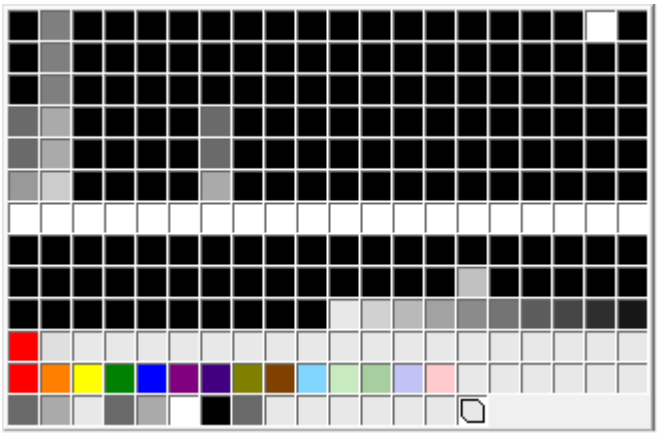
There are **8 Pen Sets** in the NZE pen sets, which are broken down to **4 Pen Sets** based on scale. Each Pen set has a **GA** set and a **Printing** set which is described below.



- **Detailing NZE 19** - designed for **Detail** work at **1:1** to **1:10**.
- **GA 1:100 NZE 19** - designed for G.A. Drawings, **Floor Plans**, **Sections** etc at **1:100**.
- **GA 1:50 NZE 19** - designed for G.A. at **1:50** and maybe **1:25 Room Layouts**.
- **Site NZE 19** - designed for G.A. **Site Plan** drawings at **1:200** – **1:500**.

The Pen sets have been labelled as **GA** (General Annotation) or **Printing**. The GA Printing Pen sets uses colours specific to each tool (EG: All windows are Orange & Furniture is Green) so that it's clear to read on screen. These are described in detail above.

The **Printing Pen Set** turns all these colours to **Black & White** mainly for outputting of documents, except the **Revisions pen** and **Colour pens row**.



Pen Sets in the View Map

The **Views** saved in the **View Map** use the relevant **Pen Set**; so a **1:50 Floor Plan** has its scale set to **1:50** and uses the **GA 1:50 NZE 19 Pen Set**. When this **View** is placed onto a **Layout**, the placed **Drawing** of this **View** on the **Layout** uses the **GA 1:50 Printing NZE 19 Pen Set**. Below is a list of some examples of **Views** and the Pen Set used:

Ground Floor Sketch	= GA 1:50 NZE 19 (assuming you want 1:50 floor plans)
Site Plan	= Site NZE 19
Site Bulk & Location	= Site NZE 19
Site Landscaping	= Site NZE 19
Ground Floor Interior	= Detailing NZE 19 (we assume this is for large scale plans)
All remaining Floor Plans	= GA 1:50 NZE 19 (assuming you want 1:50 floor plans)
Elevations	= GA 1:100 NZE 19 (assuming you want 1:100 elevations)

Building Materials

Building Materials were introduced in ArchiCAD 17 and are integral to the workflow of ArchiCAD. This **Attribute** contains all the information necessary for defining a physical Building Material and how it should appear in all Views and interact with other Building Materials and in Energy Evaluation;

- **Fill Type**
- **Pen Colour**
- **Fill Orientation**
- **Surface Material**
- **Intersection Priority**
- **Tags and Categories**
- **Physical Properties**

There are 73 Building Materials in total organised into 20 Building Material groups in the Pen Set tables; these **Pens** have been listed below with their intended use:

Building Material Pens Descriptions

These **Building Materials** are used by the **Wall, Column, Beam, Slab, Roof, Shell, Morph** and **Mesh** Tools. Although some of these Tools use the standard ArchiCAD Pens so that they can define different Pen Weights for the Plan, Section & Elevation appearance of these Tools.

However, **Composites** use **Building Materials** entirely and therefore, use these Pens more frequently in all **Views**. The outline Pen Weights (141-160) are set up for each Building Material depending on its density while all the Fill pens (161-180) are set to 0.13mm at 1:50.

No.	Description	NZ Use Description
141/161	Membranes - Cut Lines/Cut Fills	Tanking, Roofing Membranes
142/162	Plastic membranes - Cut Lines	DPC, DPM
143/163	Masonry blocks - Cut Lines	Block-work (Aerated and Masonry)
144/164	Tiling - Floor & Wall - Cut Lines	Wall, Floor Tiling
145/165	Glass - Cut Lines	Glass
146/166	Metals - Cut Lines	Other Steel and Lighter Steel
147/167	Ironwork - Cut Lines	Structural Steel
148/168	Brickwork - Cut Lines	Brickwork
149/169	Lightweight Concrete - Cut Lines	Topping Slabs
150/170	Reinforced concrete - Cut Lines	Structural Main Concrete
151/171	Solid plastics - Cut Lines	Hard Insulation
152/172	Tiles - Roof - Cut Lines	Concrete Roof Tiles (Slates, Shingles)
153/173	Earth - Cut Lines	Dirt
154/174	Thermal Insulation - Cut Lines	Batt insulation (soft Insulation)
155/175	Timber - Cut Lines	Timber, Framing and Structural
156/176	Plasters - Cut Lines	Exterior Rendering, Solid Plasters
157/177	Gypsum - Cut Lines	Plasterboard
158/178	Stones - Cut Lines	Stones
159/179	Air Space - Cut Lines	Air Cavity
160/180	Particle - Cut Lines	Sheet board i.e. Ply, Particle board

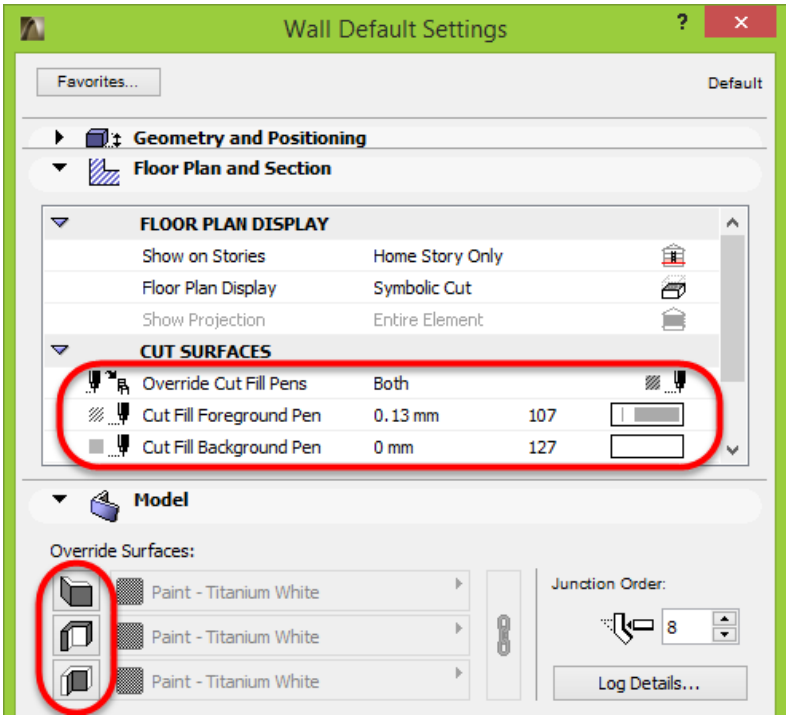
Building Materials

Below is a table of all the **Building Material Pens** in the **NZE Template**. The only item to be aware of is the Buildings Material Priority – this defines its role within **Priority Based Connections**.

No.	Building Material	Fill	Surface	Priority
1	Brick	Common Brick	Brick-Red	540
2	Brick - Structural	Common Brick	Brick-Common Bond	720
3	Brick - Finish	Common Brick	Brick-Brown	640
4	Masonry Block - Structural	Masonry Block	Brick - White Natural	730
5	Masonry Block - Filler	Masonry Block	Brick - White Natural	520
6	Concrete	Lightweight Concrete	Concrete 02	890
7	Concrete - Structural	Lightweight Concrete	Concrete 02	905
8	Concrete Block - Structural	Concrete Block	Concrete 04	750
9	Concrete Block - Filler	Concrete Block	Concrete 04	530
10	Reinforced Concrete - Structural	Structural Concrete	Concrete 04	920
11	Reinforced Concrete - Prefab	Structural Concrete	Concrete 04	920
12	Insulation - Glass Wool	Insulation 01	Oaint - Pink Blush	710
13	Insulation - Fiber	Batt Insulation	Insulation - Fibreglass	410
14	Insulation - Mineral Hard	Insulation 02	Insulation - Cellulose	440
15	Insulation - Mineral Soft	Insulation 02	Insulation - Cellulose	430
16	Insulation - Plastic Hard	Rigid Insulation	Paint - Royal Blue	550
17	Insulation - Plastic Soft	Rigid Insulation	Stucco - White Fine	450
18	Insulation - Thermal Brake	Concrete 01	Insulation - Cellulose	820
19	Fire Proofing	Fire Proofing	Stucco - White Fine	610
20	Membrane - Vapor Barrier	Waterproofing	Paint - Ivory Black	530
21	Membrane - Waterproof	Waterproofing	Paving-Asphalt Dark	906
22	Membrane - Rainproof	Waterproofing	Paint - Dark Gray	470
23	Timber - Roof	Background Fill	Paint Titanium White	800
24	Timber - Floor	Background Fill	Paint Titanium White	705
25	Plywood	Plywood	Wood - Mahogany Vertical	815
26	Fiberboard	Plywood	Wood-Pine Grained Horizontal	340
27	Tile - Roof	Roof Tile	Roof Tiles - French Red	840
28	Tile - Floor	Foreground Fill	Tile - Light Brown 150x150	230
29	Plaster - Lime Sand	Plaster	Stucco - Yellow Rough	620
30	Plaster - Gypsum	Plaster	Stucco - White Fine	210
31	Gypsum Plasterboard	Gypsum	Stucco - White Fine	320
32	Gypsum Plasterboard - Waterproof	Gypsum	Stucco - White Fine	330
33	Aluminium	Foreground Fill	Metal-Aluminium	940
34	Iron	Air Space	Metal - Iron	930
35	Steel	Steel	Metal - Steel	950
36	Steel - Structural	Steel	Metal - Iron	960
37	Steel - Stainless	Steel	Metal - Stainless Steel	970
38	Titanium Zinc	Air Space	Metal - Zinc	800
39	Stone - Structural	Cut Stone	Stonework - 13	710
40	Stone - Finish	Cut Stone	Sonte - Marble Carrara White	630
41	Plastic - Solid	Foreground Fill	Plastic - Laminate	240

42	Air Space	Air Space	Air	560
43	Air Space - Frame	Air Space	Air	310
44	Gravel	Gravel	Stonework - 13	130
45	Glass	25%	Glass - Clear Fast	550
46	Soil	Earth	Eart - Brown	110
47	Water	Background Fill	Water - Pond	110
48	Sand	Cut Stone	Eart - Brown	120
49	Timber - Structural	Wood	Wood - Pine Grained Horizontal	725
50	GENERIC - INTERNAL CLADDING	25%	Paint - Titanium White	200
51	GENERIC - EXTERNAL CLADDING	25%	Stucco - Yellow Rough	600
52	GENERIC - EXTERNAL FILLER	50%	Concrete 04	500
53	GENERIC - EXTENDED MEMBRANE	50%	Stucco - Red Rough	800
54	GENERIC - PREFABRICATED	25%	Concrete 04	900
56	GENERIC - ENVIRONMENT	25%	Eart - Brown	100
57	GENERIC - INTERNAL FILLER	25%	Paint - Titanium White	300
58	GENERIC - INSULATION	25%	Insulation - Solid Brown	400
59	GENERIC - STRUCTURAL	50%	Concrete 04	700
60	Tile - Wall	25%	Tile - White Matte 150x150	250
61	Timber - Wall	Foreground Fill	Paint Titanium White	700
62	Insulation - Plastic Hard Foundation	Rigid Insulation	Paint - Royal Blue	905
63	Timber - Foundation	Background Fill	Wood - Pine Grained Horizontal	906
64	Timber - Batten	Background Fill	Paint Titanium White	695
67	Floor - Carpet	Background Fill	Carpet 01	230
68	Solid Operator	Air Space	Glass - Clear Fast	999

You can change the **Outline**, **Fill** or **Surface** used by any of the primary Building Element Tools within their settings under **Floor Plan and Section** and **Model** settings without having to create a new Building Material:



Composites

There are 70 **composites** made for the **NZE Template**, all of which have been made specific to New Zealand construction. These are organised with several prefixes and some terms have been shortened so they fit in the small box in the Info Bar like so:

There is a list of 5 **Prefixes** which explain the purpose of the **Composite** organised like so:

- **Ceiling**– For Ceilings and lining underneath a mid-floor. Used by Roof & Slab tool
- **EXT** - Stands for EXTERIOR, for use with Wall tool to differentiate Exterior Walls
- **Floor** - All Types of Floor Construction and for use only by the Slab tool
- **INT** - Stands for INTERIOR, for use with Wall tool only to differentiate Interior Walls
- **Roof** - For Roof Structures and able to be used by Roof and Shell tool

There are other **suffixes** to each composite which describe its setout. To help understand these we have listed them below:

- **Insul** - Stands for **Insulation** – uses relevant insulation for construction (wool/rigid)
- **B/L** - Stands for **Battens + Lining**; this is used in Floor & Roof composites
- **Stud** - Stud means non solid **Timber Wall Framing**, used for Walls
- **Pb** - Stands for **Plasterboard**, the finishing layer to Ceilings and Walls
- **Ply** - Stands for a Plywood finish to the Floor composites

With all that in mind here is the full list of **Composites** available in the NZE V19 Template:

Composite	Use	Thickness
Ceiling: 140 Insul + B/L	Slabs/Roofs	185
Ceiling: 35mm Battens + Pb	Slabs/Roofs	45
EXT: Block - 10 Series	Walls	90
EXT: Block - 15 Series	Walls	140
EXT: Block - 20 Series	Walls	190
EXT: Conc Block 20 Series	Walls	190
EXT: Conc Block 25 Series	Walls	240
EXT: Concrete 100	Walls	100
EXT: Concrete 120	Walls	120
EXT: Concrete 150	Walls	150
EXT: Concrete 200	Walls	200
EXT: Hot Block 15 Series	Walls	140
EXT: Hot Block 20 Series	Walls	190
EXT: Hot Block 25 Series	Walls	240
EXT: Precast-150	Walls	150
EXT: Stud 140	Walls	140
EXT: Stud 140 Insul	Walls	140
EXT: Stud 140 Insul Pb	Walls	150
EXT: Stud 140 Pb	Walls	150
EXT: Stud 140 Thermal Pb	Walls	150
EXT: Stud 90	Walls	90
EXT: Stud 90 Insul	Walls	90
EXT: Stud 90 Insul Pb	Walls	100

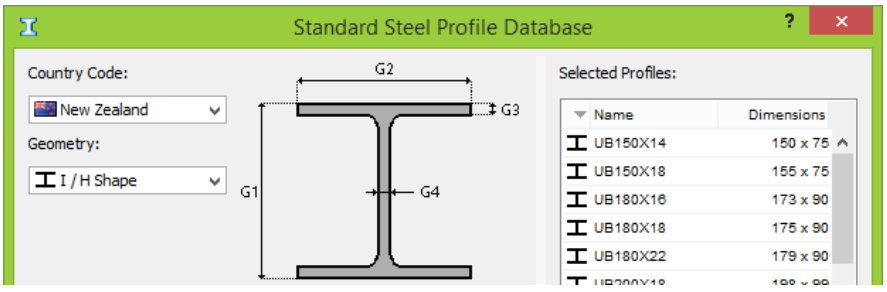
Composite	Use	Thickness
EXT: Stud 90 Pb	Walls	100
Floor: 20mm Ply	Slabs	20
Floor: 20mm Ply Insul	Slabs	60
Floor: 40mm Insul	Slabs	40
Floor: Concrete 100	Slabs	100
Floor: Concrete 100+40mm	Slabs	343
Floor: Concrete 120	Slabs	120
Floor: Concrete Pod	Slabs	358
Floor: Joists 140+20mm Ply	Slabs	160
Floor: Joists 140+20mm Ply B/L	Slabs	205
Floor: Joists 140+20mm Ply	Slabs	160
Floor: Joists 140+20mm Ply	Slabs	205
Floor: Joists 190+20mm Ply	Slabs	210
Floor: Joists 190+20mm Ply B/L	Slabs	255
Floor: Joists 190+20mm Ply	Slabs	210
Floor: Joists 190+20mm Ply	Slabs	255
Floor: Joists 240+20mm Ply	Slabs	260
Floor: Joists 240+20mm Ply B/L	Slabs	305
Floor: Joists 240+20mm Ply	Slabs	260
Floor: Joists 240+20mm Ply	Slabs	305
Floor: Topping 100	Slabs	100
Floor: Topping 70	Slabs	70
INT: Block - 10 Series	Walls	90
INT: Block - 15 Series	Walls	140
INT: Block - 20 Series	Walls	190
INT: Conc Block 20 Series	Walls	190
INT: Conc Block 25 Series	Walls	240
INT: Concrete 100	Walls	100
INT: Concrete 120	Walls	120
INT: Concrete 150	Walls	150
INT: Concrete 200	Walls	200
INT: Stud 140	Walls	140
INT: Stud 140 Insul	Walls	140
INT: Stud 140 Insul Pb	Walls	160
INT: Stud 140 Pb	Walls	160
INT: Stud 70	Walls	70
INT: Stud 70 Insul	Walls	70
INT: Stud 70 Insul Pb	Walls	90
INT: Stud 70 Pb	Walls	90
INT: Stud 90	Walls	90
INT: Stud 90 Insul	Walls	90
INT: Stud 90 Insul Pb	Walls	110
INT: Stud 90 Pb	Walls	110
Roof 140 No Covering	Roof/Shell	190
Roof 90 truss only	Roof/Shell	90
Roof 90 truss/battens/bp	Roof/Shell	140
Roof: 90 Insul	Roof/Shell	90

Complex Profiles

We have included a large list of **Complex Profiles** with the **NZE Template** to give you a good starting point on modelling. This list could easily be expanded as the power of **Complex Profiles** is immense. We use it for **pod foundations**, **structural members**, **timber beams** etc.

Complex Profiles	Use
Brick Wall	Walls
Belt Ledge	Walls
Precast Double T	Beams
Precast Beam T	Beams
Precast Inverse Tee	Walls + Beams
Precast Beam I 02	Beams
Precast Beam I 01	Beams
Z Beam	Beams + Columns
C Section - Lipped	Beams + Columns
C Section - Plain	Beams + Columns
Z Section Column	Columns
Equal Angles	Beams + Columns
Joist	Beams + Columns
RHS Cold Closed	Beams + Columns
T Steel	Beams + Columns
Universal Column	Columns
Window Ledge	Walls
Crown Cornice	Walls
Brick Wall w Footing	Walls
Joist Stretchy	Beams
Slab Edge Thickening	Beams
Slab Foundation	Beams
Slab Thickening	Beams
Slab Foundation Footing	Beams
Beam Stretchy	Beams
Slab Pod Edge	Beams
Slab Pod 300 rib	Beams
Slab Pod 100 rib	Beams
Slab Foundation Thermal 01	Beams
Slab Foundation Thermal 02	Beams
Slab Foundation Thermal 03	Beams

There is a large list of **Standard Steel Sizes** available within ArchiCAD 18 that you can import as Complex Profiles from **Options>Import Standard Steel Sizes…**



Surfaces

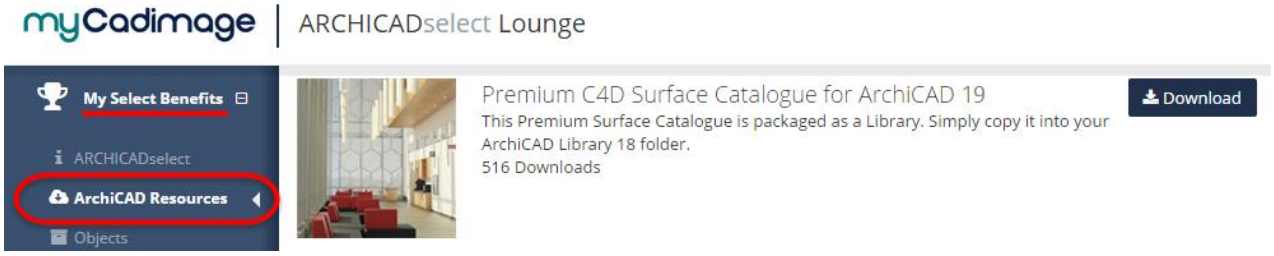
Surfaces were remade in V18 to work with the **CineRender** engine into ArchiCAD 19. There are the standard 130+ surfaces included in the standard NZE Template to choose from. They have been slightly renamed and been remade to perform better in Rendering.

GENERAL
Bark - Deciduous
Brick - Aged Natural
Brick - Brown
Brick - Common Bond
Brick - Flemish Bond
Brick - Red
Brick - Red HerringBone
Brick - Running Bond
Brick - Soldier Bond
Brick - Stack Bond
Brick - Surface Colour
Brick - White Natural
Carpet - 01
Carpet - 02
Carpet - 03
Ceiling - Tile-300x300
Ceiling - Tile-600x1200
Ceramic - Porcelain
Concrete - 02
Concrete - 04
Earth - Brown
Floorboards - 01
Floorboards - 03
Foliage - Leaves Tree Small
Foliage - Wild grapes
Glass - Blue
Glass - Clear Fast
Glass - Lamp
Glass - Mirror
Grass - Brown
Metal - Fence Chainlink
Metal - Gold
Metal - Iron
Metal - Nickel
Metal - Perforated Small Dots
Metal - Stainless Steel
Metal - Zinc
Paint - Alizarin Carmine
Paint - Anthracite
Paint - Bordeaux
Paint - Cadmium Orange
Paint - Cadmium Yellow
Paint - Celadon
Paint - Cobalt Blue
Paint - Dark Gray
Paint - Forest Green
Paint - Glossy White
Paint - Golden Beige
Paint - Golden Ochre
Paint - Ivory Black
Paint - Lead Oxide Yellow
Paint - Light Gray
Paint - Pale Blue
Paint - Pale Jade
Paint - Peach
Paint - Pink Blush
Paint - Royal Blue
Paint - Sand Beige
Paint - Sienna Sand
Paint - Titanium White
Paint - Ultramarine Violet
Roof Tiles - Asphalt Shingle Gray
Roof Tiles - Asphalt Shingle Green
Roof Tiles - Cedar Shingle Light
Roof Tiles - Dutch
Roof Tiles - French Brown
Roof Tiles - French Red
Roof Tiles - Spanish
Siding - Dark
Siding - Light
Siding - Medium
Stone - Granite Gray
Stone - Granite Red
Stone - Limestone Fine
Stone - Marble Black
Stone - Marble Carrara White
Stone - Marble Pink
Stone - Sandstone 01
Stonework - 02
Stonework - 12
Stonework - 13
Stucco - Beige Rough
Stucco - Red Rough
Stucco - White Fine
Stucco - White Rough
Stucco - Yellow Rough
Textile - 01
Textile - 02
Tiles - Light Brown 150x150
Tiles - Mosaic Blue
Tiles - Tan 250x250
Tiles - Tan 300x300

Surface Catalogs

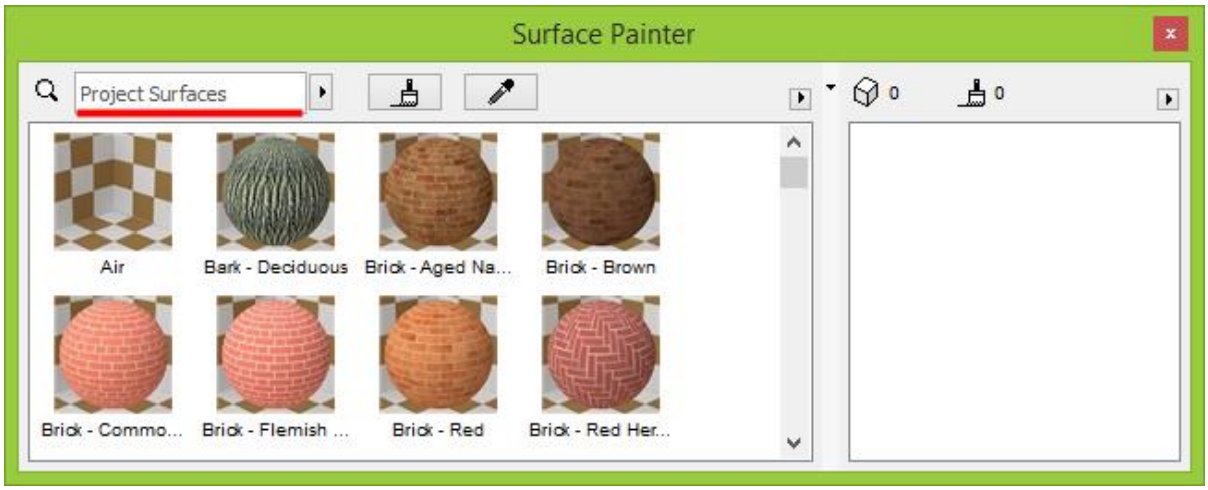
The additional **Surface Catalogue** has been expanded for ArchiCAD 19 with now over **500** surfaces included with your ArchiCAD 19 disc that can be accessed by adding individual surfaces to your file from the catalog.

There is an **additional Catalog of surfaces** available exclusively to **ARCHICADselect** members, this will be made available on the **myCadimage** site at **My Select Benefits>ArchiCAD Resources**:



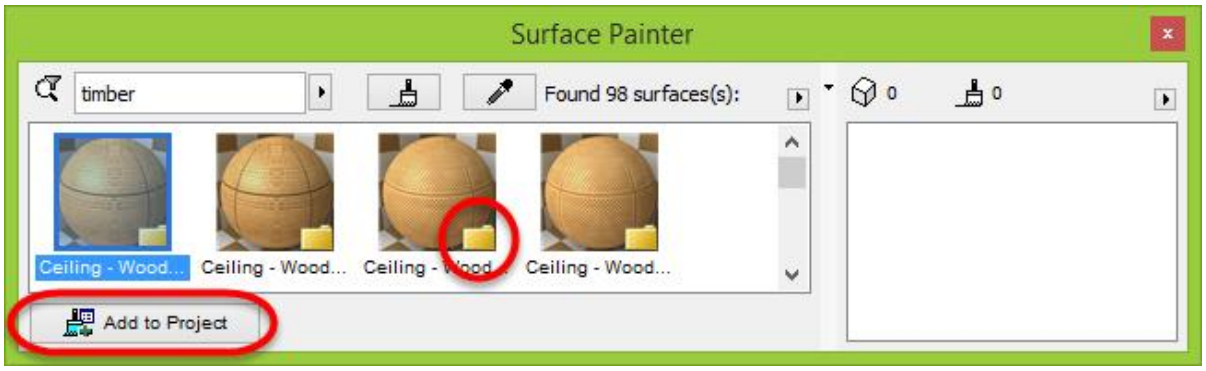
Surface Painter

Surfaces in ArchiCAD 19 got expanded and a lot easier to use with the introduction of the new **Surface Painter Palette**. You can access this from **Window>Palettes>Surface Painter**. You must be in the **3D window** to turn the palette on as it can only apply Surfaces in 3D.

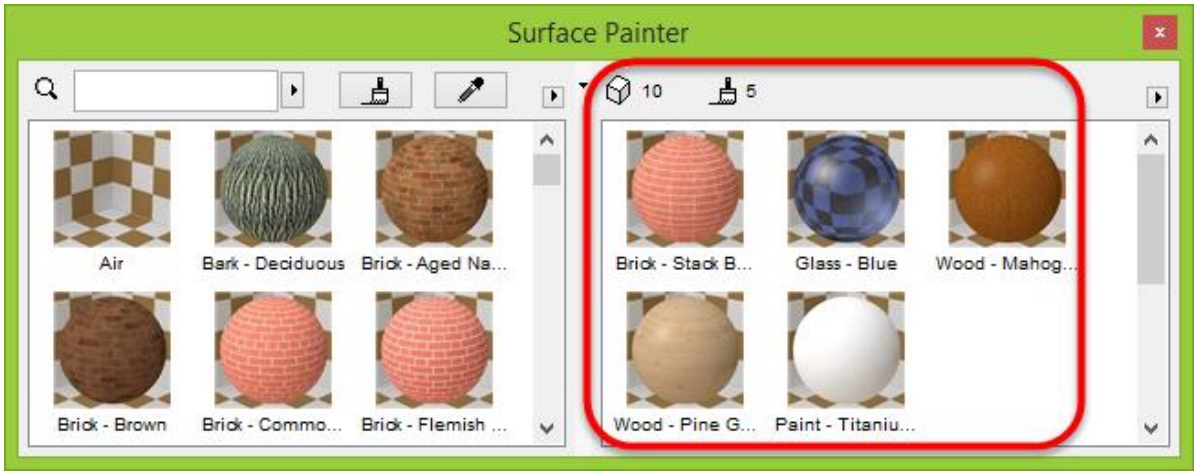


For this version of the NZE Template Guide we will describe how to use this new Palette.

The **LEFT** hand side of the Surface Palette is the Surfaces that are part of your template, this is the 130+ surfaces that are integral to the NZE Template. You can search through these using the '**Project Surfaces**' search panel highlighted above. This will also search your **Surface Catalogs** and **BIM Components**, you will first need to '**Add to Project**' before applying the Surface in 3D:



The **RIGHT** hand side of the Surface Palette shows the Surfaces used by your current selection:

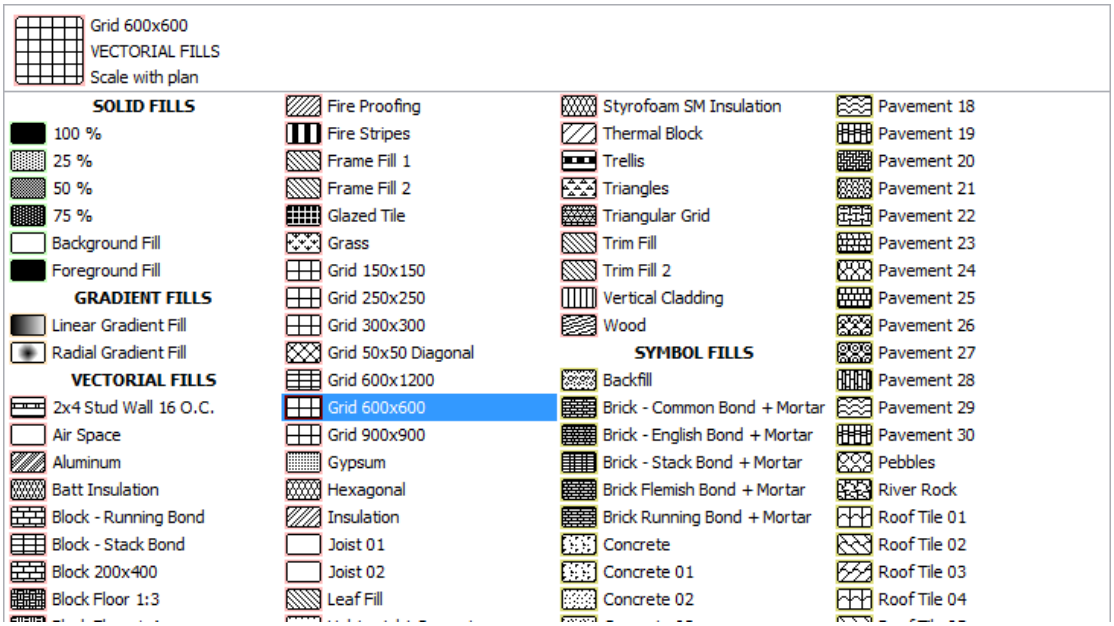


From there you just click the Surface you want on the left and either click the face/element you want to override, or click the selected element surface on the RHS to override all of those surfaces.

Fills

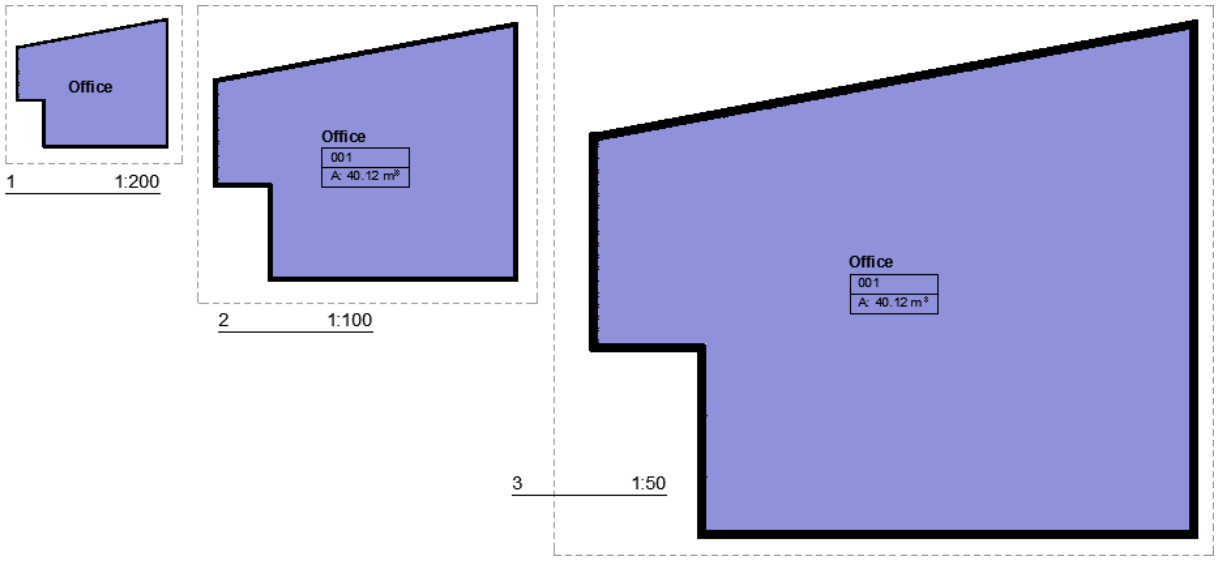
The NZE Template has over 170 Fills pre-loaded. The Fills are broken into 5 groups

- **Solid Fills** (including % Fills)
- **Gradient Fills** – choose 2 colour fills
- **Vectorial Fills** – use these for larger fill areas
- **Symbol Fills** – generally these fills are very complex, so it is best if possible to use in small areas; use for detail fills, cut wood, steel etc. When using on driveways, roofs etc, expect ArchiCAD to slow slightly and for your PDF's to be larger file sizes.
- **Image Fills** – these are the same as Surfaces but can be used in 2D i.e. for indicating tiles, carpet, grass, riverstones, etc. in Plan Views.



Zone Categories

All Zones use **Zone_Stamp_2 19**, this is to utilize the Scale sensitive features, where different information is shown at different Scales.

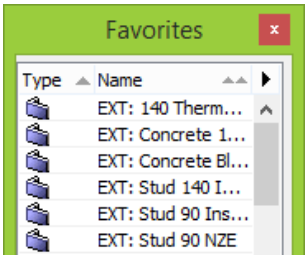


Favorites

Favorites give you the ability to save a preset set of settings for any Tool, they can greatly improve your workflow by eliminating the time you spend to set up standard text or joinery and also have the benifet of standardizing how certain parts of your documentation looks because of their consistency. We have set up the **NZE Template** to include a large range of Favorites to get you started in using the most efficient workflow while designing. They're easy to access at any point & save you time setting up so you should become comfortable using them very quickly.

There are 2 main ways to access **Favorites**:

1. They will always appear at the top left of any settings dialog:
2. Opening the '**Favorites' palette** at **Window > Palettes > Favorites**



In the example above you can see a list of the default NZ Favorites for the **Wall tool** for Exterior or Interior timber framed or concrete walls. To use one you just double click and it will set up the **Composite**, **Size**, **Layer**, **Surface** etc and you can just start designing.

We have done this for every tool, and the **Defaults** listed earlier in the document for each of the tools has all been saved as **Favorite** so you can easily go back to the default settings if you set something wrong along the way.

A table of all the Favorites included in the ArchiCAD 19 NZE Template can be found in the **Appendix** and we have highlighted those Favorites in **bold** that are the default for each tool.

Schedules

We have included several **Schedules** in the ArchiCAD 19 NZE Template which may assist in Quantity take-off of your BIM model. These **Interactive Schedules** are standard functionality of ArchiCAD and are able to extract a great deal of information from the BIM model. The schedules we have built for you are:

- All Openings Schedule
- Electrical Legend
- Electrical Schedule
- Object Inventory
- Wall List

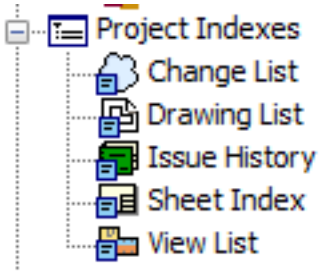
While the **Cadimage Door & Window** schedule is able to give a visual schedule of your joinery, **ArchiCAD's Interactive schedule** is a 'live' view of your model in a scheduled cell format. Ie: If you change the width of the door in a schedule it will change the model.

A new type of schedule was introduced for ArchiCAD 19; the Surface Schedule. This allows us to get the areas of our building elements taking into condition elements that may be covering it.

Project Indexes

Project Indexes are extremely beneficial to your documentation workflow. They can automatically produce **Sheet Indexes Document Transmittals** showing the **Revisions** of each layout.

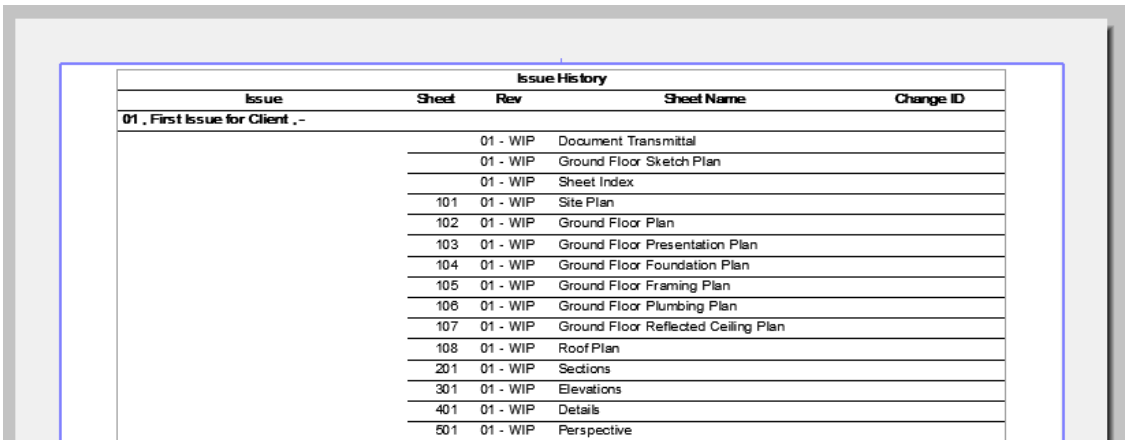
There are 5 Project Indexes included with the NZE Template:



The **Change List** appears much like the **Change Manager** palette as part of the Revisions functionality while the **Issue History** Project Index behaves much like a **Document Transmittal** remember all **Issues** of documents through the life of the project.

We have automatically placed the **Sheet Index** onto an A4 sheet at the top of the Layout Book. The **Issue History** is placed on separate A4 sheet in the Layout Book.

For that reason there is an A4 **Layout** with the **Issue History Project Index** now in the **Layout Book**:



Issue History

Issue	Sheet	Rev	Sheet Name	Change ID
01 , First Issue for Client , -				
		01 - WIP	Document Transmittal	
		01 - WIP	Ground Floor Sketch Plan	
		01 - WIP	Sheet Index	
	101	01 - WIP	Site Plan	
	102	01 - WIP	Ground Floor Plan	
	103	01 - WIP	Ground Floor Presentation Plan	
	104	01 - WIP	Ground Floor Foundation Plan	
	105	01 - WIP	Ground Floor Framing Plan	
	106	01 - WIP	Ground Floor Plumbing Plan	
	107	01 - WIP	Ground Floor Reflected Ceiling Plan	
	108	01 - WIP	Roof Plan	
	201	01 - WIP	Sections	
	301	01 - WIP	Elevations	
	401	01 - WIP	Details	
	501	01 - WIP	Perspective	

The Sheet Index is described on page 15 while the Issue History index lists only the **Layouts** that you add to each **Issue**.

The Drawing List and View List are great resources to see an overview of your project and how everything is set up:

View list

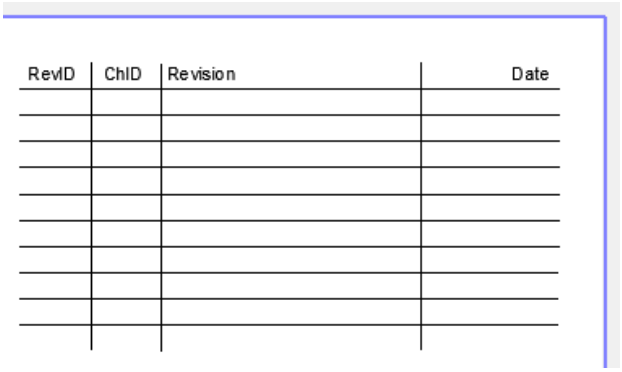
View Name	Layer Combination	Scale	Structure Display	Pen Set	Model View Optionson	Renovation Filter	Dimension
Sheet Index	---	---	---	Missing (GA 1:50...	---	00 NOT IN USE	---
Issue History	---	---	---	Missing (GA 1:50...	---	00 NOT IN USE	---
Electrical Schedule	---	1:50	Entire Model	Missing (GA 1:50...	---	00 NOT IN USE	---
Electrical Legend	---	1:50	Entire Model	Missing (GA 1:50...	---	00 NOT IN USE	---
Title	ALL	1:1	Entire Model	Missing (Detailin...	02 Drafting	00 NOT IN USE	Std NZE
Ground Floor SKETCH	ALL	1:50	Entire Model	Missing (GA 1:50...	04 Building Plans No Markers	00 NOT IN USE	Std NZE
3D Document Perspective Shadows	ALL	1:50	Entire Model	Missing (GA 1:10...	04 Building Plans No Markers	00 NOT IN USE	Std NZE
West Elevation	Elevations	1:100	Entire Model	Missing (GA 1:10...	10 Elevations	00 NOT IN USE	Std NZE
South Elevation	Elevations	1:100	Entire Model	Missing (GA 1:10...	10 Elevations	00 NOT IN USE	Std NZE
East Elevation	Elevations	1:100	Entire Model	Missing (GA 1:10...	10 Elevations	00 NOT IN USE	Std NZE
North Elevation	Elevations	1:100	Entire Model	Missing (GA 1:10...	10 Elevations	00 NOT IN USE	Std NZE
Generic Perspective H/L	3D: Model ALL	1:100	Entire Model	Missing (GA 1:10...	---	00 NOT IN USE	---
Generic Perspective	3D: Model ALL	1:100	Entire Model	Missing (GA 1:10...	---	00 NOT IN USE	---
Generic Axonometry	3D: Model ALL	1:100	Entire Model	Missing (GA 1:10...	---	00 NOT IN USE	---
3D Document Aerial Shadows	3D: Model ALL	1:200	Entire Model	Missing (Site NZ...	07 3D Exterior	00 NOT IN USE	Std NZE
Ground Floor Bracing Plan	Plan Bracing	1:50	Entire Model	Missing (GA 1:50...	04 Building Plans No Markers	00 NOT IN USE	Std NZE

It is not intended that these will be used in any documentation but allow you to see all settings.

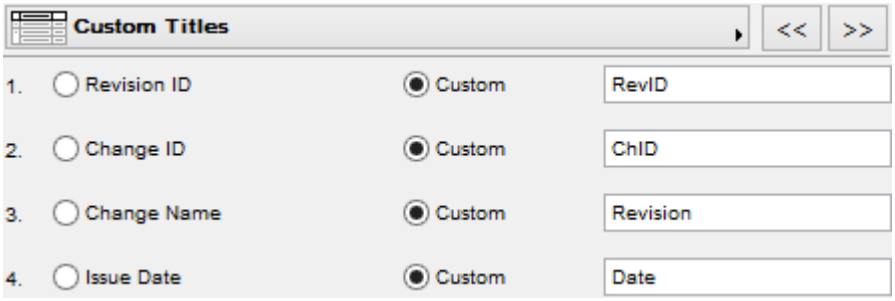
Revisions in ArchiCAD

Revisions functionality is set up the same as ArchiCAD 18, we have updated this document to just show how this has been set up within the template rather than the workflow involved.

The **Revision History 19** object has been placed onto all **Master Layouts** except **A4 Portrait**:

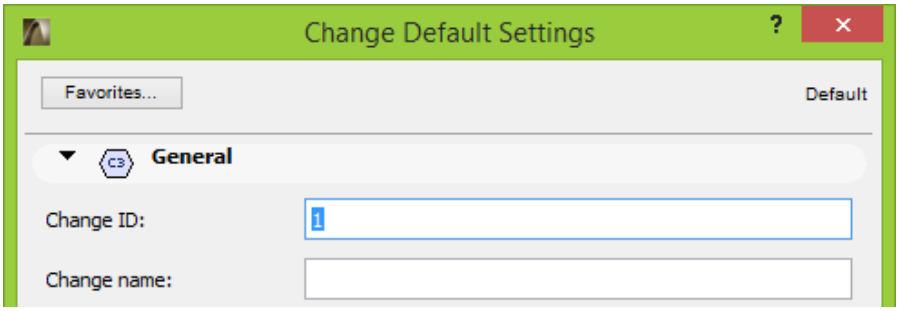


This is on the **Doc: Revisions** layer and is set to show the **Revision ID**, the **Changes** (**ID & Name/Description**) in that **Revision** and the **Date** issued. These headings are modified to reflect terminology more commonly used in New Zealand. This can be changed in its **Object** settings:

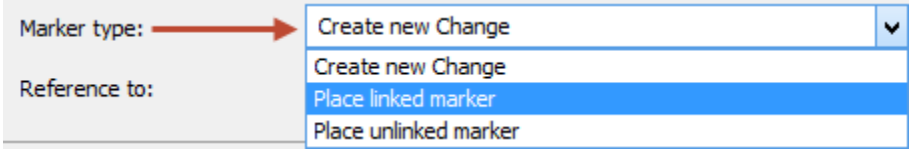


While an **Issue** is **open** all **Revision** tables will display a **Work in Progress watermark** over it.

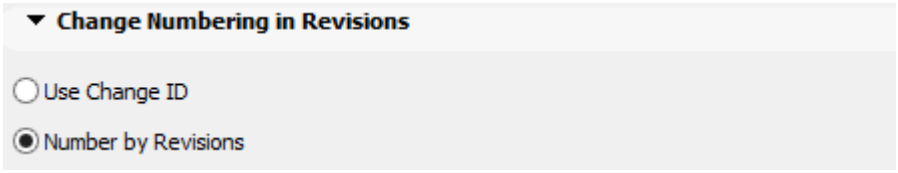
The **Change** Tool itself has been set up to start at **Change ID** of '**1**'. From there the **Changes** will grow in alphanumeric order (1,2,3 or A,B,C). No **Name** has been given to the default **Change** as this will be entirely dependant on the first **Revision** of your Project:



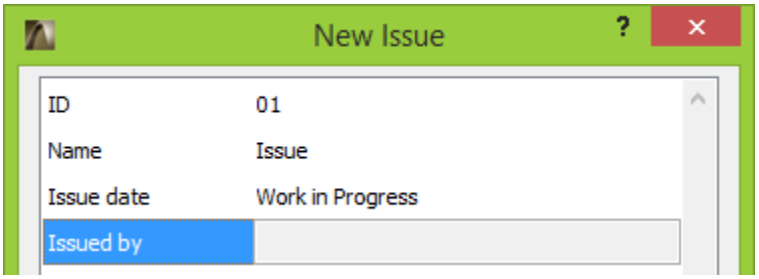
By default every **Change** cloud placed is going to **Create a new Change Entry** in the **Change Manager**. This functionality works much the same as the **Detail** tool where you can **Create a new Viewpoint** or **Place a Linked/Unlinked marker**. So if you want to place a **cloud** in another **View** that references the same Revision you need to set this to **Place Linked Marker**:



The **Layout Book** is set up to **Number by Revisions** nder '**Change Numbering in Revisions**':



The first **Revision ID** (which we have referred to as RevID) is set up as '01'. At the very start you will want to set your **Revision ID** correct as all **Revisions** issued after this will grow alphanumerically.



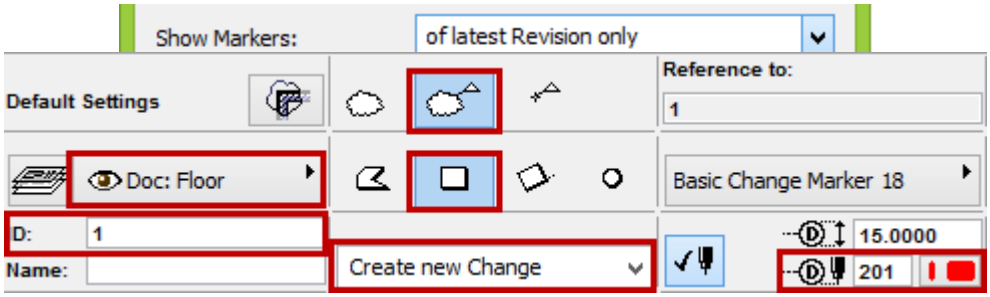
If you want this to start at '**A**' for the design stage just change it here and that will affect all future Revision ID's. You can change your numbering system at any time with the help of a checking in the '**New Issue**' window called '**Override Revision ID of all Included Layouts**':

By Default only the **Clouds/Markers of the Latest Revision** will appear in your Layouts so if you have drawn clouds and issued the documentation the Clouds associated to that **Revision** will disappear. This is set up in the **New Issue** window also as a drop down menu at the bottom which you can also change as required:

Changes are made by the new Change tool found at the bottom of the Document Toolbox:

This has been set up to use a **Cloud & a Marker** by default starting at **1** & using the Revision Pen:

You will noticed that it is on the **Doc: Floor** Layer. This is so the **Revision Cloud** only appears in the **View** that you have placed it in as it is a 2D element; so should be using the annotation **Layer** as



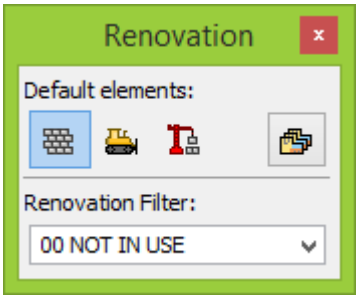
described in the **Layer Matrix** and **Layer Combination** in the **Appendix** of this document.

There is a '**Doc: Revisions**' **Layer** created for the purpose of showing a **Revision Cloud** in more than one **View**. ie. If you draw a **Cloud** around the whole building and want this to be shown in all **Floor Plans**. Otherwise using the **Views** annotation **Layer** is Best Practice:

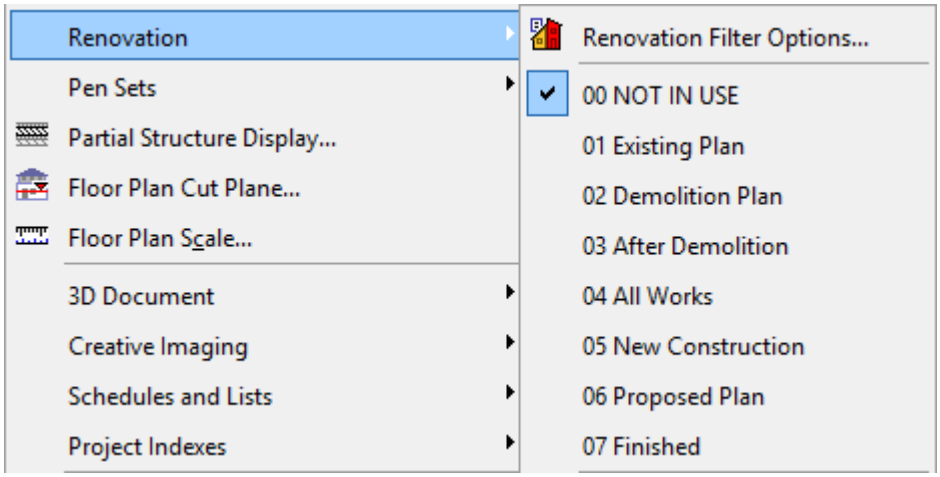
Renovation Tool

The NZE Template has been set up primarily for a **new build**, for this reason we have included a Renovation Template now on the ArchiCAD 19 disc that has been designed specifically for Renovation projects with setup Layer combinations, Views and Layouts.

That said; we have set-up the **Renovation** functionality in the standard **NZE Template** and set up the **Renovation Override Styles** correctly so the default template installed by ArchiCAD can be used with modifications for a Renovation project.



There are 7 **filters** set up for the **Renovation tool**:



Additionally we created the **'00 NOT IN USE'** filter for all our customers who do not use the Renovation tool and do not want it affecting their drawings; this filter shows all elements with no overrides. Each of the other Filters control the status of the 3 Renovation Statuses of all elements like so:

		Existing	Demolished	New
00	NOT IN USE	Show	Show	Show
01	Existing Plan	Show	Show	Hide
02	Demolition Plan	Show	Override	Hide
03	After Demolition	Show	Hide	Hide
04	All Construction	Show	Override	Override
05	New Construction	Show	Hide	Override
06	Proposed Plan	Override	Hide	Show
07	Finished Plan	Show	Hide	Show

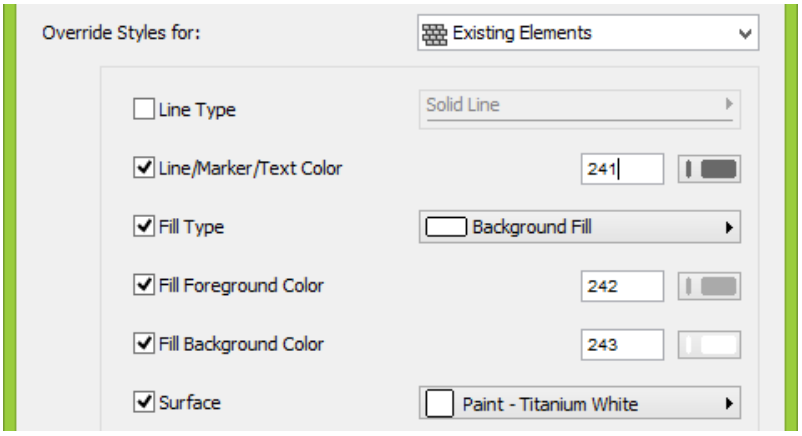
The Override options are defined by the Renovation status, this is set up to use the Renovation Pens, Fills and appropriate surfaces as described in the next page.

Renovation Overrides

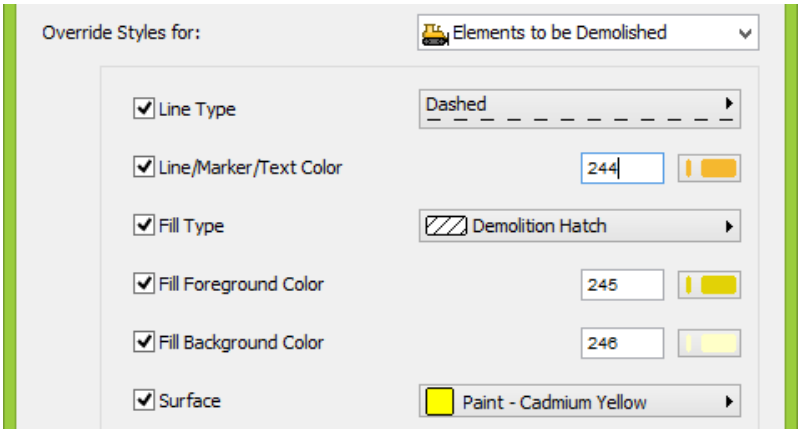
When one of the statuses of elements is set to **Override** in the **Renovation Filters** it uses a predetermined **Override Style** which is defined in **Document>Set Renovation Filter>Renovation Filter Option**s and choose **Renovation Override Styles**.

Each of the 3 **Renovation statuses** have their **override styles** which we have set up to work in conjunction with the **NZE Template Pen Sets** and **Filters**.

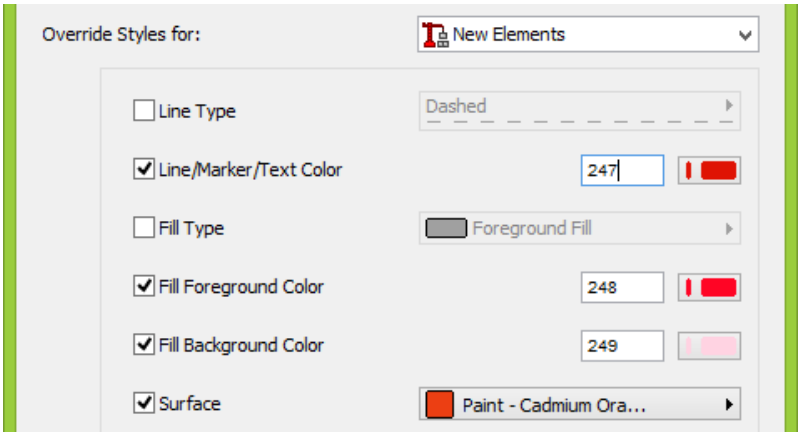
The **Existing Elements** Override Style is used only for the **Proposed Plan** Filter which fades all the Existing Elements to white so that only the New elements appear with Fills etc.



The **Demolished Elements** Override Style is used for the **Demolish Plan** and **All Construction** so that all elements in 2D and 3D are highlighted yellow. This has been updated to now turn all lines dashed and when printed use the 'Demolition Hatch' fill in Black & White.

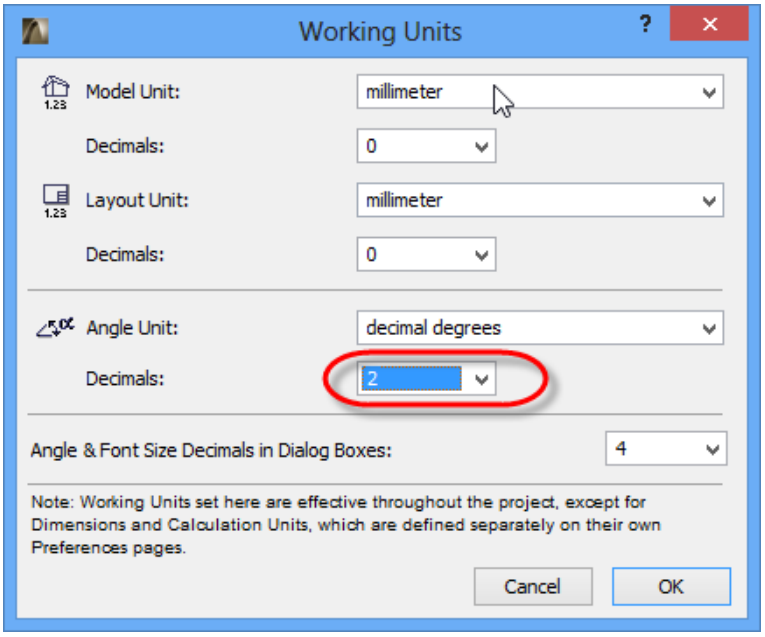


The **New Elements** Override Style is used for the **New Construction** and **All Construction** Filters where all New Elements are highlighted Red in 2D & 3D; this turns Grey in the Printing Pen Sets.

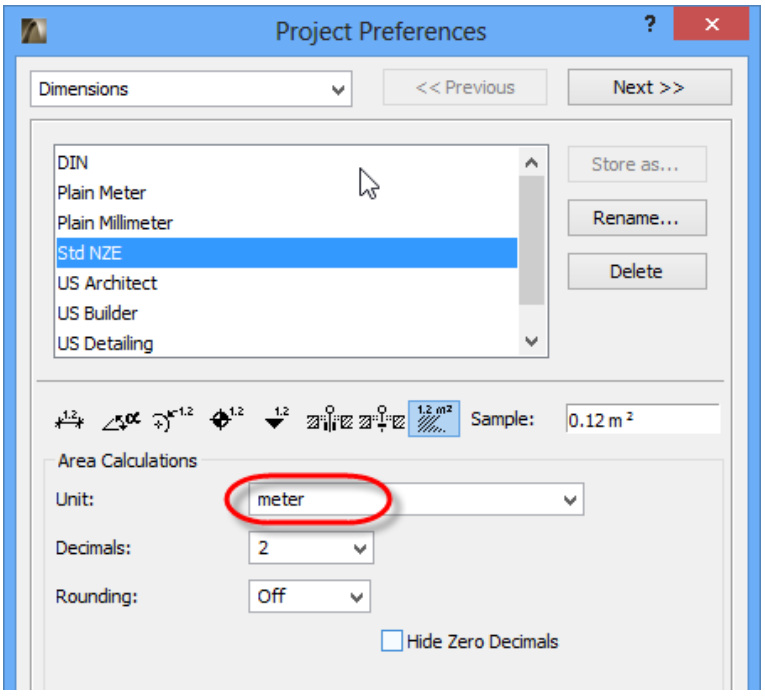


Project Preferences

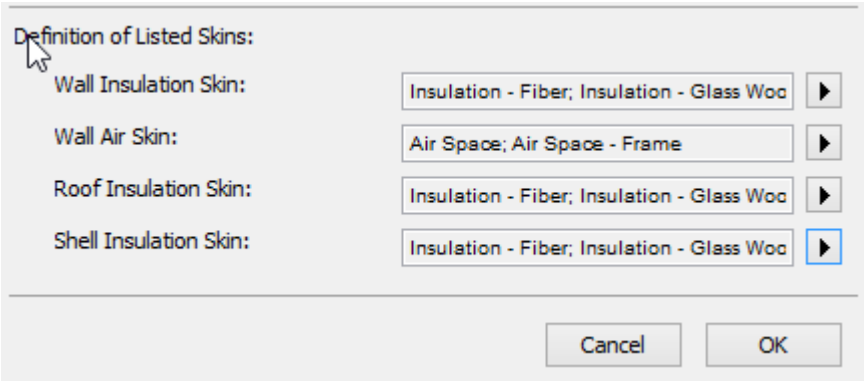
In **Options>Project Preferences>Working Units** we have set all the units to **millimetres** with zero decimal points. Angles are set to use **decimal degrees** with 2 decimal points.



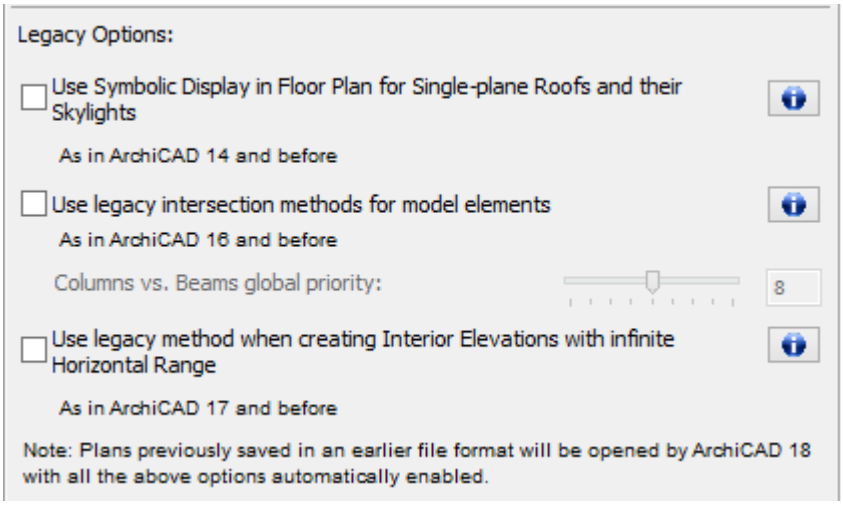
In **Options>Project Preferences>Dimensions** we have created our own set of dimension preferences which use **millimetres** for all dimensions (linear and level), **decimal degrees** for all angles and **metres squared** for areas.



In **Options>Project Preferences>Calculation Units** & Rules we have set the **Calculation Rules** to use ALL the relevant Building Materials for the 4 Skin types.

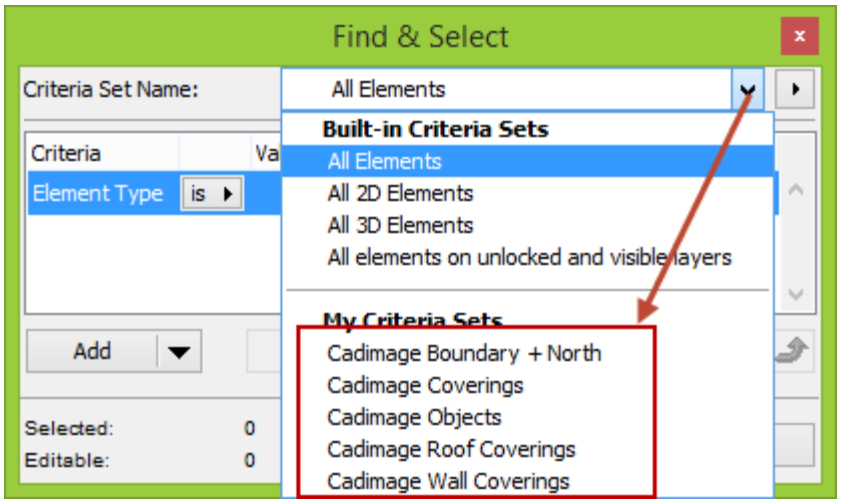


In **Options>Project Preferences>Legacy** we have turned all Legacy Options **OFF.** This is to fully take advantage of ArchiCAD's new functionality including **Priority Based Connections** which was introduced in V17 and the new **Interior Elevation** tool:

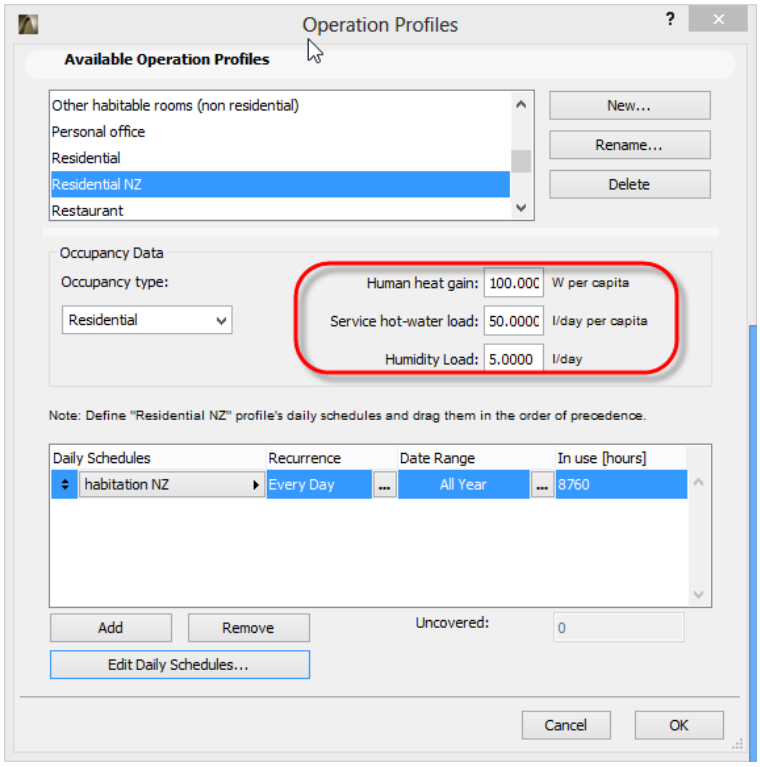


Find & Select Criteria

We have saved 5 Find and Select Criteria to make it easier selecting those elements that are often difficult to get, like the **boundaries** on the edge of a mesh, or **Coverings** attached to walls. You can access these from the drop down menu at the top of the **Find & Select palette**:

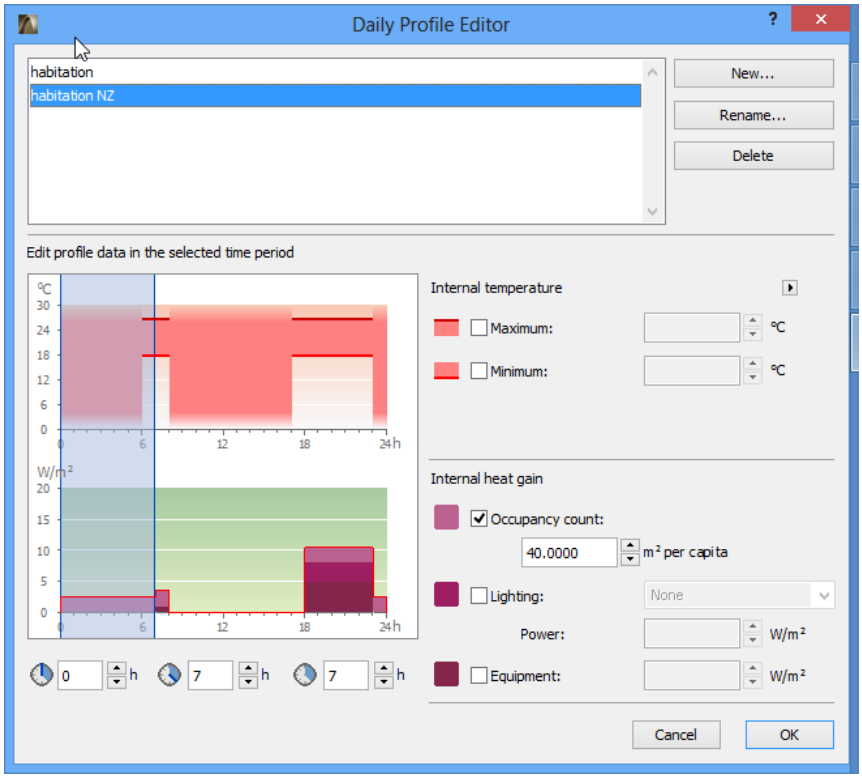


Operation Profiles



We have created a new Operation profile called **Residential NZ** to more closely align with typical New Zealand Residency based on larger NZ homes per capita.

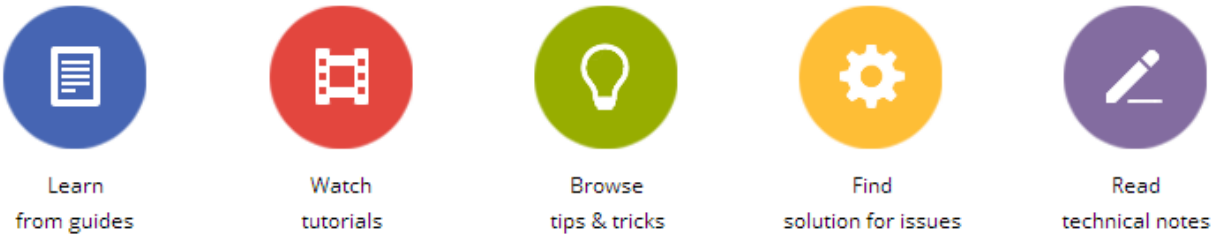
And a new Daily Schedule based on a working family, not at home during the day.



Getting Help

Help Menu

The **Help** menu is your number 1 resource for everything ArchiCAD, Cadimage Tools & the Template. It is the too-often underused menu despite holding all the answers as to how & why ArchiCAD operates as it does. It now has even more resources on the disc & a large database online with the newly improved Graphisoft helpcentre which now has all content from ArchiCAD Wiki, ArchiCADtalk, Help guide & Youtube:



The PDF's at the top of the menu give you an offline resource that you can quickly consult and print for your office use, hence this Template document is included as a PDF. For everything else it is best to use the Graphisoft Help Centre which can be maintained & updated easily.

Links

The links in the Help menu has also been cleaned up with many of them removed so we just have a handful of useful links:

- **ArchiCAD Downloads** (this link does not work – I'm not sure where it should go in your new website)
- **ArchiCAD Tutorials** (http://archicad.co.nz/learn)
- **ArchiCAD Interoperability** (http://www.graphisoft.com/archicad/open_bim/)
- **Design Navigator** (http://www.designnavigator.co.nz/)
- **ArchiCAD NZ** (http://archicad.co.nz)
- **Cadimage Tools** (www.cadimage.com)
- **MyCadimage** (www.mycadimage.com)

Section Three: Renovation Template

The Renovation Template has been based off the standard NZE Template supplied with ArchiCAD 19 & has been developed by Cadimage Group especially for ArchiCAD customers within New Zealand. This part of the document is designed to outline the differences & how to effectively use this template.

As a result, a lot of the template is the same and not covered in this document. To review the full settings please consult the **ArchiCAD 19 NZE Template** document. These unaltered settings include:

- Project Map
- Master Layouts
- Keyboard Shortcuts
- Default Functions
- Filter Elements in 3D
- The Toolbox
- Floor Plan Display
- Model View Options
- Building Materials
- Composites
- Complex Profiles
- Zones
- Schedules etc

Renovation View Map 

The **View Map** is the biggest difference between the standard **NZE Template** and the **Renovation Template** as it brings together all of the new **Layers** & **Renovation Filters** to automatically create a full set of **Views** for every aspect of your design at each stage.

The **View Map** has been set up in two tiers like so:

1. The type of Drawing (Plan/Section/Elevation)
2. The Renovation stage of that Drawing

The **Site** folder has 3 folders & 6 **Views** based on the **0.Sea Level/Datum** story at 1:200 Scale with different Layer combinations & Renovation Filters:

- **Existing**
  - **Exiting Site Plan** – Uses the Existing Plan Site Layer combination and 01 Existing Plan Renovation Filter, this is placed on the Existing Site Plan Layout
- **Demolition**
  - **Demolition Site Plan** – Uses the Demolition Plan Site Layer combination and 02 Demolition Plan Renovation Filter, this is not placed on a Layout
- **Proposed**
  - **Proposed Site Plan** – Uses the Proposed Plan Site Layer combination and 06 Proposed Plan Renovation Filter, this is placed on the Proposed Site Plan Layout
  - **Proposed Site Bulk & Location** – Uses the Proposed Plan Site Bulk & Location Layer combination and 06 Proposed Plan Renovation Filter, this is not placed on a Layout.
  - **Proposed Site Landscaping**– Uses the Proposed Plan Site Landscaping Layer combination and 06 Proposed Plan Renovation Filter, this is not placed on a Layout
  - **Proposed Site Site Services** – Uses the Proposed Plan Site Services Layer combination and 06 Proposed Plan Renovation Filter, this is not placed on a Layout
- **As-Built**
  - **As-Built Site Plan** – Uses the Proposed Plan Site Layer combination and 07 As Built Renovation Filter, this is not placed on a Layout

The **Plans** folder are all based on the **1.Ground Floor** Story except for the **Roof Plans** which is based on the **2.Roof** Story and are at 1:50 Scale each using the following setup:

- **Ground Floor SKETCH ALL** – Uses the ALL Layer Combination & 00 NOT IN USE Renovation Filter to easily model all aspects of the design so is not placed on a Layout.

- **Existing**
  - **Existing Ground Floor Plan** – Uses the Existing Plan Floor Layer combination and 01 Existing Plan Renovation Filter; this is placed on the Existing Ground Floor Plan Layout

- Demolition
  - **Demolition Ground Floor Plan** – Uses the Demolition Plan Floor Layer combination and 02 Demolition Plan Renovation Filter; this is placed on the Demolition Ground Floor Plan Layout
  - **Demolition Ground Floor Interior** – Uses the Demolition Plan Room Interior Layer combination and 02 Demolition Plan Renovation Filter; this is not placed on a Layout
  - **Demolition Ground Floor Framing Plan** – Uses the Demolition Plan Floor Framing Layer combination and 02 Demolition Plan Renovation Filter; this is not placed on a Layout
  - **Demolition Ground Floor Plumbing Plan** – Uses the Demolition Plan Plumbing Layer combination and 02 Demolition Plan Renovation Filter; this is not placed on a Layout
  - **Demolition Roof Plan** – Uses the Demolition Plan Roof Layer combination and 02 Demolition Plan Renovation Filter; this is not placed on a Layout
  - **Demolition Roof Framing** – Uses the Demolition Plan Roof Framing Layer combination and 02 Demolition Plan Renovation Filter; this is not placed on a Layout

- Proposed
  - **Proposed Ground Floor Plan** - This uses the Proposed Plan Floor Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Ground Floor Plan Layout.
  - **Proposed Ground Floor Presentation** - This uses the Proposed Plan Presentation/Furniture Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Ground Floor Plan Layout.
  - **Proposed Ground Floor Electrical Plan** - This uses the Proposed Plan Electrical Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Ground Floor Electrical Plan Layout.
  - **Proposed Ground Floor Bracing Plan** - This uses the Proposed Plan Bracing Layer combination and 06 Proposed Plan Renovation Filter; this is not placed on a Layout.
  - **Proposed Ground Floor Framing Plan** - This uses the Proposed Plan Floor Framing Layer combination and 06 Proposed Plan Renovation Filter; this is not placed on a Layout.
  - **Proposed Ground Floor Plumbing Plan** - This uses the Proposed Plan Plumbing Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Ground Floor Plumbing Plan Layout.
  - **Proposed Ground Floor RCP** - This uses the Proposed Plan Reflected Ceiling Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Ground Floor RCP Layout.
  - **Proposed Foundation Plan** - This uses the Proposed Plan Foundation Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Foundation Plan Layout.
  - **Proposed Roof Plan**- This uses the Proposed Plan Roof Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Roof Plan Layout.
  - **Proposed Roof Framing** - This uses the Proposed Plan Floor Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Roof Framing Layout.

- **As-Built**
  - **As-Built Ground Floor Plan** – Uses the Proposed Plan Floor Layer combination and 07 As Built Renovation Filter, this is placed on the As-Built Ground Floor Plan Layout
  - **Proposed Ground Floor Plan** - This uses the Proposed Plan Floor Layer combination and 06 Proposed Plan Renovation Filter; this is placed on the Proposed Ground Floor Plan Layout

The **Sections** Folder is empty as Sections are specific to your Design, when you place a Section simply create the Views in the appropriate folder (Existing/Proposed)

The **Elevations** Folder contains 4 Elevations looking at direct North, East, South at West of the Design and are set to 1:100 scale so all 4 can be placed on one Layout. There are 2 folders:

- **Existing Elevations** – Uses the Existing Elevations Layer combination and 01 Existing Plan Renovation Filter. All 4 Existing Elevations are placed on the Existing Elevations Layout
- **As-Built Elevations** – Uses the Proposed Elevations Layer combination and 07 As-Built Renovation Filter; these are placed on the As-Built Elevations Layout.

The **Details** Folder is empty as these are also specific to your Design, when Detail Views are created; place them within this folder.

The **3D** Folder contains 4 folders for the different Renovation stages of the BIM Model. All of these contain a Generic Perspective View set with the appropriate Renovation Status as all 3D elements are affected by the Renovation Filter. The **As-Built** Folder contains all the Views typically found in the NZE template and are all set to the 07 As-Built Renovation Filter.

The **Title Blocks** Folder contains the same Title Block found in the standard NZE Template.

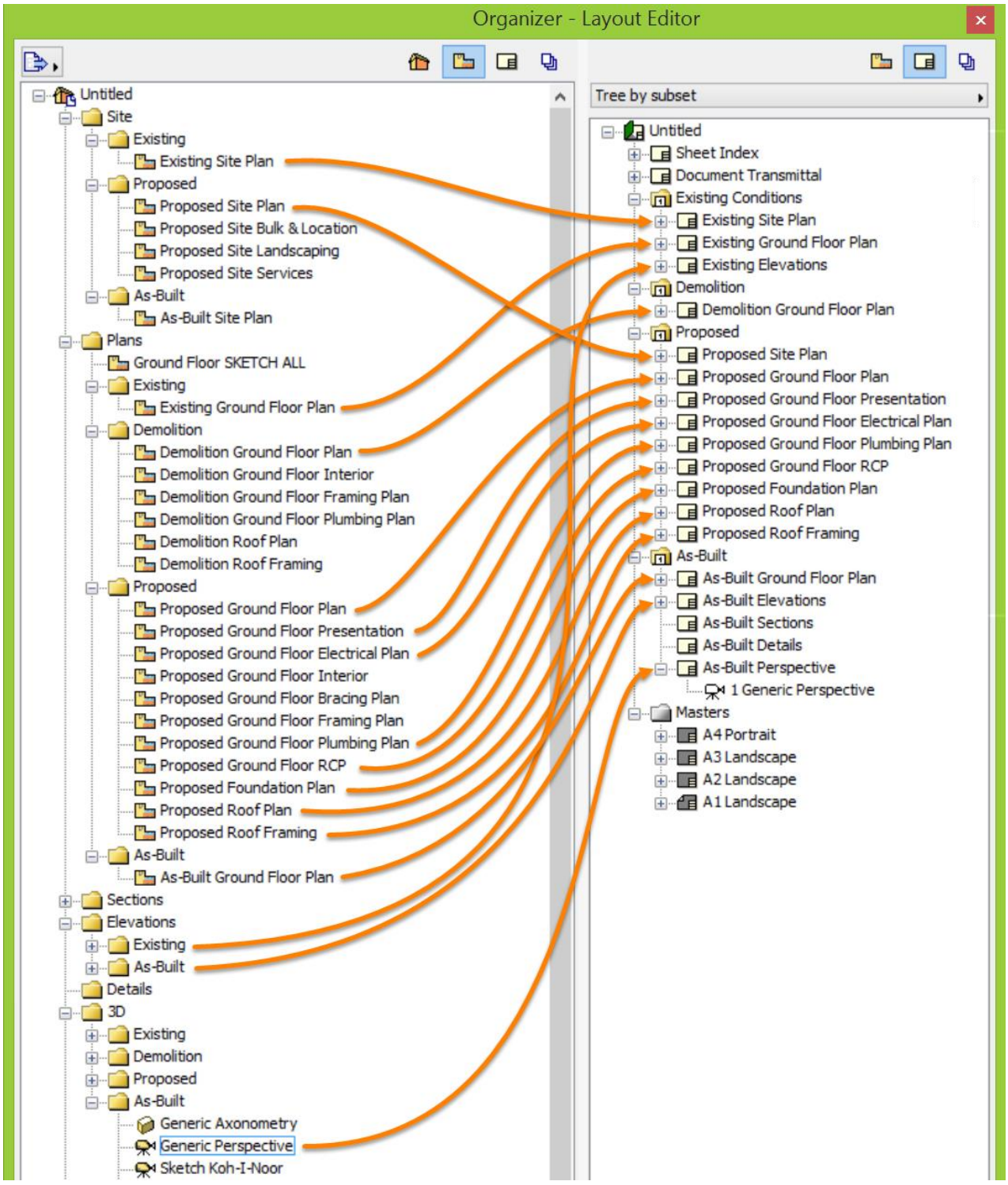
The **Schedules** Folder contains two schedules for Electrical items:

- **Electrical Legend** – This schedule looks for all Objects placed on the Des: Fittings Electrical or Des:Lamps Layers and shows the Floor Plan symbol. It has been updated to only show elements with a New Renovation Status so as to not schedule existing elements.
- **Electrical Schedule** - This schedule looks for all Objects on the Des: Fittings Electrical, Doc: Electrical or Des:Lamps Layers showing the physical 3D Wall Plate model and has been updated to only show elements with a New Renovation Status also.

The **Indexes** Folder contains the same Indexes found in the standard NZE Template.

Renovation Layout Book

The **Layout Book** in the Renovation template has been organized in terms of Renovation Filters and is based directly off the **View Map**, so a lot of the views listed above are placed individually onto **Layouts** using the **Scale** & **Layer combination** of the Views, while using the relevant **Printing Pen Set** to issue the documents in Black & White.



Layers

The **Layers** in **NZE Template** have been developed to be as simple as possible aligning their names with the Toolbox and Tools. The Renovation Template uses these same principles. The full detail of Layers can be found on page 27.

However due to limitations of the Renovation Filters we have created several extra Layers to produce the typical Renovation documentation with the combined use of Layer control & Renovation Filters. These extra Layers include:

- **Doc: Details Existing** - For Detail Markers seen on the main Existing Views.
- **Doc: Details New** - For Detail Markers seen on the main Proposed Views
- **Doc: Elevations Existing** - For Elevations showing only the Existing Views
- **Doc: Elevations New** - For Elevations showing the new Proposed Design
- **Doc: Existing & Demolition** - To annotate existing conditions & Demolition notes
- **Doc: Sections Existing** - For Sections showing only in the Existing Views
- **Doc Sections New** - For Sections going through Proposed Design

An updated **Layer Matrix** has been included in this Renovation section of the document.

Layer Combinations

The **Layer Combinations** are based off the possible outputs of documentation you may require. The result being that every **View** has its own specific Layer combination

The Layer Combinations have been organised into the Renovation Filters. This is so the Layer Combinations are named appropriately and match the Views in the View Map that use them.

7. **Proposed** - These Layer Combinations hide any 'Existing'/'Demolition' layers
8. **Demolition** - These Layer Combination hide any 'New' Layers
9. **Existing** - These Layer Combinations hide any 'Demolition'/'New' layers

Some Drawings generally do not require Renovation control so these have not been split out:

10. **Details** - This single Layer Combination is for use for Detail Views
11. **Interior Elevations** - This single Layer Combination is for use for Interior Elevations
12. **Key** - This single Layer Combination is for producing a Key Plan

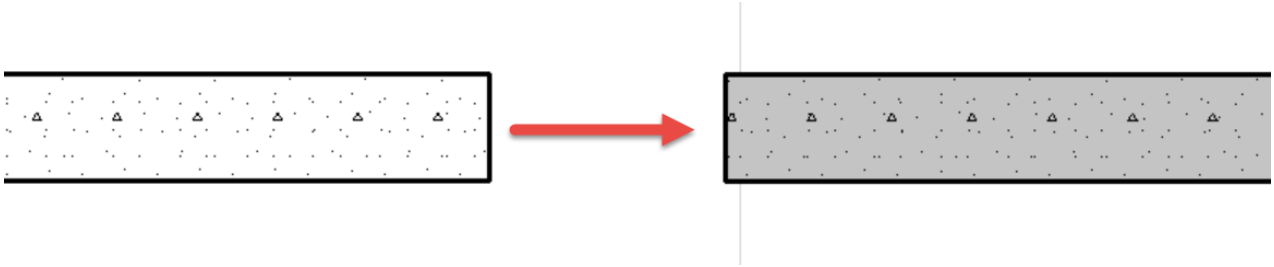
The **Proposed** set is the most extensive as this is expected to account for the majority of the documentation. There is quite a range of **Demolition** & **Existing** Layer Combinations and Views giving you the option to easily document this aspect though are not automatically placed on Layouts.

Pens

The **Renovation Template** uses the same 8 pen sets used in the standard **NZE template** with a few modifications. To read more on the function & set up of the Pen Sets please read **the ArchiCAD 19 NZE Template document**.

The modifications are very slight and are made to darken the Renovation Pens when documenting using the **Printing Pen Sets** only. The Colour pens used on screen are the same. Below are the slight difference between the original Printing Pen Set and the new Renovation Pens:

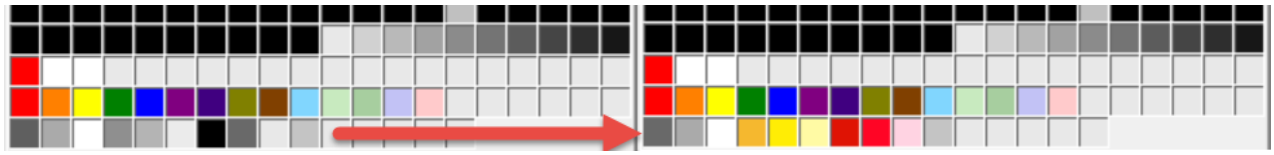
To accommodate other workflows there is a new pen added at 250 which is highlighted above in the right hand side Renovation Pens. This can be used as a **Building Material** background pen to give Building Materials such as Concrete or Masonry a solid appearance on Plan like so:



The main reason for this change is so the **Renovation Overrides** will only Override the Fill background pen to differentiate **Existing** Elements from **New** Elements in the **Proposed Plan** but both still have their **Fill** content to appear the same as Existing Plans. In the standard Renovation Template the existing Elements are turned solid white while the New elements have Fills.

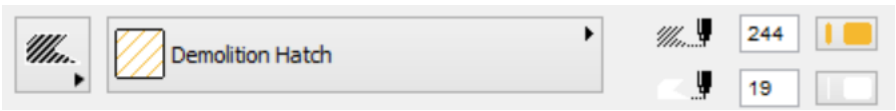
Pen Sets

There are **10 Pen Sets** in the Renovation Template, 8 are the same as the standard NZE Template. The additional 2 Templates are for **Presentation** purposes. They are a duplicate of the **GA 1:50** and **1:100 Printing Pen Sets** and have their 9 Renovation Pens set to Colour for Colour printing purposes. These are not used by default but there as an option.

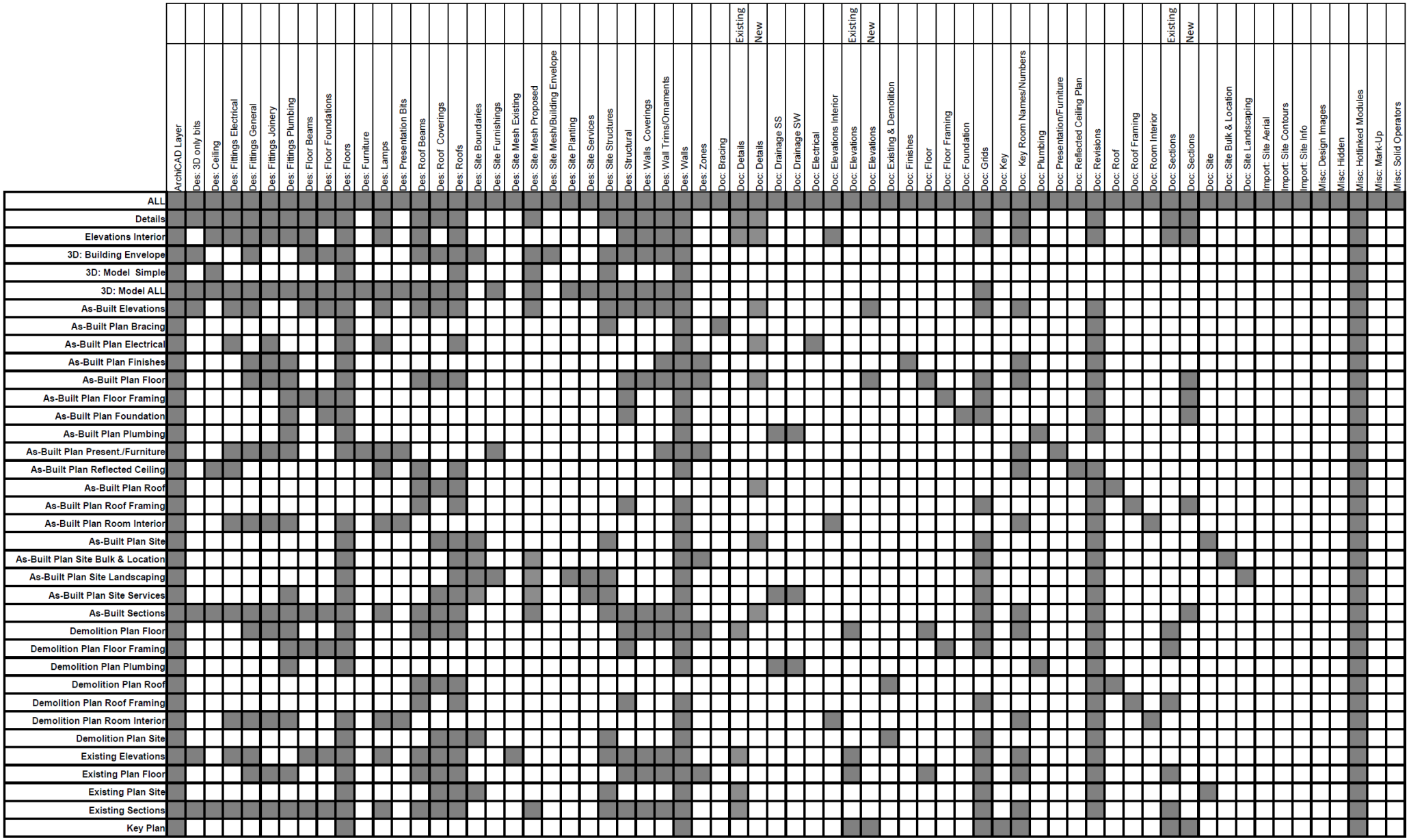


Fills

The Fills are the same as the NZE Template which now includes **Demolition Hatch**. This is set up to be large scale & use the Demolition Pen. It is stored as **Demolition Hatch NZE** favorite.



Layer Matrix



Section Four: Appendix

In this section, you will find tables of the attributes in both templates like:

Pen Table

Favorites List

Pen Table

Pen #	Pen Name	Detailing	GA 1:50	GA 1:100	Site
1	General - General	0.18	0.13	0.1	0.1
2	2D Elements - General	0.25	0.18	0.13	0.1
3	Openings - General	0.25	0.18	0.13	0.1
4	Objects - General	0.25	0.18	0.13	0.1
5	Annotation - General	0.35	0.25	0.18	0.13
6	Annotation Text - general	0.5	0.35	0.25	0.18
7	Walls - General	0.25	0.18	0.13	0.1
8	Columns - General	0.25	0.18	0.13	0.1
9	Slabs - General	0.25	0.18	0.13	0.1
10	Beams - General	0.25	0.18	0.13	0.1
11	Stairs - General	0.25	0.18	0.13	0.1
12	Roof - General	0.25	0.18	0.13	0.1
13	Mesh - general	0.25	0.18	0.13	0.1
14	Zone - General	0.25	0.18	0.13	0.1
15	Mechanical - general	0.25	0.18	0.13	0.1
16	Structural - general	0.25	0.18	0.13	0.1
17	Electrical - general	0.25	0.18	0.13	0.1
18	Fills - color 1	0.35	0.25	0.18	0.13
19	Backgrounds - color 1	0.25	0.18	0.13	0.1
20	Symbols General	0.35	0.25	0.18	0.13
21	General - Cut Structural	0.7	0.5	0.35	0.25
22	2D Elements - Cut Structural	0.7	0.5	0.35	0.25
23	Openings- Cut Structural	0.7	0.5	0.35	0.25
24	Objects - Cut Structural	0.7	0.5	0.35	0.25
25	Annotation - Markers	0.7	0.5	0.35	0.25
26	Annotation Text - header	0.7	0.5	0.35	0.25
27	Walls - Cut Structural	0.5	0.35	0.25	0.18
28	Columns - Cut Structural	0.7	0.5	0.35	0.25
29	Slabs - Cut Structural	0.7	0.5	0.35	0.25
30	Beams - Cut Structural	0.7	0.5	0.35	0.25
31	Stairs - Cut Structural	0.7	0.5	0.35	0.25
32	Roof - Cut Structural	0.7	0.5	0.35	0.25
33	Mesh - Cut Structural	0.7	0.5	0.35	0.25
34	Zone - Cut Structural	0.7	0.5	0.35	0.25
35	Mechanical - Hot Water	0.5	0.35	0.25	0.18
36	Structural - Cut Construction	0.7	0.5	0.35	0.25
37	Electrical - Power Grid	0.5	0.35	0.25	0.18
38	Fills - color 2	0.35	0.25	0.18	0.13
39	Backgrounds - color 2	0.25	0.18	0.13	0.1
40	Symbols General - color 2	0.35	0.25	0.18	0.13
41	General -Cut Non-Structural	0.5	0.35	0.25	0.18
42	2D Elements - Cut Non-Structural	0.5	0.35	0.25	0.18
43	Openings- Cut Non-Structural	0.5	0.35	0.25	0.18
44	Objects - Cut Non-Structural	0.5	0.35	0.25	0.18
45	Annotation - Arrowheads	0.5	0.35	0.25	0.18
46	Annotation text - bold	0.5	0.35	0.25	0.18
47	Walls - Cut Non-Structural	0.5	0.35	0.25	0.18
48	Columns - Veneer	0.5	0.35	0.25	0.18
49	Slabs - Cut Non-Structural	0.5	0.35	0.25	0.18
50	Beams - Cut Non-Structural	0.5	0.35	0.25	0.18
51	Stairs - Cut Non-Structural	0.5	0.35	0.25	0.18
52	Roof - Cut Non-Structural	0.5	0.35	0.25	0.18
53	Mesh - Cut Non-Structural	0.5	0.35	0.25	0.18
54	Zone - Cut Non-Structural	0.5	0.35	0.25	0.18
55	Mechanical - Cold Water	0.35	0.25	0.18	0.13
56	Structural - Cut Non-Construction	0.35	0.25	0.18	0.13
57	Electrical - Switchboards	0.35	0.25	0.18	0.13

Pen #	Pen Name	Detailing	GA 1:50	GA 1:100	Site
58	Fills - color 3	0.35	0.25	0.18	0.13
59	Backgrounds - color 3	0.25	0.18	0.13	0.1
60	Symbols General - color 3	0.35	0.25	0.18	0.13
61	General - Symbols and Separators	0.25	0.18	0.13	0.1
62	2D Elements - Symbols and Separators	0.25	0.18	0.13	0.1
63	Openings- Symbols and Separators	0.25	0.18	0.13	0.1
64	Objects - Symbols and Separators	0.25	0.18	0.13	0.1
65	Annotation - Frames	0.25	0.18	0.13	0.1
66	Annotation Text - normal	0.25	0.18	0.13	0.1
67	Walls - Symbols and Separators	0.25	0.18	0.13	0.1
68	Columns - Symbols and Separators	0.25	0.18	0.13	0.1
69	Slabs - Symbols and Separators	0.25	0.18	0.13	0.1
70	Beams - Symbols and Separators	0.25	0.18	0.13	0.1
71	Stairs - Symbols and Separators	0.25	0.18	0.13	0.1
72	Roof - Symbols and Separators	0.25	0.18	0.13	0.1
73	Mesh - Ridges	0.25	0.18	0.13	0.1
74	Zone - Symbols	0.25	0.18	0.13	0.1
75	Mechanical - Plumbing	0.25	0.18	0.13	0.1
76	Structural - Text and Symbols	0.25	0.18	0.13	0.1
77	Electrical - General Lighting	0.25	0.18	0.13	0.1
78	Fills - color 4	0.35	0.25	0.18	0.13
79	Backgrounds - color 4	0.25	0.18	0.13	0.1
80	Symbols General - color 4	0.35	0.25	0.18	0.13
81	General - Outlines and Cover fills	0.25	0.18	0.13	0.1
82	2D Elements - Outlines	0.25	0.18	0.13	0.1
83	Openings- Uncut/Overhead	0.25	0.18	0.13	0.1
84	Objects - Uncut and Overhead	0.25	0.18	0.13	0.1
85	Annotation - Dimlines	0.25	0.18	0.13	0.1
86	Annotation text - notes	0.25	0.18	0.13	0.1
87	Walls - Outlines	0.25	0.18	0.13	0.1
88	Columns - Outlines	0.25	0.18	0.13	0.1
89	Slabs - Outlines and Cover Fills	0.25	0.18	0.13	0.1
90	Beams - Outlines	0.25	0.18	0.13	0.1
91	Stairs - Outlines	0.25	0.18	0.13	0.1
92	Roof - Outlines and Cover Fills	0.25	0.18	0.13	0.1
93	Mesh - Outlines and Cover Fills	0.25	0.18	0.13	0.1
94	Zone - Outline and Cover Fill	0.25	0.18	0.13	0.1
95	Mechanical - Gas	0.25	0.18	0.13	0.1
96	Structural - Outlines	0.25	0.18	0.13	0.1
97	Electrical - IT Networks	0.25	0.18	0.13	0.1
98	Fills - color 5	0.35	0.25	0.18	0.13
99	Backgrounds - color 5	0.25	0.18	0.13	0.1
100	Symbols General - color	0.35	0.25	0.18	0.13
101	General - Cut Fills	0.18	0.13	0.1	0.1
102	2D Elements - Drafting	0.18	0.13	0.1	0.1
103	Openings- Cut Fills	0.18	0.13	0.1	0.1
104	Objects - Cut Fills	0.18	0.13	0.1	0.1
105	Annotation - Thin	0.18	0.13	0.1	0.1
106	Annotation Text - markup	0.18	0.13	0.1	0.1
107	Walls - Cut Fills	0.18	0.13	0.1	0.1
108	Columns - Cut Fills	0.18	0.13	0.1	0.1
109	Slabs - Cut Fills	0.18	0.13	0.1	0.1
110	Beams - Cut Fills	0.18	0.13	0.1	0.1
111	Stairs - Cut Fills	0.18	0.13	0.1	0.1
112	Roof - Cut Fills	0.18	0.13	0.1	0.1
113	Mesh - Cut Fills	0.18	0.13	0.1	0.1
114	Zone - Cut Fills	0.18	0.13	0.1	0.1
115	Mechanical - Equipment	0.18	0.13	0.1	0.1
116	Structural - Hatching	0.18	0.13	0.1	0.1
117	Electrical - Equipment	0.18	0.13	0.1	0.1
118	Fills - color 6	0.35	0.25	0.18	0.13

Pen #	Pen Name	Detailing	GA 1:50	GA 1:100	Site
119	Backgrounds - color 6	0.25	0.18	0.13	0.1
120	Symbols General - color	0.35	0.25	0.18	0.1
121	General- backgrounds	0	0	0	0
122	2D Elements - Fill backgrounds	0	0	0	0
123	Openings- Fill backgrounds	0	0	0	0
124	Objects - Fill Backgrounds	0	0	0	0
125	Annotation - Backgrounds	0	0	0	0
126	Cut Elements- opaque backgrounds	0	0	0	0
127	Walls - Fill backgrounds	0	0	0	0
128	Columns - Fill backgrounds	0	0	0	0
129	Slabs - Fill backgrounds	0	0	0	0
130	Beams- fill backgrounds	0	0	0	0
131	Stairs- fill backgrounds	0	0	0	0
132	Roofs- Fill backgrounds	0	0	0	0
133	Mesh- fill backgrounds	0	0	0	0
134	Zones- Fill backgrounds	0	0	0	0
135	Mechanical- backgrounds	0	0	0	0
136	Structural - fill backgrounds	0	0	0	0
137	Electrical - fill backgrounds	0	0	0	0
138	Fills - color 7	0.35	0.25	0.18	0.13
139	Backgrounds - color 7	0.25	0.18	0.13	0.1
140	Hotspots - color	0.35	0.25	0.18	0.13
141	Membranes - Cut Lines	0.5	0.35	0.25	0.18
142	Plastic membranes - Cut Lines	0.5	0.35	0.25	0.18
143	Masonry blocks - Cut Lines	0.7	0.5	0.35	0.25
144	Tiling - Floor & Wall - Cut Lines	0.35	0.25	0.18	0.13
145	Glass - Cut Lines	0.25	0.18	0.13	0.1
146	Metals - Cut Lines	0.25	0.18	0.13	0.1
147	Ironwork - Cut Lines	0.7	0.5	0.35	0.25
148	Brickwork - Cut Lines	0.5	0.35	0.25	0.18
149	Lightweight Concrete - Cut Lines	0.5	0.35	0.25	0.18
150	Reinforced concrete - Cut Lines	0.7	0.5	0.35	0.25
151	Solid plastics - Cut Lines	0.25	0.18	0.13	0.1
152	Tiles - Roof - Cut Lines	0.35	0.25	0.18	0.13
153	Earth - Cut Lines	0.7	0.5	0.35	0.25
154	Thermal Insulation - Cut Lines	0.25	0.18	0.13	0.1
155	Timber - Cut Lines	0.5	0.35	0.25	0.18
156	Plasters - Cut Lines	0.35	0.25	0.18	0.13
157	Gypsum - Cut Lines	0.25	0.18	0.13	0.1
158	Stones - Cut Lines	0.5	0.35	0.25	0.18
159	Air Space - Cut Lines	0.25	0.18	0.13	0.1
160	Particle - Cut Lines	0.35	0.25	0.18	0.13
161	Membranes - Cut Fills	0.18	0.13	0.1	0.1
162	Plastic membranes - Cut Fills	0.18	0.13	0.1	0.1
163	Masonry blocks - Cut Fills	0.18	0.13	0.1	0.1
164	Tiling - Floor & Wall - Cut Fills	0.18	0.13	0.1	0.1
165	Glass - Cut Fills	0.18	0.13	0.1	0.1
166	Metals - Cut Fills	0.18	0.13	0.1	0.1
167	Ironwork - Cut Fills	0.18	0.13	0.1	0.1
168	Brickwork - Cut Fills	0.18	0.13	0.1	0.1
169	Lightweight Concrete - Cut Fills	0.18	0.13	0.1	0.1
170	Reinforced concrete - Cut Fills	0.18	0.13	0.1	0.1
171	Solid plastics - Cut Fills	0.18	0.13	0.1	0.1
172	Tiles - Roof - Cut Fills	0.18	0.13	0.1	0.1
173	Earth - Cut Fills	0.18	0.13	0.1	0.1
174	Thermal Insulation - Cut Fills	0.18	0.13	0.1	0.1
175	Timber - Cut Fills	0.18	0.13	0.1	0.1
176	Plasters - Cut Fills	0.18	0.13	0.1	0.1
177	Gypsum - Cut Fills	0.18	0.13	0.1	0.1
178	Stones - Cut Fills	0.18	0.13	0.1	0.1
179	Air Space - Cut Fills	0.18	0.13	0.1	0.1

Pen #	Pen Name	Detailing	GA 1:50	GA 1:100	Site
180	Particle - Cut Fills	0.18	0.13	0.1	0.1
181	0.01 Pen	0.01	0.01	0.01	0.01
182	0.13 Pen	0.13	0.13	0.13	0.13
183	0.18 Pen	0.18	0.18	0.18	0.18
184	0.25 Pen	0.25	0.25	0.25	0.25
185	0.35 Pen	0.35	0.35	0.35	0.35
186	0.5 Pen	0.5	0.5	0.5	0.5
187	0.7 Pen	0.7	0.7	0.7	0.7
188	1.0 Pen	1	1	1	1
189	2.0 Pen	2	2	2	2
190	3.0 Pen	3	3	3	3
191	5% Grey	0.1	0.1	0.1	0.1
192	10% Grey	0.1	0.1	0.1	0.1
193	20% Grey	0.1	0.1	0.1	0.1
194	30% Grey	0.1	0.1	0.1	0.1
195	40% Grey	0.1	0.1	0.1	0.1
196	50% Grey	0.1	0.1	0.1	0.1
197	60% Grey	0.1	0.1	0.1	0.1
198	70% Grey	0.1	0.1	0.1	0.1
199	80% Grey	0.1	0.1	0.1	0.1
200	90% Grey	0.1	0.1	0.1	0.1
201	Revisions	0.25	0.25	0.25	0.25
202	Twink	0.25	0.25	0.25	0.25
203	Thick Twink	1	1	1	1
204	user defined	0	0	0	0
205-219	user defined	0	0	0	0
220	user defined	0	0	0	0
221	Colour Pen	0.1	0.1	0.1	0.1
222	Colour Pen	0.1	0.1	0.1	0.1
223	Colour Pen	0.1	0.1	0.1	0.1
224	Colour Pen	0.1	0.1	0.1	0.1
225	Colour Pen	0.1	0.1	0.1	0.1
226	Colour Pen	0.1	0.1	0.1	0.1
227	Colour Pen	0.1	0.1	0.1	0.1
228	Colour Pen	0.1	0.1	0.1	0.1
229	Colour Pen	0.1	0.1	0.1	0.1
230	Colour Pen	0.1	0.1	0.1	0.1
231	Presentation Pen - Grass	0.1	0.1	0.1	0.1
232	Presentation Pen - Plants	0.1	0.1	0.1	0.1
233	Presentation Pen - Blue	0.1	0.1	0.1	0.1
234	Presentation Pen - Red	0.1	0.1	0.1	0.1
235	user defined	0	0	0	0
236-239	user defined	0	0	0	0
240	user defined	0	0	0	0
241	Reno Exist - General	0.25	0.25	0.25	0.25
242	Reno Exist - Cut Fills	0.25	0.25	0.25	0.25
243	Reno Exist - Fill Backgrounds	0.25	0.25	0.25	0.25
244	Reno Demo - General	0.25	0.25	0.25	0.25
245	Reno Demo - Cut Fills	0.25	0.25	0.25	0.25
246	Reno Demo - Fill Backgrounds	0.25	0.25	0.25	0.25
247	Reno New - General	0.25	0.25	0.25	0.25
248	Reno New - Cut Fills	0.25	0.25	0.25	0.25
249	Reno New - Fill Backgrounds	0.25	0.25	0.25	0.25
250	user defined	0	0	0	0
251	user defined	0	0	0	0
252	user defined	0	0	0	0
253	user defined	0	0	0	0
254	user defined	0	0	0	0
255	user defined	0.1	0.1	0.1	0.1

Favorites List

Design Tools	
Wall	EXT: 140 Thermal Pb NZE
	EXT: Concrete 150 NZE
	EXT: Concrete Block 200 NZE
	EXT: Stud 140 Insul Pb NZE
	EXT: Stud 90 Insul Pb NZE
	EXT: Stud 90 NZE
	EXT: Stud 90 Pb NZE
	INT: Stud 70 NZE
	INT: Stud 70 Pb NZE
	INT: Stud 90 Insul Pb NZE
	INT: Stud 90 NZE
	INT: Stud 90 Pb NZE
	Stud 90 Wall NZE
Door	90 Int Door NZE
	Acd
	Empty Door NZE
	Garage Door NZE
Window	**Acw**
	Empty Opening NZE
	Window NZE
Column	250UC NZE
	Conc 300sq NZE
	Timber 90sq NZE
	Timber Pile 125sq NZE
Beam	**140x90 Exterior Beam NZE**
	140x90 Interior Beam NZE
	Slab Edge Thickening NZE
	Slab Foundation Footing NZE
	Slab Foundation NZE
	Slab Pod 100 rib NZE
	Slab Pod 300 rib NZE
	Slab Pod Edge NZE
	Slab Thickening NZE
Slab	100 Conc Slab Insul NZE
	100 Conc Slab NZE
	190/20 Timber Insul B/L NZE
	190/20 Timber NZE
	Conc Pod Slab NZE
	Variable Conc NZE
Stair	Dog Leg Stair NZE
	L-shape Stair NZE
	Straight Flight NZE
Roof	Ceiling Insul NZE
	Ceiling NZE
	Roof 90 Insul NZE
	Roof 90 NZE
	Variable Roof NZE
Shell	**Shell NZE**
Skylight	**Skylight NZE**
Curtain wall	**Curtain Wall NZE**
Morph	**Morph NZE**

Object	**Armchair NZE**
	Basin 600x450 NZE
	Basin Pedestal 600x450 NZE
	Bath 100x750 NZE
	Bed Double 1350x1880 NZE
	Bed King 1650x2030 NZE
	Bed King Single 1070x2030 NZE
	Bed Queen 1500x2030 NZE
	Bed Single 920x1880 NZE
	Bed Single XL 920x2030 NZE
	Bed Super King 1830x2030 NZE
	Car Hatchback NZE
	Car Saloon NZE
	Cooktop Electric NZE
	Fridge 600x600 NZE
	Lounge Suite NZE
	Shower Corner 1000sq NZE
	WC NZE
Zone	Building Zone NZE
	Impermeable Zone NZE
	Site Zone NZE
	Zone NZE
Mesh	**Mesh NZE**

Document Tools	
Dimension	**Dimension NZE**
	Section Levels NZE
Level Dimension	**Level NZE**
Text	10mm Text NZE
	2.5mm Text NZE
	5mm Text NZE
Label	**Label NZE**
Fill	**600x600 Fill NZE**
	Carpet Image Fill NZE
Line	**Line NZE**
	Line Zone Boundary NZE
	SS Line NZE
	SW Line NZE
Arc/Circle	**Arc/Circle NZE**
Polyline	Polyline Arrow NZE
	Polyline NZE
	Polyline Zone Boundary NZE
Drawing	Drawing NZE
	Layout 1:50 NZE
Section	**Section Model Pens NZE**
	Section Uniform Cut Pens NZE
Elevation	**Elev Colour NZE**
	Elev NZE
Interior Elevation	**Interior Elev Colour NZE**
	Interior Elev NZE
Worksheet	**Worksheet NZE**
Detail	**Detail NZE**
Change	**Cloud + Marker NZE**
	Cloud Only NZE
	Marker Only NZE

More Tools	
Grid	**Grid NZE**
Wall End	Partition NZE
	Structural NZE
Corner Window	**Left Corner Window NZE**
	Right Corner Window NZE
Lamp	**Halogen DL NZE**
	Lightworks Sky NZE
Radial Dimension	**Radial NZE**
Angle Dimension	**Angle NZE**
Spline	Spline Arrow NZE
	Spline NZE
Hotspot	**Hotspot NZE**