Short Sharp Training 0904

Welcome to this issue of the VectorWorks online user group. This manual is designed to work like a user group meeting. There is a main workshop topic, then a page of general questions and answers, extended movies showing tips or techniques and an area for beginners.

Workshop Topic

Creating Drawings for a Building Project

In the past the user group has covered layers, classes and viewports. The feed back I am getting is that this is still an area that people are confused about.

When should you use a class, when should you use a layer? How do you create drawings from the stuff you create on the design layer.

I have created a drawing with enough information to create a set of contract documents for a simple building project. We will learn how to create the drawings from this information. We will use viewports and sheet layers to create our drawings.

Extended Podcast 080

I was showing one of my clients haw they can make plants for concept and construction plans, without having to re-draw the plants.

Extended Podcast 081

I read of this trick the other day on the Vectorworks Community Board. It's a way of renumbering all your symbols using a worksheet.

Beginnercast008

How to use Cut, Paste and Paste in Place.

Creating Drawings for a Building Project

It seems that Vectorworks users always have questions about using layers, classes, viewports and sheet layers to make drawings. The user group has covered this in the past, but as it was 2 years ago, it seems to be a good idea to cover this topic again. At last month's user group meeting several people wanted this topic covered again.

First we should look quickly at layers and classes. Many people struggle with these concepts and they often confuse them. Layers and Classes are not interchangeable. You can sometimes use layers or classes to create your drawings, but it still not make them interchangeable.

What are layers for?

- Used to Control visibility
- Used to break the file up into manageable chunks (storeys of the building)
- Use to make layers of different scales.

We use layers as an organizational tool to break up the design into usable chunks. Layers are used to control the visibility of parts of the drawing so that we can hide or show information for different purposes.

Layers area a horizontal organizing method where you can divide your file up into horizontal chunks. Theses horizontal chunks also have a height and if you set the heights up correctly you can easily generate 3D views of the model.

If you were an architect you would tend to break up the design into stories of the building. You would also have several layers that contained 2D drawings and details that made up the document set.

If you were a landscape architect then you would tend to break up the design into elements based on the type of construction. You may have the building on one layer, the planting on another layer and the groundworks on another layer. You would also have several layers that contained 2D drawings and details that completed the document set.

If you were an engineer then you would tend to break up the design into a 3D model and a series of 2D drawings that showed in detail how the model was constructed.

What are classes for?

- Used to Control visibility
- Used to break the file up into manageable chunks (building elements)
- Used to Control graphic quality
- Used with Wall Styles to automatically assign walls to a class
- Used with Plants to automatically assign part of the plant to different classes.
- Used with symbols to automatically assign symbols to a class
- Used with symbols to change the visibility of parts of the symbol
- Viewports can be used to overwrite the graphic attributes of classes (look different on different viewports)

Classes do not work horizontally as layers do. When a class is switched to invisible every element that is assigned to that class is made invisible, regardless of the design layer that it is on or its height in the layer structure, so you could say that the classes are a vertical way of controlling information.

Classes can be switched on or off throughout the design, giving a way of controlling the organization vertically. By using this technique you can easily see complex designs in individual parts and create many different views of the same design.

If you were an architect you would tend to break up the design into building elements, or construction elements, such as furniture, fittings and plumbing fixtures. You would also have several class that controlled information on the drawings, such as, foundation details and notes, framing notes and dimensions, and so on.

If you were a landscape architect then you would tend to break up the design into elements to control the type of planting, the phase of planting, and so on. You may also use classes to control the notes or dimensions so that they appear on some drawings and not others.

Viewports

A viewport allows you to show a view of design layers. The viewport can be a part of the design layer, it doesn't have to show all the information on the design layer (this is called a crop). Each viewport can have a different crop shape.

The view port can be a different scale from the design layer, and you can have viewports of different scales on the same drawing (sheet layer). This allows you to make complex drawings easily, by combining different parts of the design, and having these at different scales.

When you create a viewport you can choose which layers and classes are visible in the viewport. This is a powerful technique and it allows you to create complex drawings. I use this facility a lot, because as well as turning classes on and off, you can edit the class settings to change the line weight, line style and so on. This lets you create drawings that emphasise certain areas.

There are two main areas for editing viewports. You can edit the crop object (to change the size or shape of the crop), and you can edit annotations. The annotation part of the viewport can be used to add notes and dimensions to the viewport, and it can be used to add drawn information. For example, if you create a section viewport, you can add details of the structure, adding rafter, purlins, cladding and window detailing.

Sheet Layers

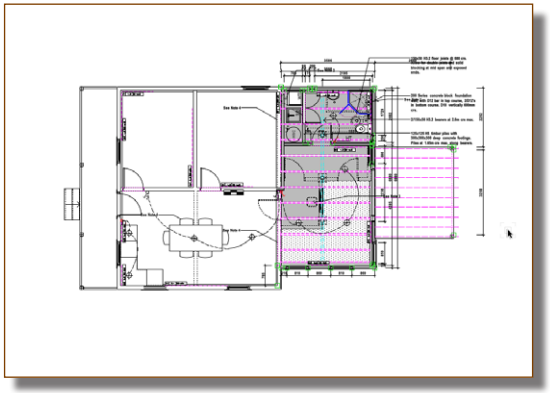
A sheet layer is a special layer that is used for printing. You could think of it as a plotting layer. If you are familiar with AutoCAD you could think of sheet layers as being like paper space.

I often think of the sheet layer as being like a page layout. You add the viewports and title block, moving them around to create the drawing you want. You can only view one sheet layer at a time, but you can put as many viewports on the sheet layer as you need.

Each sheet layer has its own printable area. This means that you could set up A4 presentation drawings and A1 construction drawings in the same file.

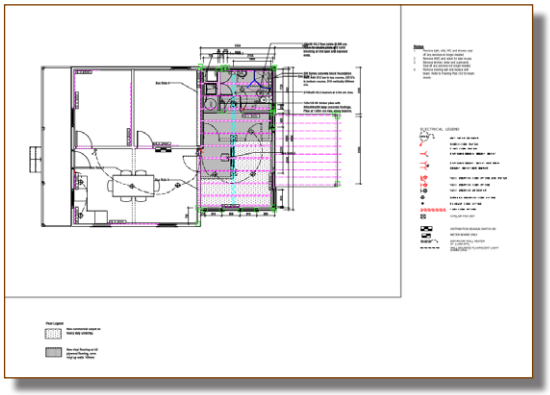
cadmovie304

Open the **issue0904** file that comes with this manual. If you are using Vectorworks 12, 2008 or 2009, open the file from the appropriate folder, and use the file with the correct units (metric or imperial).



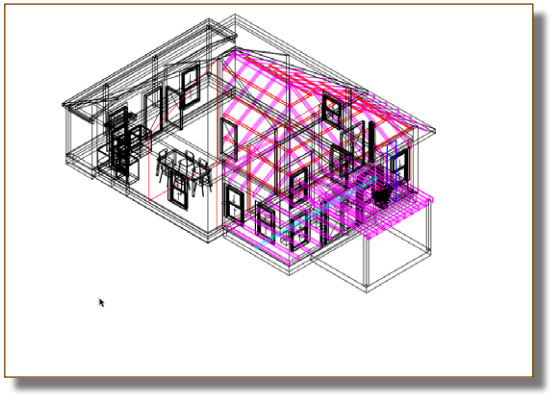
When the file opens you see what looks like a very messy plan. That is because I have too much information shown. Don't worry though, I have used classes for each part of the building. This allows me to turn off parts of the build to make the drawings.

If you zoom out, you will see there is other information on the design layer. I often do this, where I draw information all over the place, then use viewports to create drawings from it.



If you look at the 3D, you can see several parts of the building.

This project is set up as discussed, with a layer for each floor, and classes for each element.

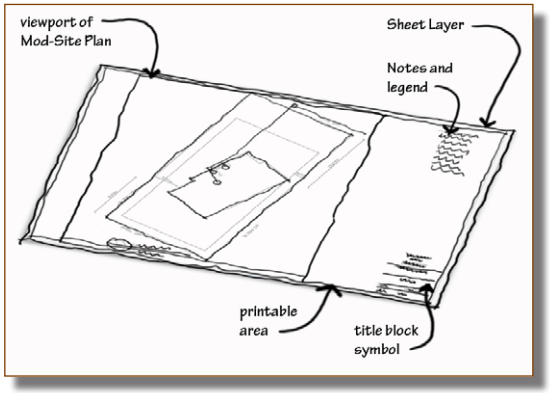


Site Plan

[cadmovie305]

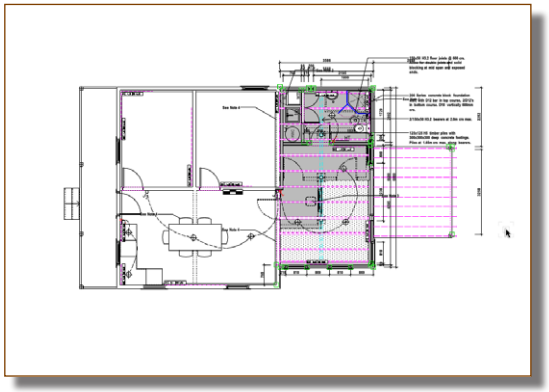
We will create a site plan. On the site plan we need the site, notes and a title block.

You might be able to see from this image, there are several parts of the design we do not want to see. We can use classes for this.



- Make Mod-Level 1 the active layer.

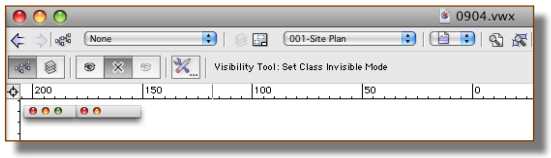
There is too much information. We need to turn off some of the classes to help us make the site plan.



There is a tool in Vectorworks 2009 that will do this easily for you.

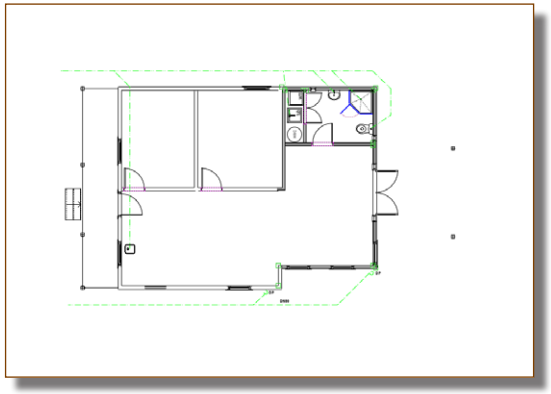
- Go to the **Basic** tool set.
- Choose the **Visibility** tool.

- Go to the **Tool** bar.
- Set your modes to match the image.

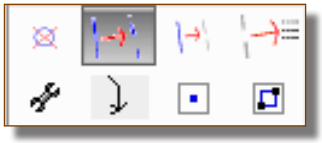


When you click on an object Vectorworks will turn the class of the object invisible.

Click on all the object you want to hide.

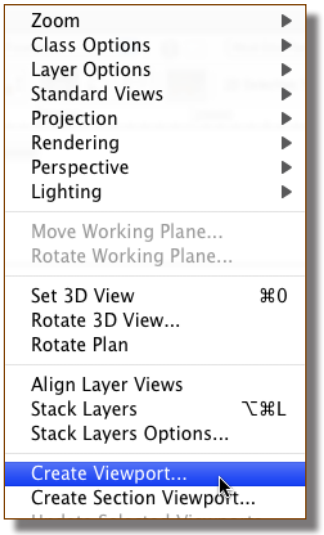


If you have an earlier version of Vectorworks, there is a tool you can use. I have added the plug-in into the exercise folder, but you will have to add it to your Vectorworks and add the tool to the workspace.



There are no options with this tool, you click on an object and Vectorworks hides the class.

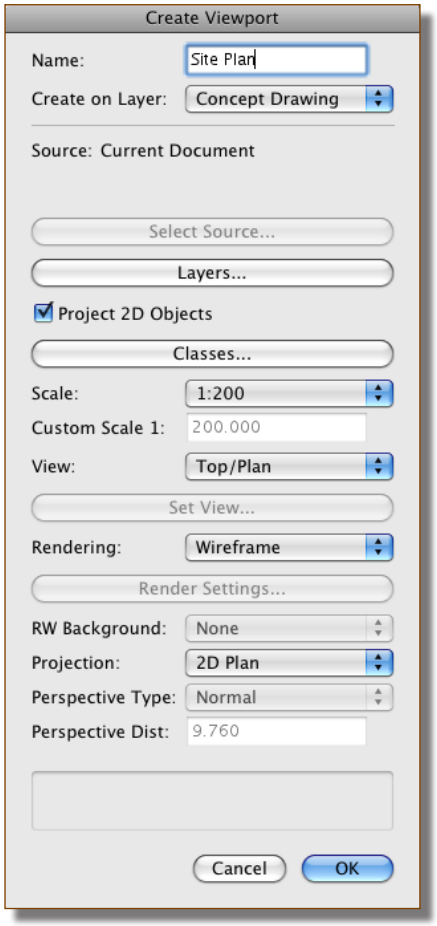
- Make **Mod-Site Plan** the active layer.
- Turn off all the objects you want to hide.
- Go to the **Menu** bar.



- Choose **View > Create Viewport...**

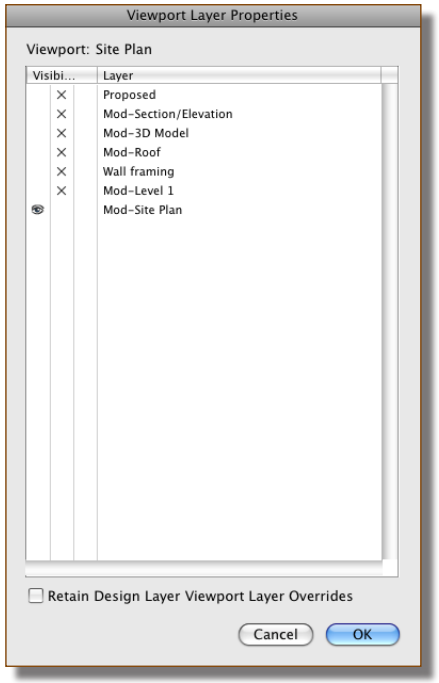
This dialog box opens.

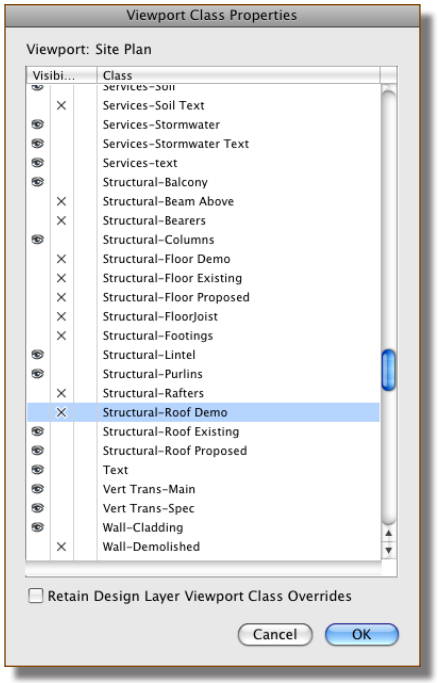
- Name the Viewport. I always use the name that I would put on a drawing



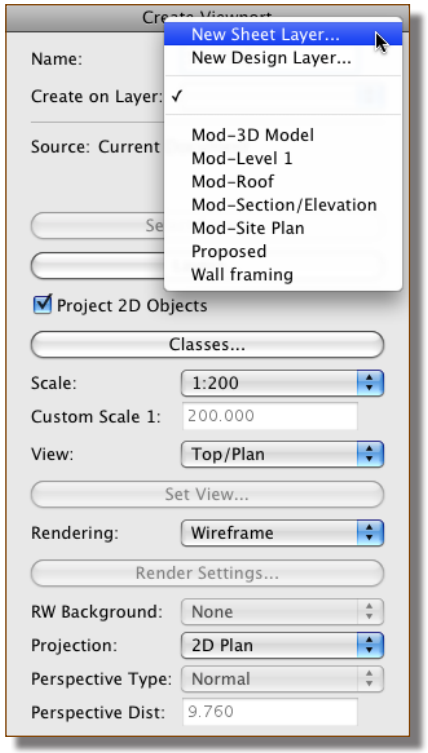
label for the viewport.

- Click on the **Layers...** button.
- Make sure the **Mod-Site Plan** layer is the only one visible.
- Click on the **OK** button.
- Click on the **Classes...** button.
- All the classes you clicked on are invisible. There are other we might need to change, but we can change them layer.





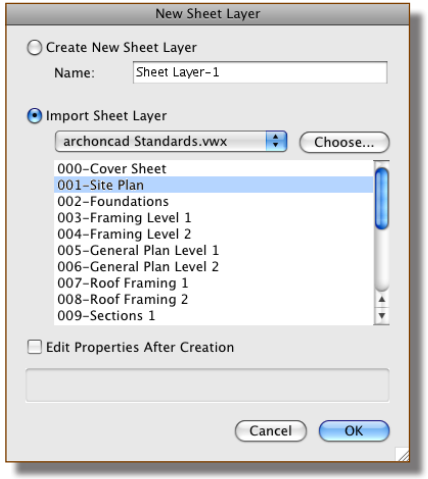
- Click on the **OK** button.
- Click on the Pop-up menu to create a **New Sheet Layer...**



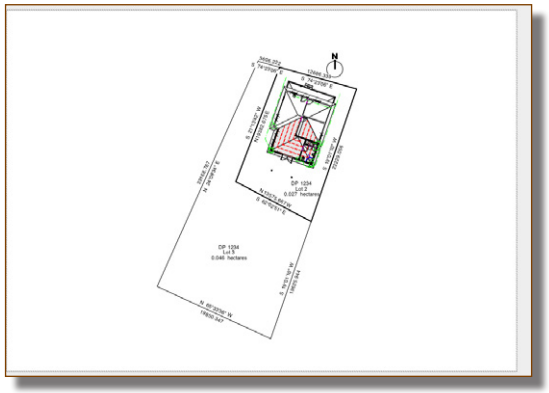
If you have a Class and Layer Standard, you can choose the sheet layer from your standard. This is a quick way to create new sheet layers. Vectorworks will not import title blocks, so all you are really doing is importing a blank sheet.

Setting up the class and layer standard is a way on ensuring consistency with layer and class names.

- Click on the **OK** button to create the new sheet layer.
- Click on the **OK** button to finish creating the viewport.

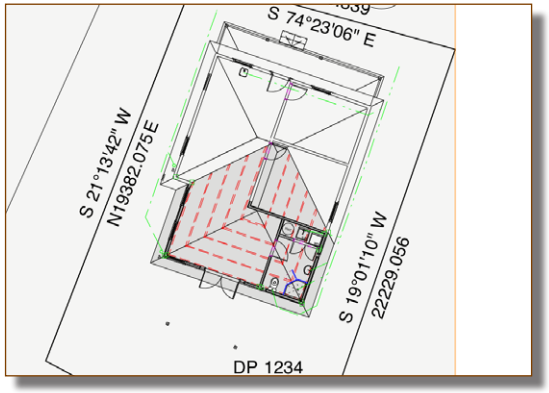


Your viewport is on the sheet layer (drawing).

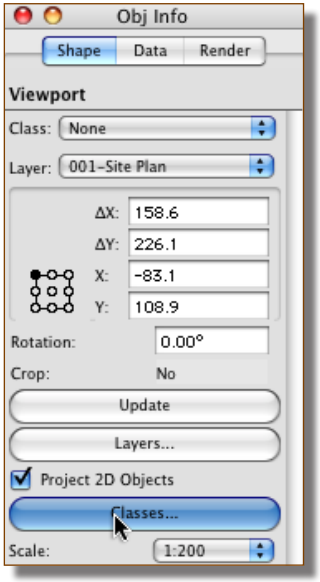


- Zoom into the house plan.

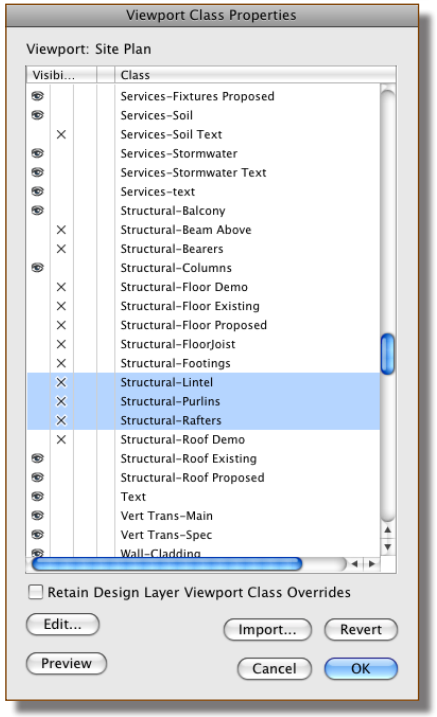
Notice the things in the drawing, like the purlins and rafters. We have to edit the classes to turn these off.



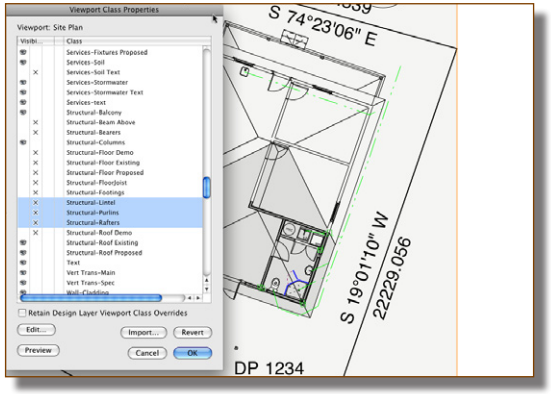
- Go to the **Object Info** palette.
- Click on the **Classes...** button.



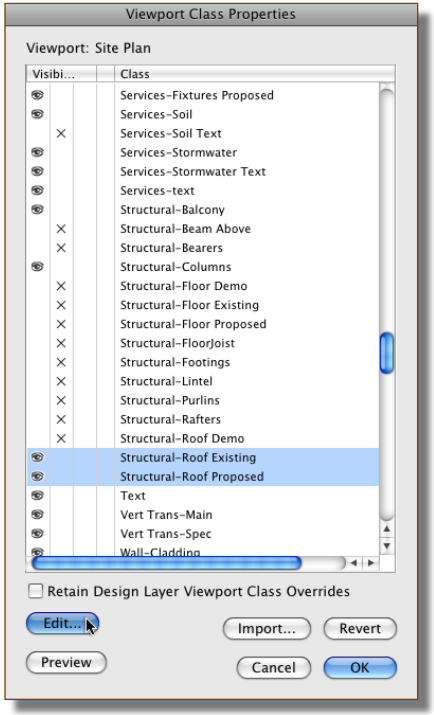
- Turn off the classes for the rafters and purlins.



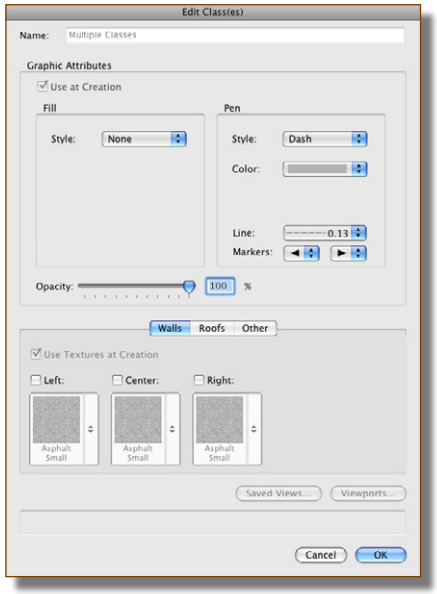
- Click on the **Preview** button to see the changes. This is good technique to make sure you are turning off the correct parts.



- Look at the Roof classes. The roofs are shown solid at present. We can edit the class settings.
- Choose the two roof classes.
- Click on the **Edit...** button.

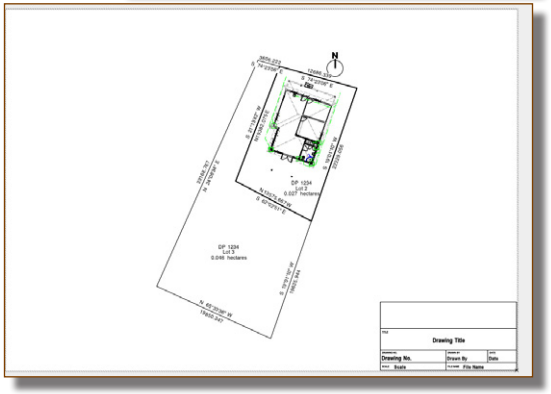


- Edit the class settings so you have none for the fill, and a grey, thine line for the roof outline.
- Click on the **OK** button to close the Class settings.
- Click on the OK button to get back to the drawing.



Notice how the roof has changed. This is a powerful technique. You can changed the look of the roof in this viewport only. The roof still appears solid everywhere else.

- Add your title block, using the Drawing border tool.

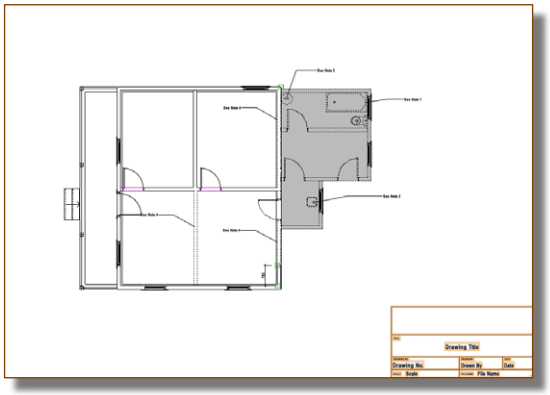


Demolition Plan

cadmovie306

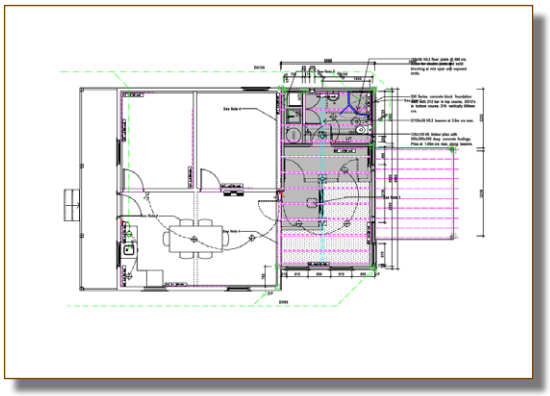
On the demolition plan we need the existing house, notes and dimensions for the demolition and a title block.

- We will use a viewport to make the demolition plan. All the information is drawn, and it has classes assigned to the parts.

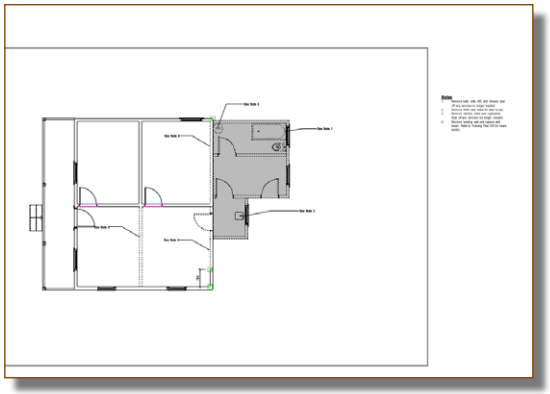


- Make Mod-Level 1 the active layer.
- Turn all the classes on. You can use the Navigation palette to do this.

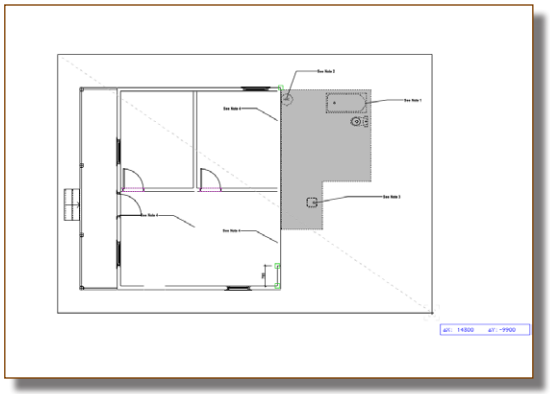
There is too much information. We need to turn off some of the classes to help us make the site plan.



- Use the visibility tool, or the plug-in I have given you to turn off the information you do not want.
- Do not turn off the notes on the right hand side. These are the demolition notes.
- Leave the key notes for the demolition visible as well.

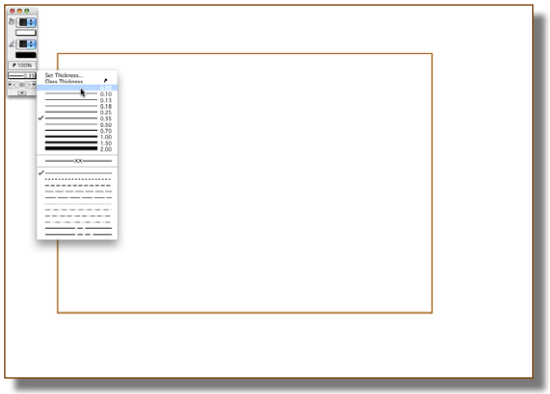


- Draw a rectangle around the plan. This will become our crop object, hiding everything outside the rectangle.

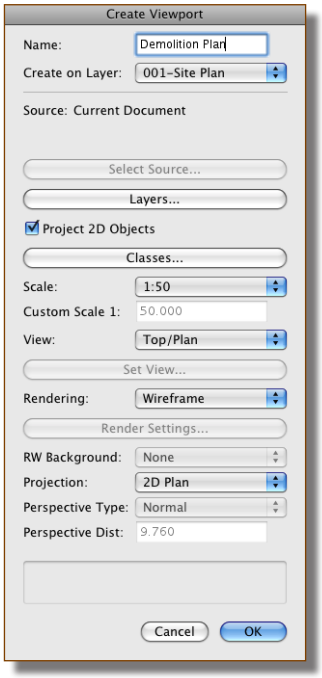


- Use the Attributes palette to set the line weight of the rectangle to 0 .

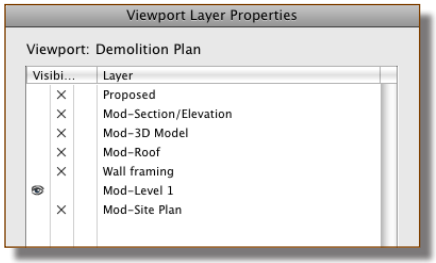
You can not turn the crop object off later, unless you assign it to a class. Then if you do, it becomes really hard to find it for editing. The best strategy is to give the crop zero line weight, and assign the crop to the None class.



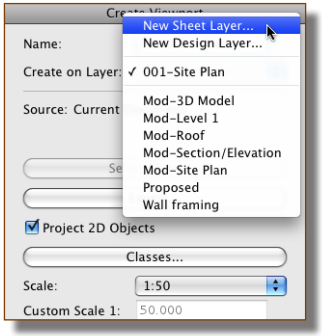
- Go to the Menu bar.
- Choose **View > Create Viewport...**



- Name the Viewport.
- Click on the **Layers...** button.
- Make sure the **Mod-Level 1** layer is the only one visible.
- Click on the **OK** button.

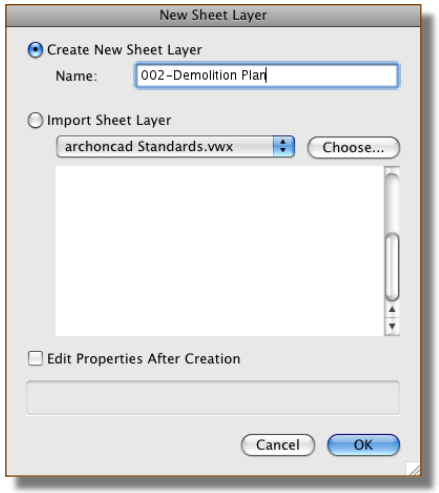


- Click on the Pop-up menu to create a **New Sheet layer...**

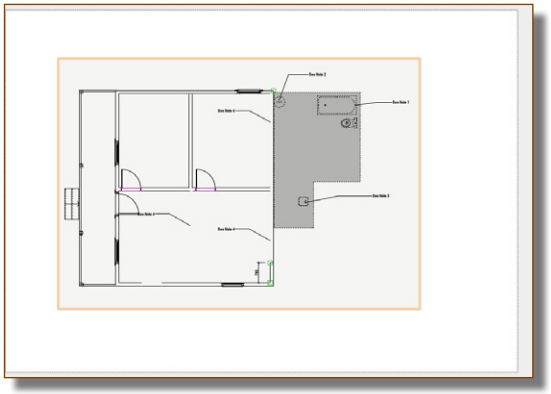


If you have a Class and Layer Standard, you can choose the sheet layer from your standard. If not you will have to type in the name of the sheet layer.

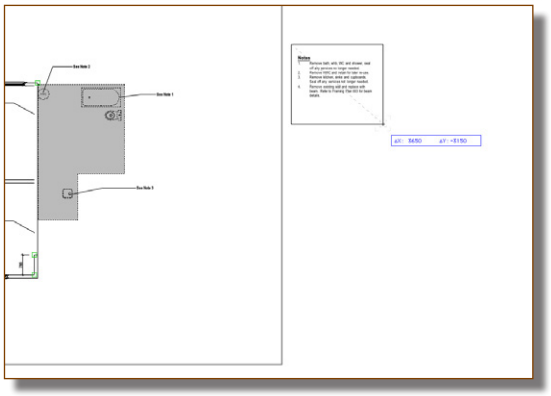
- Click on the **OK** button to create the new sheet layer.
- Click on the **OK** button to finish creating the viewport.



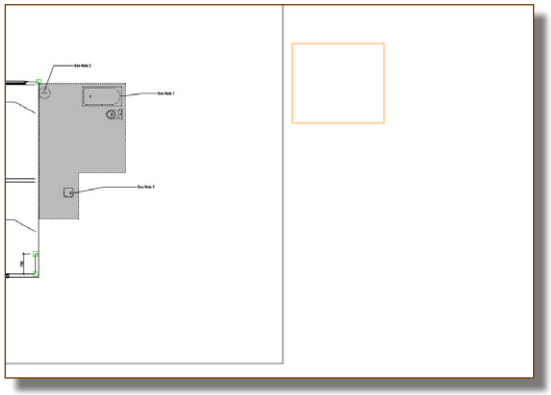
- Move the viewport the to location you want on the sheet.



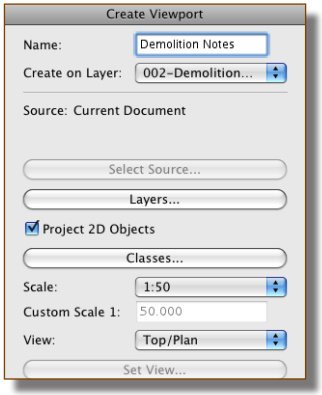
- Make Mod-Level 1 the active layer.
- Draw a rectangle around the demolition notes.



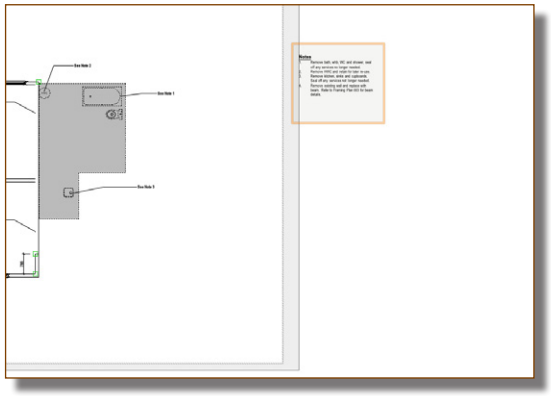
- Use the Attributes palette to set the line weight of the rectangle to 0 .



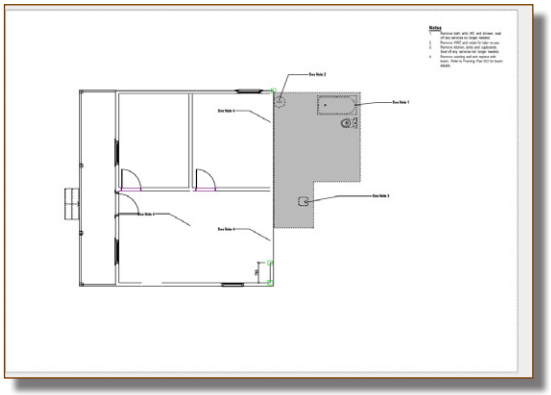
- Go to the **Menu** bar.
- Choose **View > Create Viewport...**
- Name the Viewport.
- Click on the **OK** button to finish creating the viewport.



- Your notes might arrive outside the printing area.

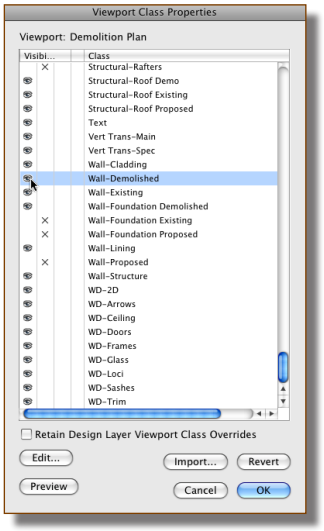


- Use the 2D Selection tool to drag the notes into the printing area.

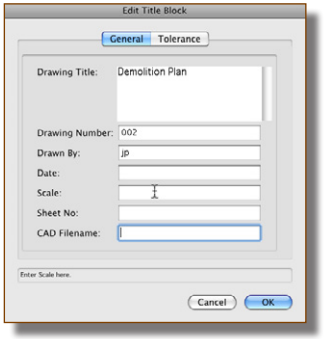


Now that I'm looking at the drawing, I notice some things missing. It looks like I accidently turned off the walls I want.

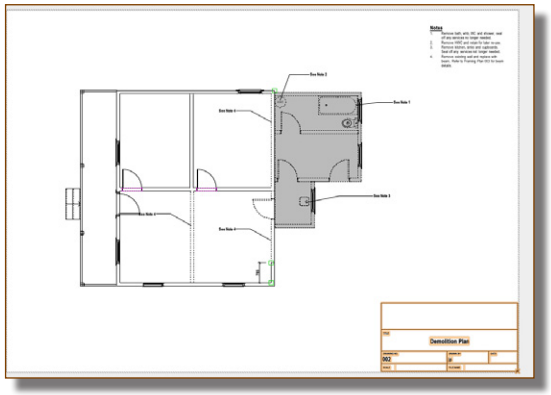
- Go to the Object Info palette.
- Click on the Classes... button.
- Check the classes. I need to turn the Walls-Demolished back on.
- Click on the **OK** button.



- Use the Drawing Border tool to place a title block.
- Go to the Object Info palette.
- Click on the **Edit Title Block...** button.
- Add the information for the title block



- Click on the **OK** button.

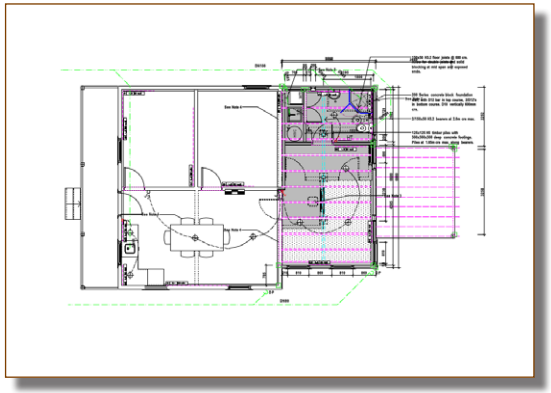


Foundation Plan

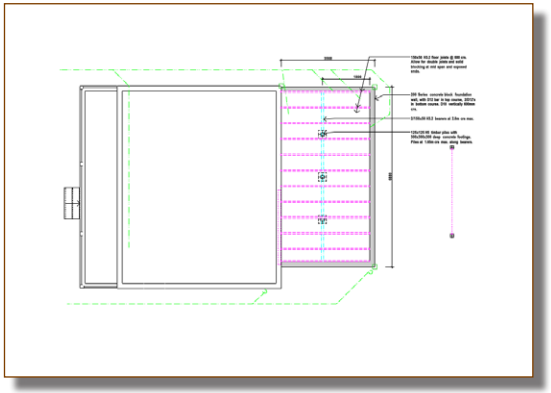
cadmovie307

On the foundation plan we need the existing foundation, the proposed foundation walls, floor framing, notes, dimensions, and a title block.

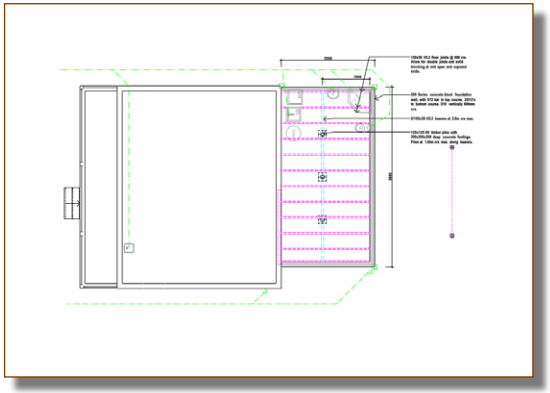
- Make Mod-Level 1 the active layer.
- Turn all the classes on. You can use the Navigation palette to do this.



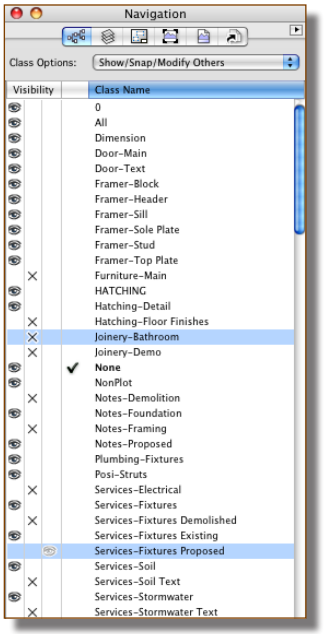
- Use the visibility tool, or the plug-in I have given you to turn off the information you do not want.



- Notice how the toilets are grey. You can see them, but they don't draw solid.



- Go to the **Navigation** palette.
- Turn off the **Joinery-Bathroom** class.
- Grey the **Services-Fixtures Proposed** class.

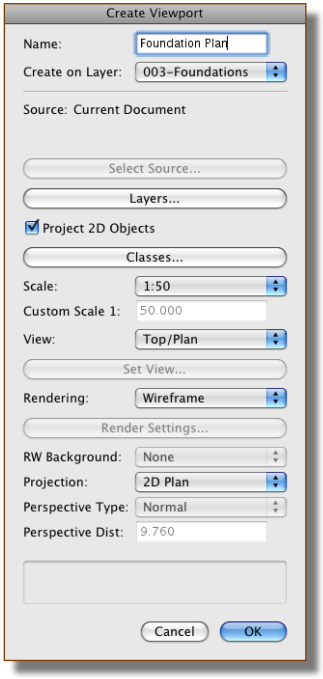


- Draw a rectangle around the plan. This will become our crop object, hiding everything outside the rectangle.
- Use the Attributes palette to set the line weight of the rectangle to 0.

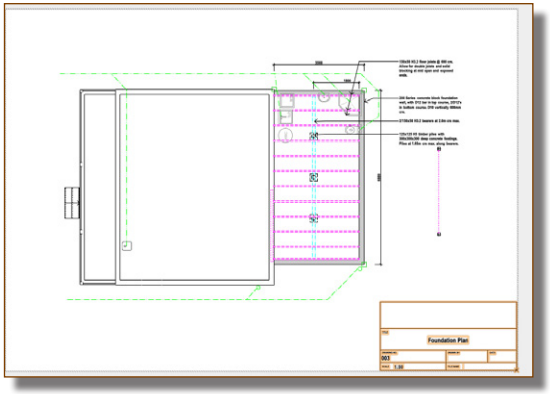
- Go to the Menu bar.
- Choose **View > Create Viewport...**
- Name the Viewport.
- Click on the **Layers...** button.
- Make sure the **Mod-Level 1** layer is the only one visible.
- Click on the **OK** button.
- Click on the Pop-up menu to create a **New Sheet layer...**

If you have a Class and Layer Standard, you can choose the sheet layer from your standard. If not you will have to type in the name of the sheet layer.

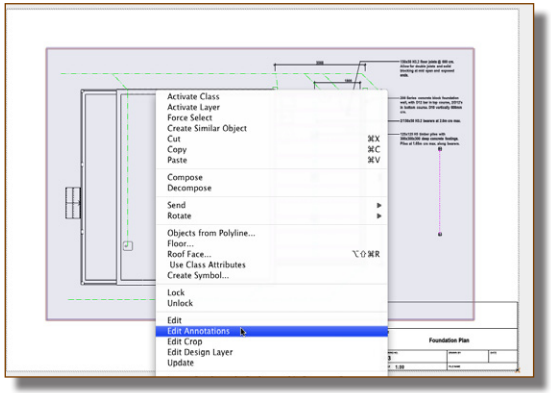
- Click on the **OK** button to finish creating the viewport.



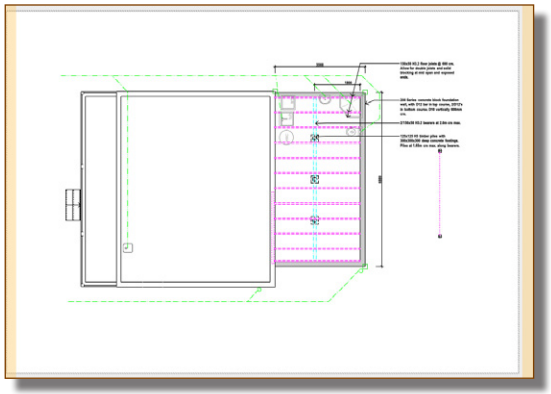
- Move the viewport the to location you want on the sheet.
- Use the Drawing Border tool to place a title block.
- Go to the Object Info palette.
- Click on the **Edit Title Block...** button.
- Add the information for the title block
- Click on the **OK** button.



- Right mouse on the viewport.
- Choose **Edit Annotations.**

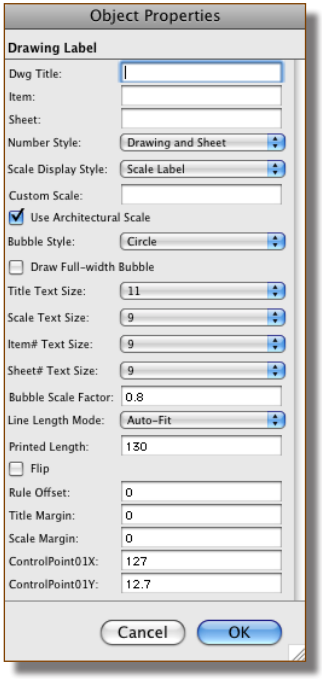


This takes you inside the viewport so you can add notes, dimensions and labels.

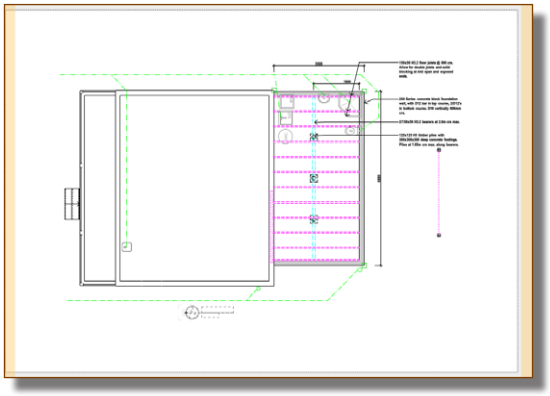


- Go to the **Annotation** or **Dims/ Notes** toolset.
- Select the **Drawing Label** tool.

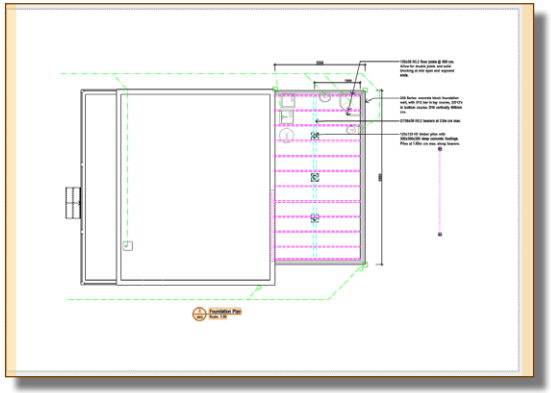
- Go to the **Tool** bar.
- Click on the **Preferences** button.
- Set the preferences to suit your drawing style.
- Click on the **OK** button to close the preferences.



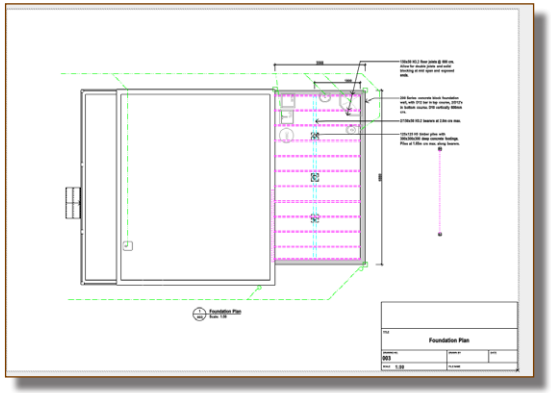
- Move your cursor below the plan.



- Double click to place the Drawing Label.



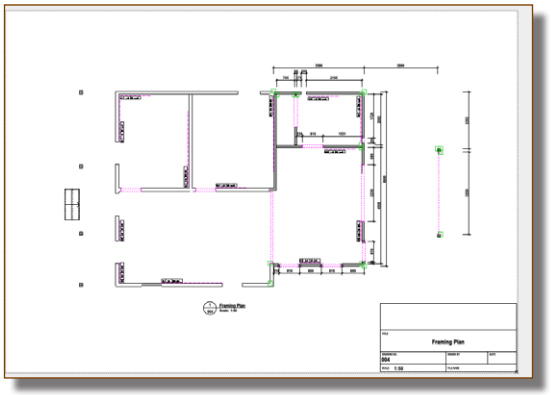
- Click on the **Exit Viewport Annotations** button at the top right.



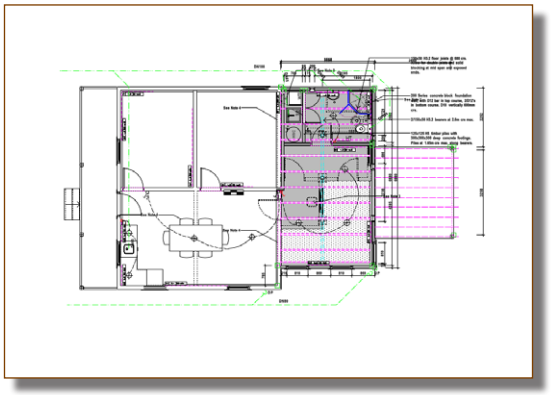
Framing Plan

cadmovie308

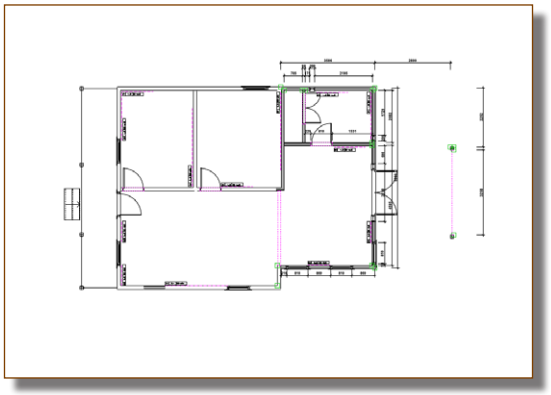
On the framing plan we need the existing walls, proposed walls, notes, dimensions, bracing, and a title block.



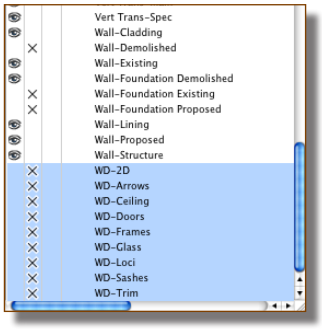
- Make Mod-Level 1 the active layer.
- Turn all the classes on. You can use the Navigation palette to do this.



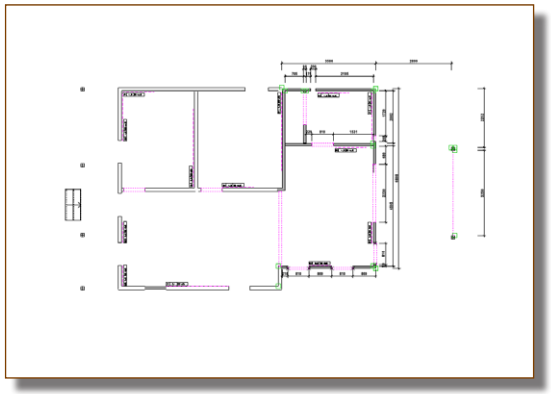
- Use the visibility tool, or the plug-in I have given you to turn off the information you do not want.



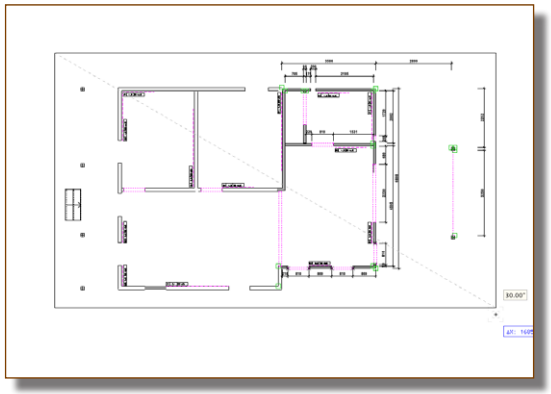
- Go to the Navigation palette.
- Turn off all the **WD-** classes.



- This turns off the main part of the door, but leaves the lintel shown.



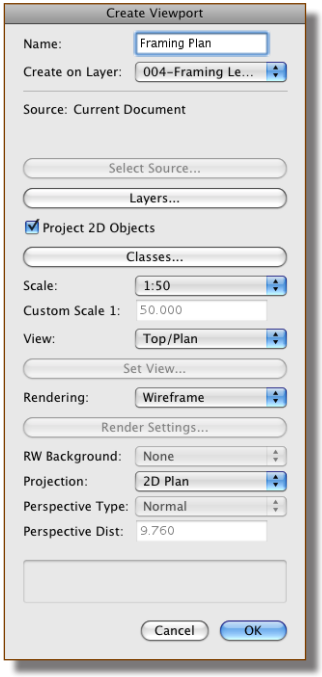
- Draw a rectangle around the plan. This will become our crop object, hiding everything outside the rectangle.
- Use the Attributes palette to set the line weight of the rectangle to 0.



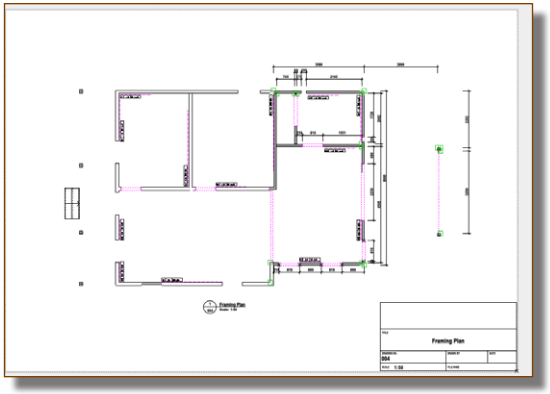
- Go to the Menu bar.
- Choose **View > Create Viewport...**
- Name the Viewport.
- Click on the **Layers...** button.
- Make sure the **Mod-Level 1** layer is the only one visible.
- Click on the **OK** button.
- Click on the Pop-up menu to create a **New Sheet layer...**

If you have a Class and Layer Standard, you can choose the sheet layer from your standard. If not you will have to type in the name of the sheet layer.

- Click on the **OK** button to finish creating the viewport.



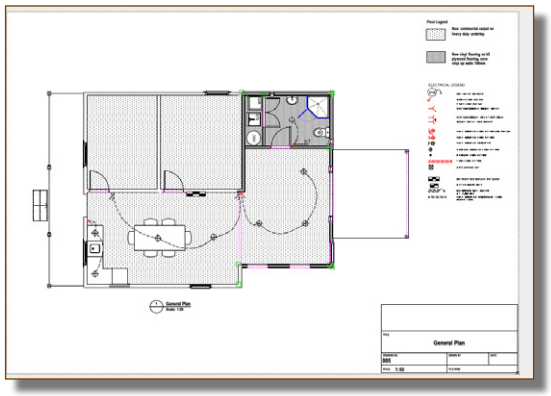
- Move the viewport the to location you want on the sheet.
- Use the Drawing Border tool to place a title block.
- Edit the Title Block.
- Add the Drawing label.



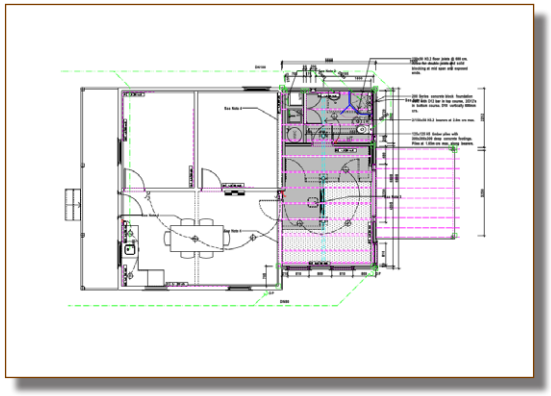
General Plan

[cadmovie309]

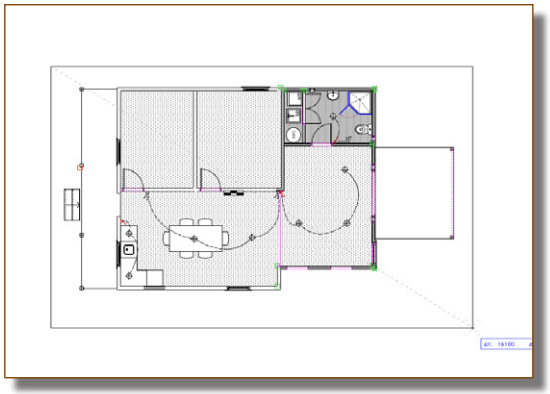
On the general plan we need the existing walls, proposed walls, joinery, electrical, notes, dimensions, floor finishes, and a title block.



- Make Mod-Level 1 the active layer.
- Turn all the classes on. You can use the Navigation palette to do this.

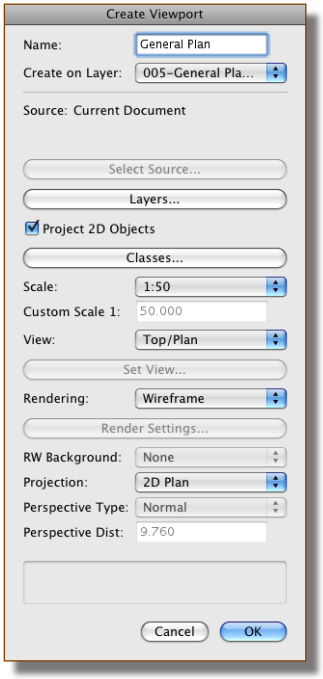


- Use the visibility tool, or the plug-in I have given you to turn off the information you do not want.
- Draw a rectangle around the plan. This will become our crop object, hiding everything outside the rectangle.
- Use the Attributes palette to set the line weight of the rectangle to 0.



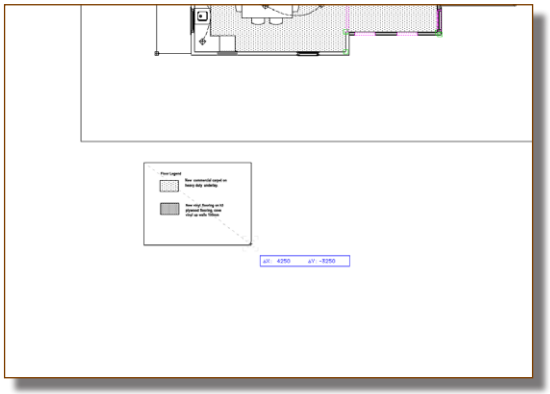
- Go to the Menu bar.
- Choose **View > Create Viewport...**
- Name the Viewport.
- Click on the **Layers...** button.
- Make sure the **Mod-Level 1** layer is the only one visible.
- Click on the **OK** button.
- Click on the Pop-up menu to create a **New Sheet layer...**

If you have a Class and Layer Standard, you can choose the sheet layer from your standard. If not you will have to type in the name of the sheet layer.

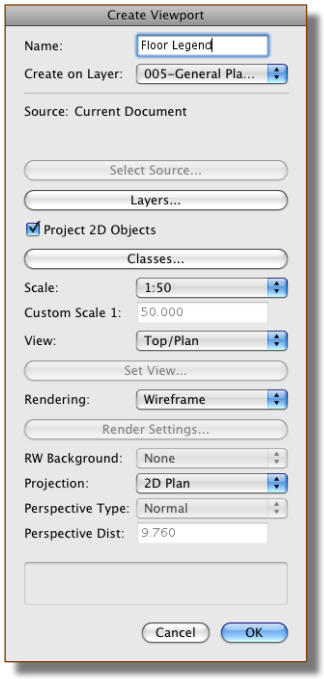


- Click on the **OK** button to finish creating the viewport.
- Move the viewport the to location you want on the sheet.
- Use the Drawing Border tool to place a title block.
- Edit the Title Block.
- Add the Drawing label.

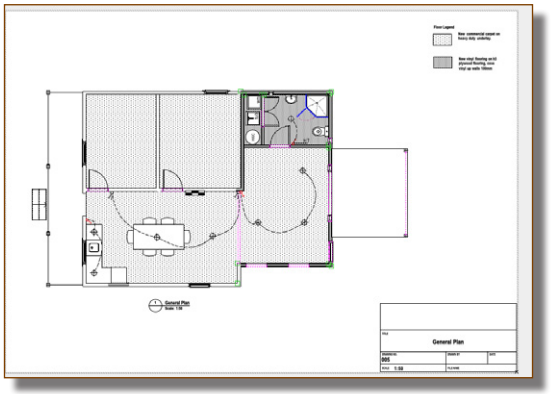
- Go back to Mod-Level 1.
- Draw a rectangle around the floor finishes legend.
- Use the Attributes palette to set the line weight of the rectangle to 0.



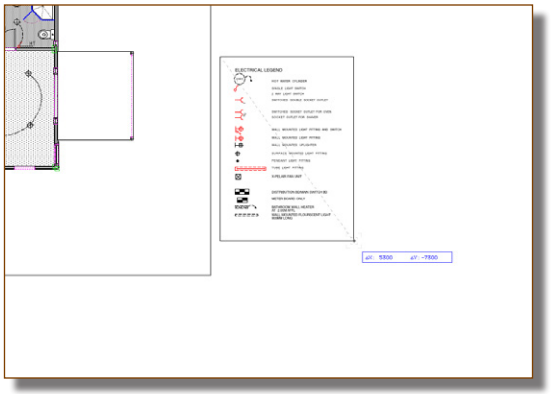
- Create a viewport for the floor legend.



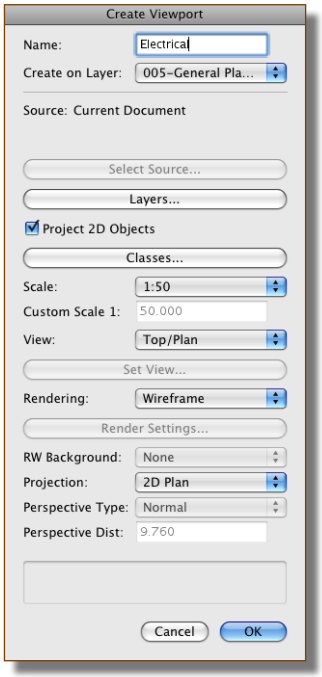
- Move the floor legend on the page.



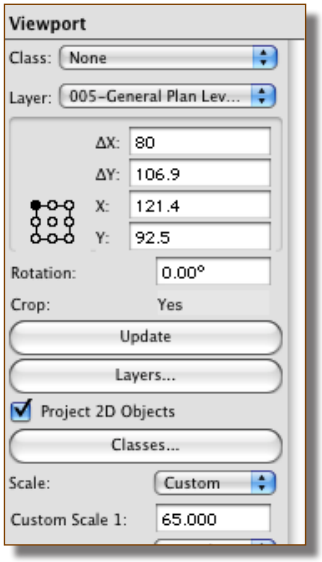
- Go back to Mod-Level 1.
- Draw a rectangle around the electrical legend.
- Use the Attributes palette to set the line weight of the rectangle to 0.



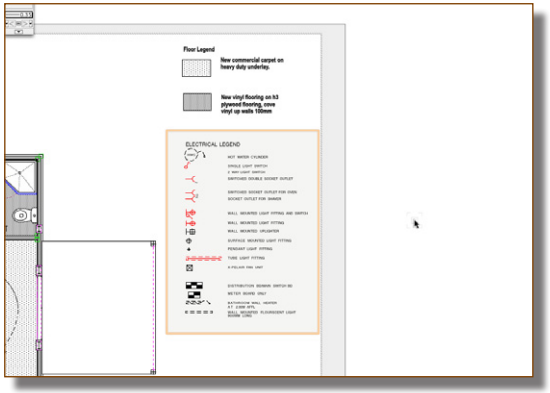
- Create a viewport for the electrical legend.



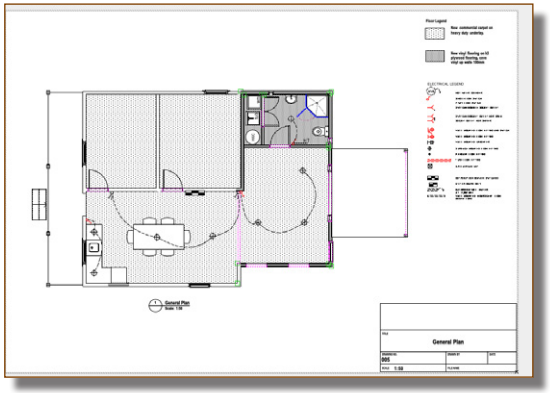
- Go to the Object Info palette.
- Set the scale of the electrical legend to **Custom.**
- Enter a custom scale. I use anything I want here so the legend fits on the drawing, but is not too small.



- Move the electrical legend so it site nicely on the drawing.



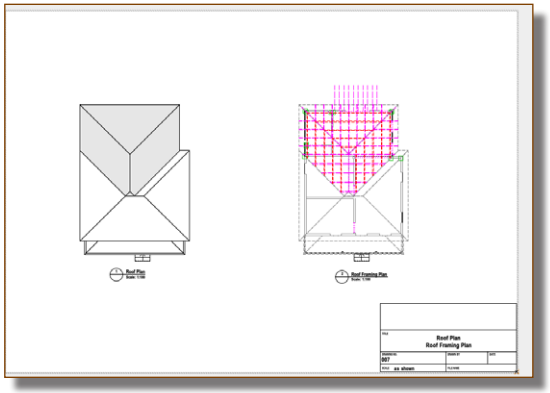
- Now the drawing is looking better.



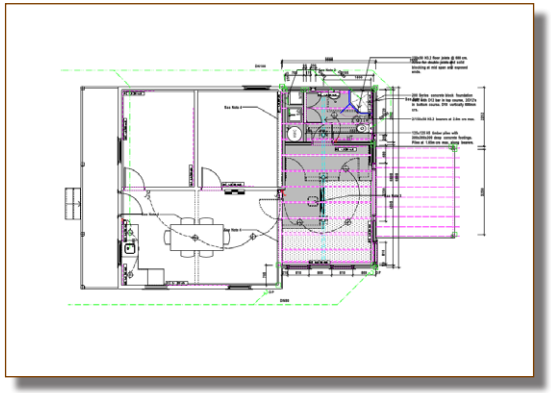
Roof Plan and Roof Framing

cadmovie310

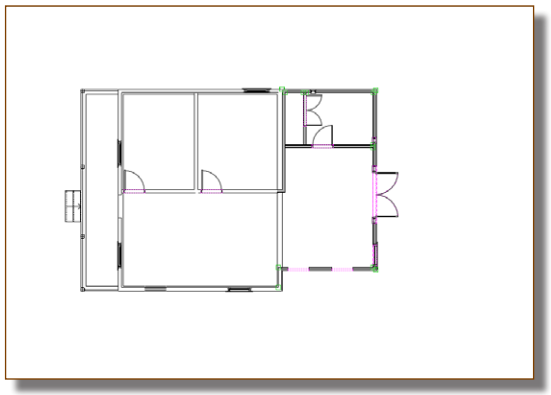
On the roof framing plan we need the walls, roof structure, and a title block.



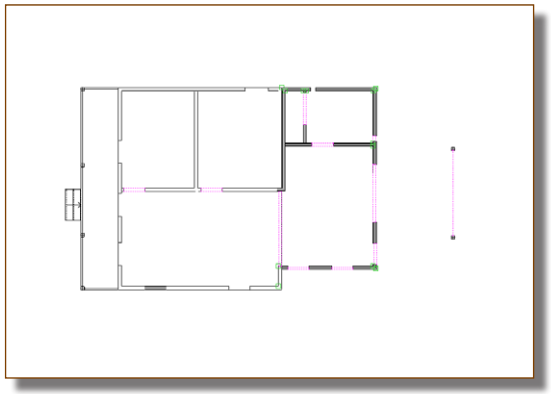
- Make Mod-Level 1 the active layer.
- Turn all the classes on. You can use the Navigation palette to do this.



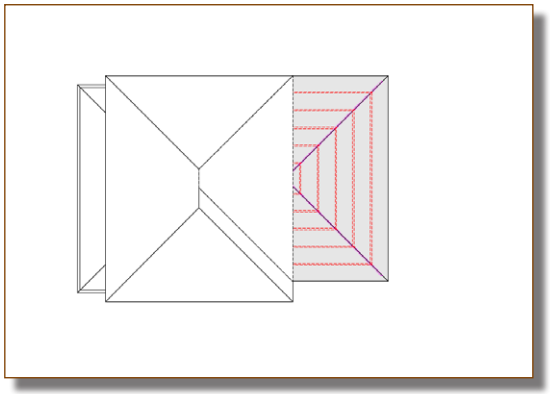
- Use the visibility tool, or the plug-in I have given you to turn off the information you do not want.



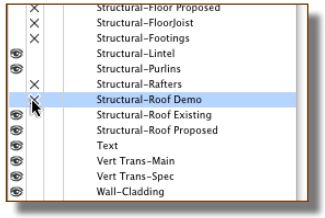
- Like the framing plan, you have to use the Navigation palette to turn off the WD-classes for the doors. If you try to use the visibility tool, it will turn off the walls.



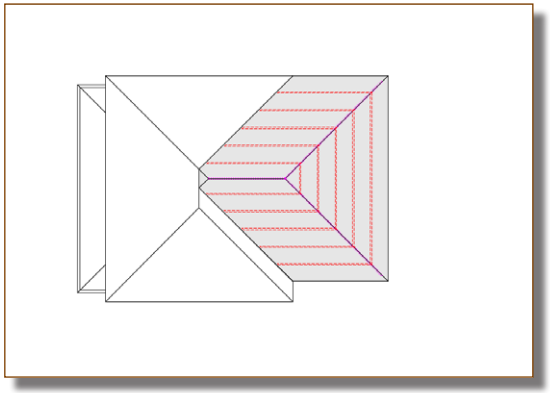
- Make **Mod-Roof** the active layer.



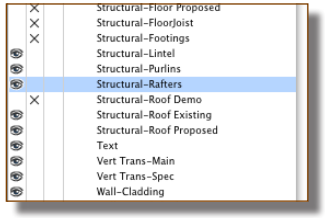
- Use the visibility tool, or use the Navigation palette to turn off the **Structural-Roof Demo** class.



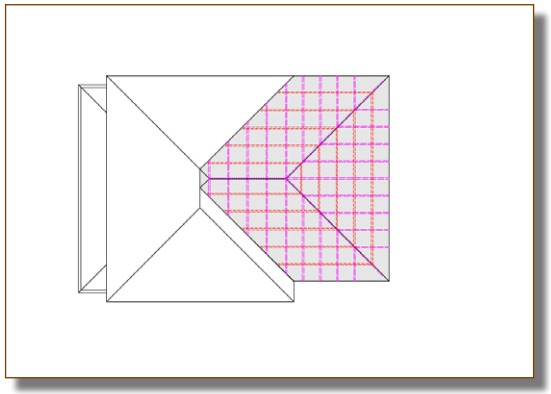
- Now you can see the new roof, but you can't see the rafters.



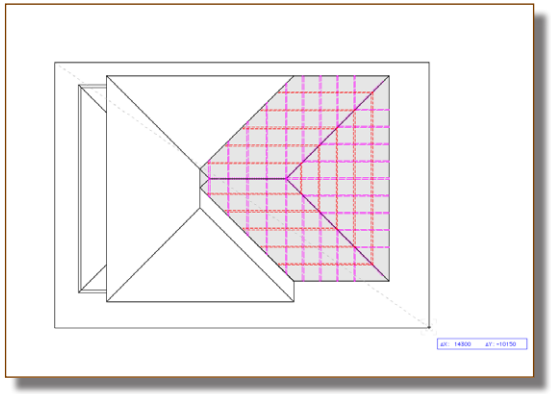
- Use the Navigation palette to turn on the **Structural-Rafters** class.



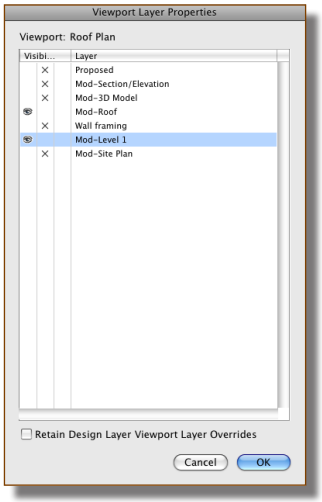
- Now you can see the rafters.



- Draw a rectangle around the plan. This will become our crop object.
- Use the Attributes palette to set the line weight of the rectangle to 0.
- Go to the Menu bar.
- Choose **View > Create Viewport...**
- Name the Viewport.
- Click on the **Layers...** button.



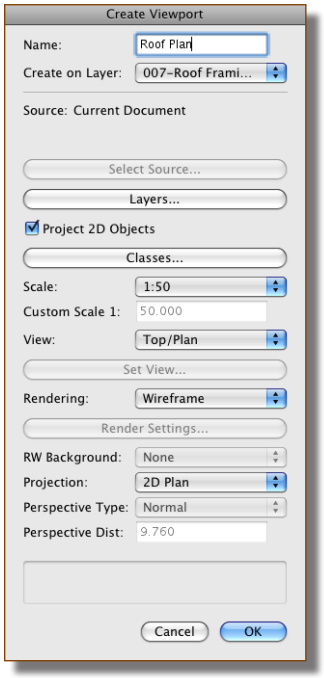
- Make sure the **Mod-Roof and Mod-Level 1** layer are the only visible layers.
- Click on the **OK** button.



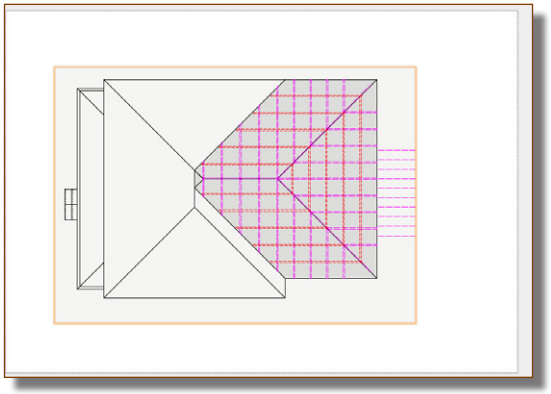
- Click on the Pop-up menu to create a **New Sheet layer...**

If you have a Class and Layer Standard, you can choose the sheet layer from your standard. If not you will have to type in the name of the sheet layer.

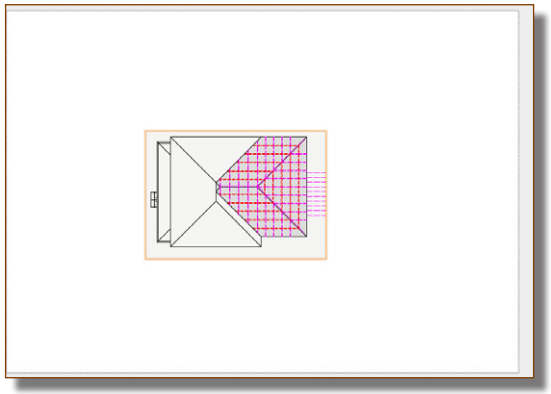
- Click on the **OK** button to finish creating the viewport.



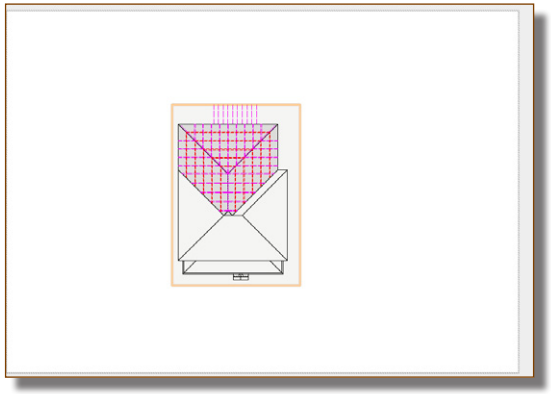
We want the roof plan and the roof framing on this drawing, but the current viewport is too big to fit of them on the page.



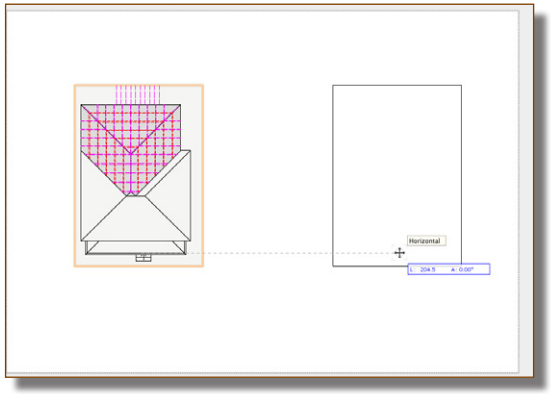
- Go to the Object Info palette.



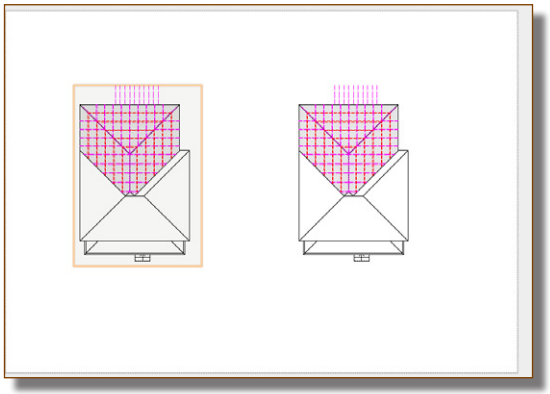
- Change the Scale of the viewport to 1:100.
- Rotate the viewport 90°. You can use the rotate tool, or you can use the quick method, right mouse click on the viewport and use Rotate > Rotate Left 90°.



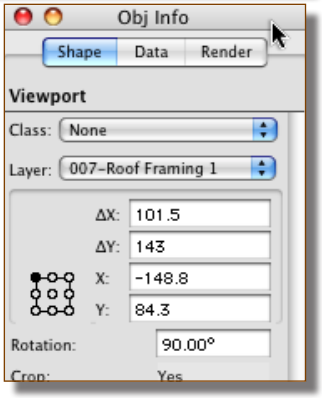
- Move the viewport the to location you want on the sheet.
- Drag a copy across the to right. Drag a copy is where you drag an object with the option key (Macintosh) or the control key (Windows) held down. When you release the mouse you have a copy.



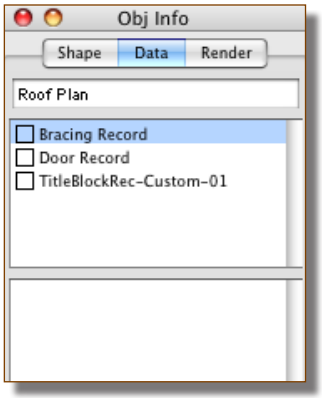
- Make sure the two viewports line up.
- Select the left viewport.



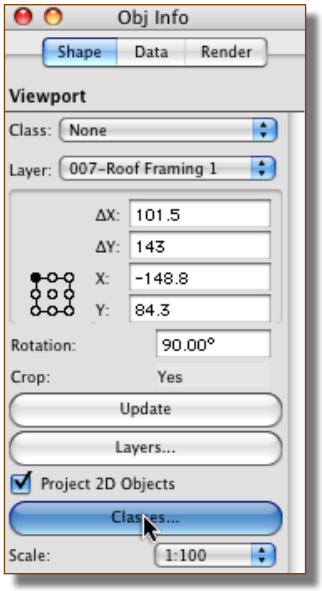
- Go to the **Object Info** palette.



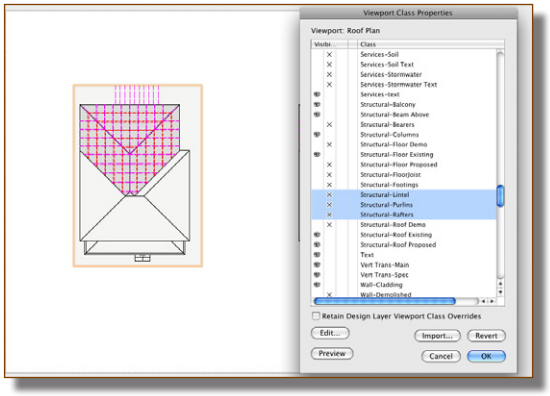
- Change the **Object Info** palette to the **Data** tab.
- Check the name of the viewport. Type in the correct name for the viewport at the top field on the Object Info palette.



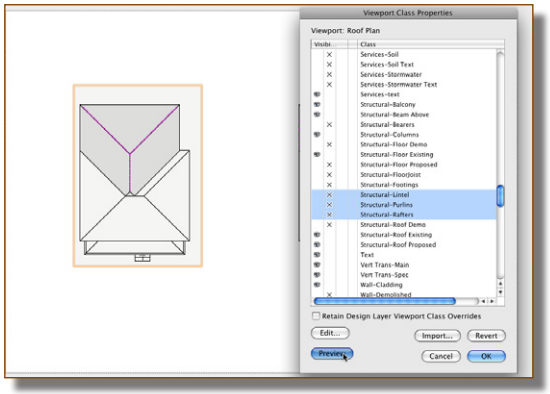
- Change the **Object Info** palette to the **Shape** tab.
- Click on the **Classes...** button.



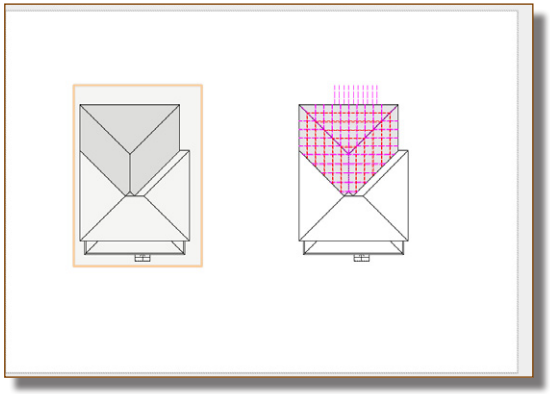
- Turn off the **Structural-Lintels, Purlins and Rafters**.



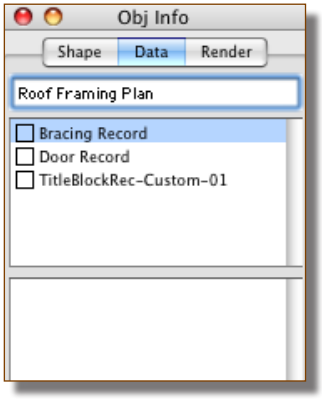
- Click on the **Preview** button to check the viewport.



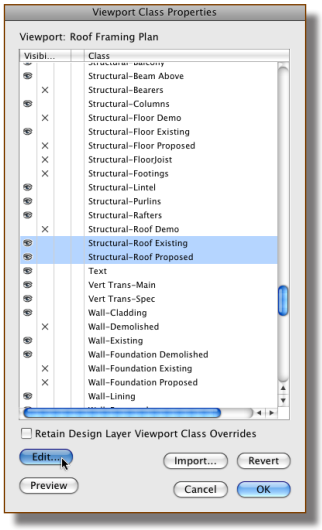
- Select the Roof Framing viewport, the one on the right.



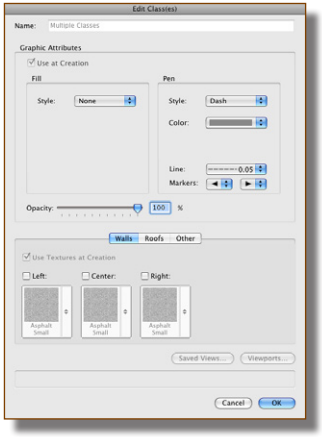
- Go to the **Object Info** palette.
- Change to the **Data** tab.
- Edit the name of the viewport to reflect the name you want on the drawing label.



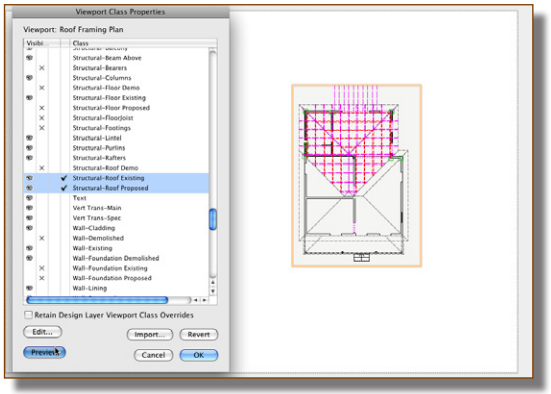
- Change the Object Info palette to the Shape tab.
- Click on the **Classes...** button.
- Select the **Structural-Roof Existing** and **Structural-Roof Proposed** classes.
- Click on the **Edit...** button.



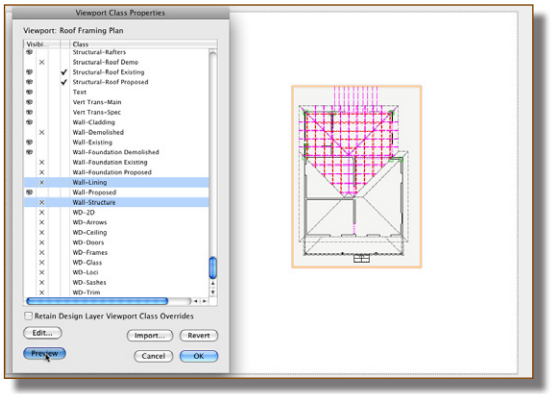
- Edit the classes to change the line style, line color, line weight and fill style.



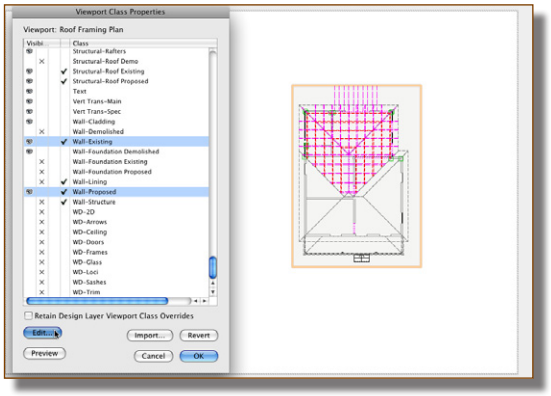
- Click on the **Preview** button to check.



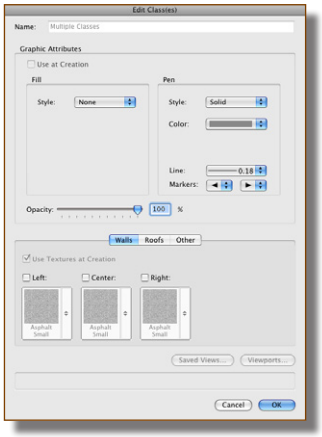
- Turn off the classes for **Wall-Lining** and **Wall-Structure** classes.



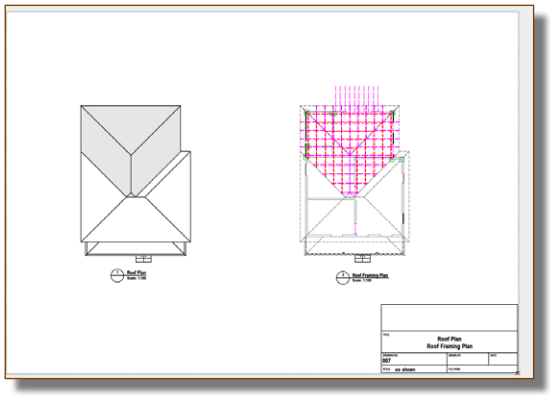
- Select the other visible wall classes.
- Click on the **Edit...** button.



- Edit the classes to change the line style, line color, line weight and fill style.
- Click on the **OK** button to close the Edit Classes dialog box .



- Click on the **OK** button to rerun to the drawing.
- Use the **Drawing Border** tool to place a title block.
- Edit the Title Block.
- Add the Drawing labels.



Elevations

There are two main ways to create your elevations. You can use the 3D model to create your elevations, or you can use your 3D model to create 2D elevations.

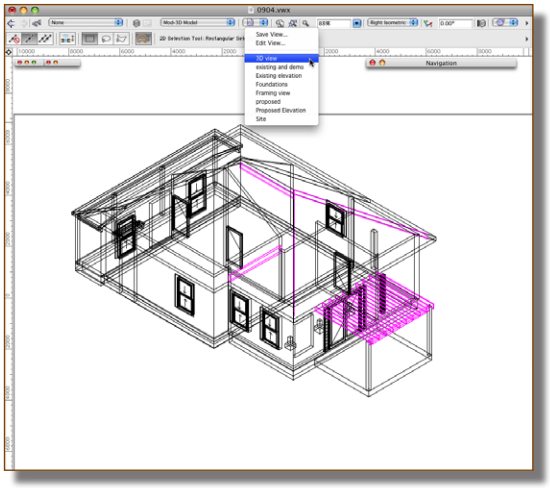
At the concept stage the first method works really well. The live elevations keep up to date with your model. As you add or move windows, you only need to click on the update button to see the revised elevation.

As you move into contract documents or working drawings, you might have to add annotations to your elevations to make them, look better. For example, if you want to show weatherboards on the elevations, or sheet cladding, then you need to add the lines to the elevations. This can be done in the Annotation part of the viewport. But as you move windows, or edit window positions, you will have to edit your wall cladding manually.

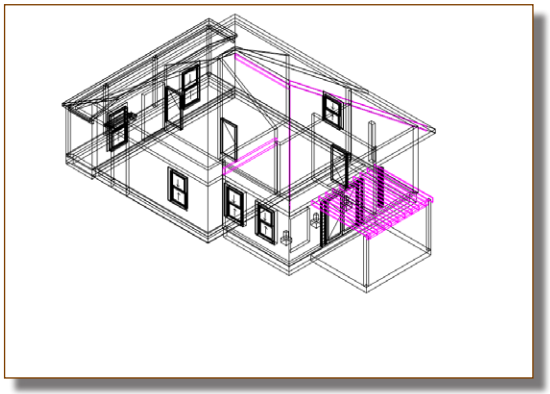
At working drawings, I often use my 3D model to create 2D elevations. These are line drawings from the 3D model, so they start out up to date. But because they elevations are 2D, you can easily change line weights. This method works best when your 3D model is not perfect.

[cadmovie311]

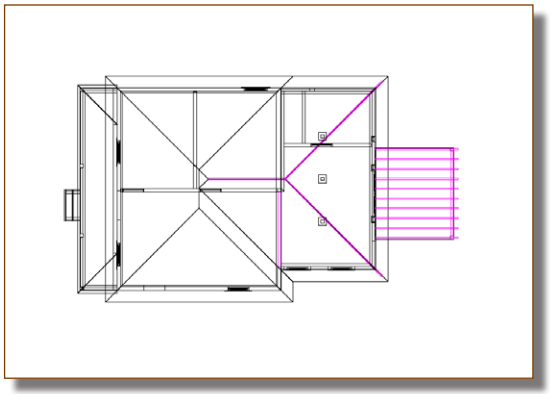
- Make **Mod-3D Model** the active layer.
- Go to the Saved Views menu.
- Choose **3D View**.



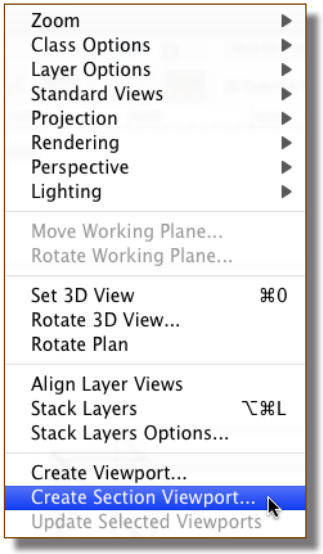
- This sets the view, and turns off all the classes we do not want.



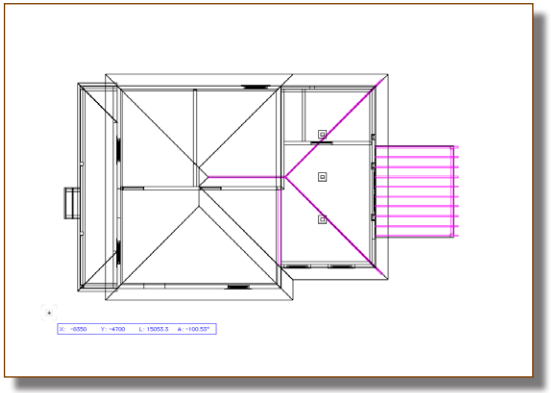
- Change to a top or **Top/Plan** view.



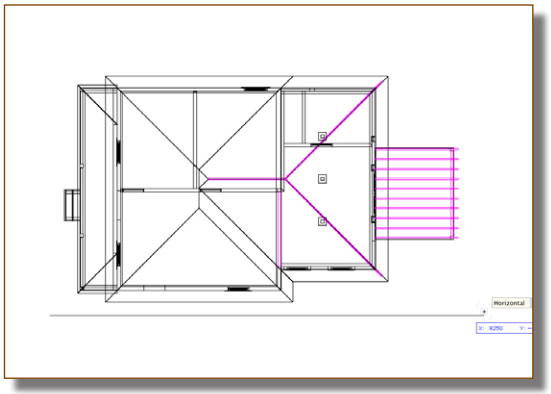
- Go to the Menu bar.
- Choose **View > Create Section Viewport...**



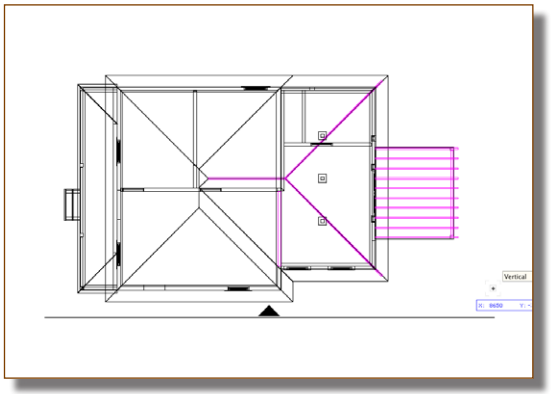
- Click for the start of the viewport. Ensure you start outside the building.



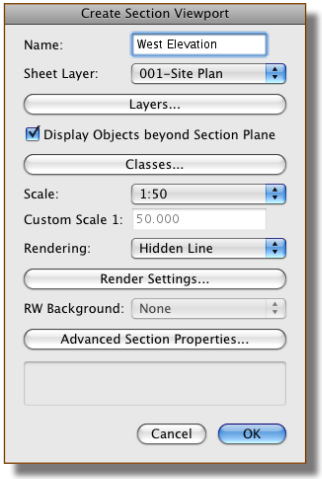
- Move to the other end of the building. Ensure you finish outside the building.



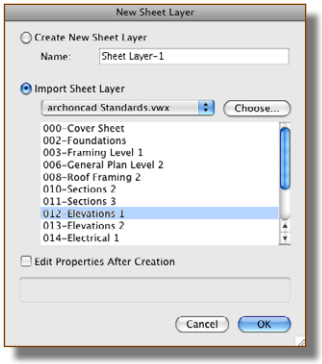
- Move towards the building, so the arrow points to the building.
- Double click.



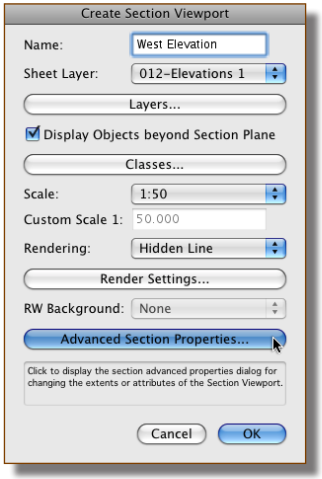
- Name the viewport.



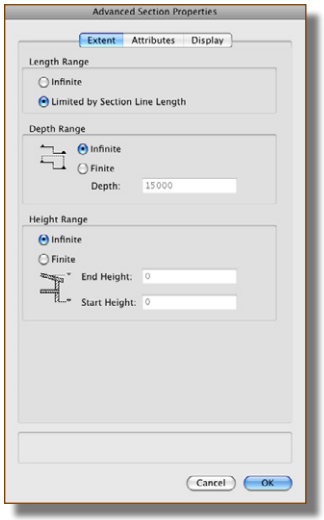
- Create a new sheet layer for the elevations.



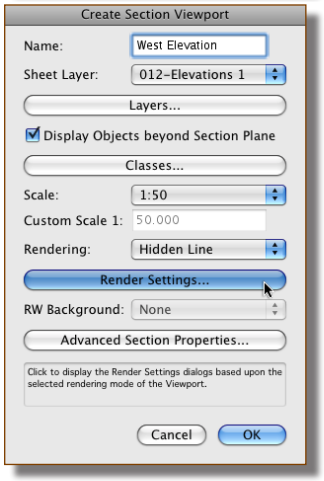
- Click on the **Advanced Section Properties...** button.



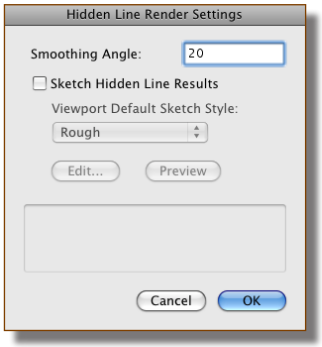
- Choose **Limited by Section Line Length**. This will limit the elevation to the length of the section line.
- Click on the **OK** button.



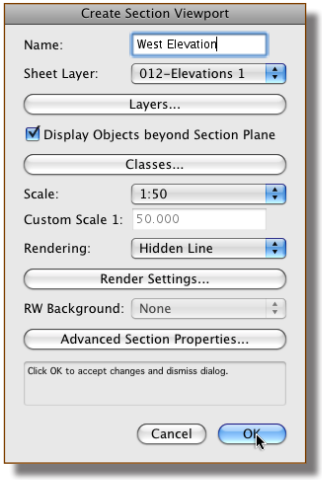
- Click on the **Render Settings...** button.



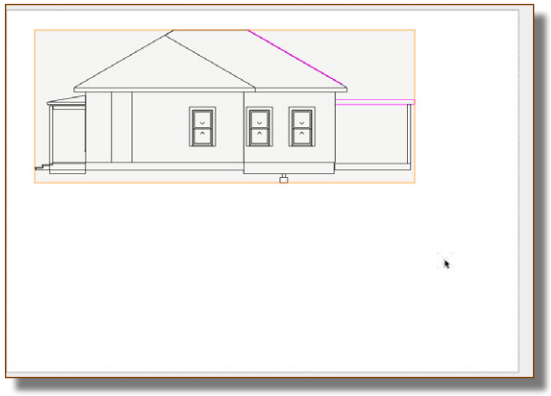
- If you want to have a hand-drawn look, you can turn on sketch hidden line results.
- Set the smoothing angle to 20.
- Click on the **OK** button.



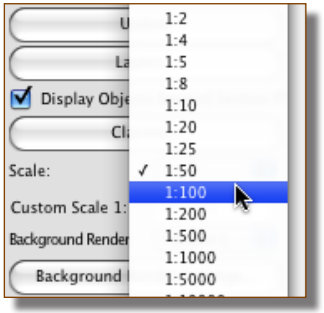
- Click on the **OK** button.



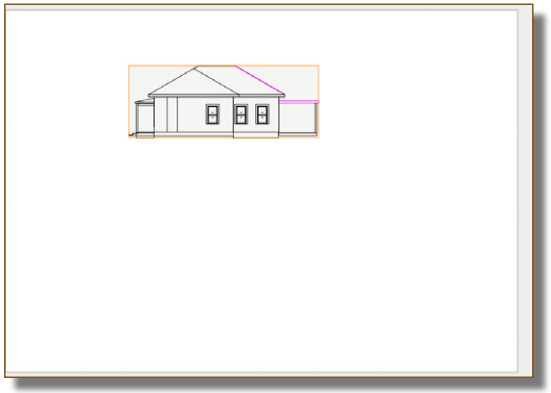
- The elevation is on the drawing, but the scale is wrong. I want to get more elevations on the same sheet.



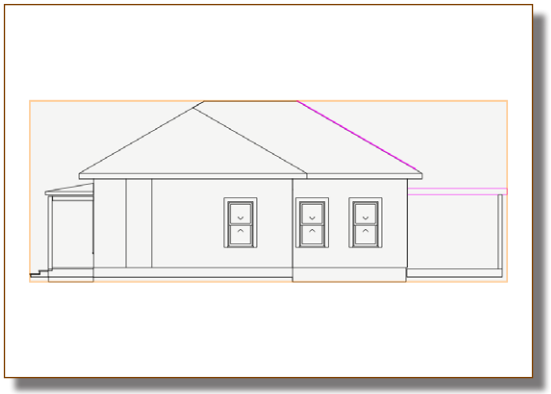
- Go to the **Object Info** palette.
- Click on the **Scale** pop-up menu.
- Choose **1:100**.



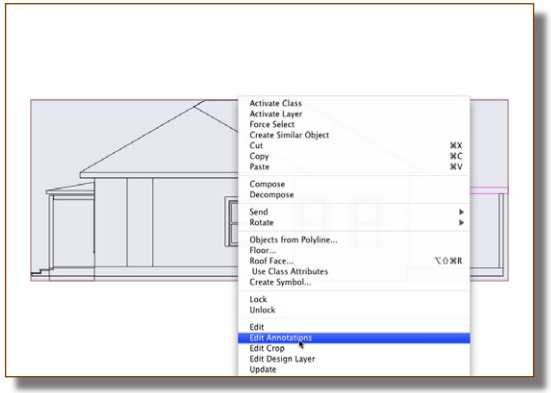
- The elevation changes scale on the sheet layer.



- Zoom into the elevation.

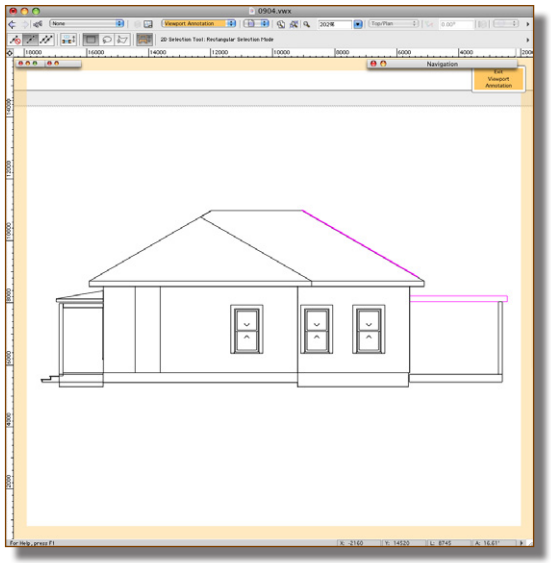


- Right mouse click on a edge of the elevation.
- Choose **Edit Annotations**.

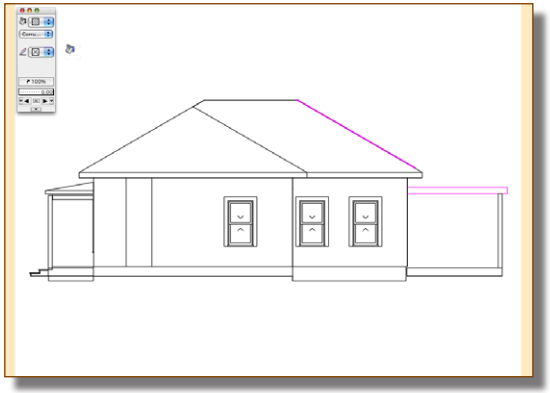


This takes you into the viewport annotation area where you can add notes, dimensions, labels and hatching.

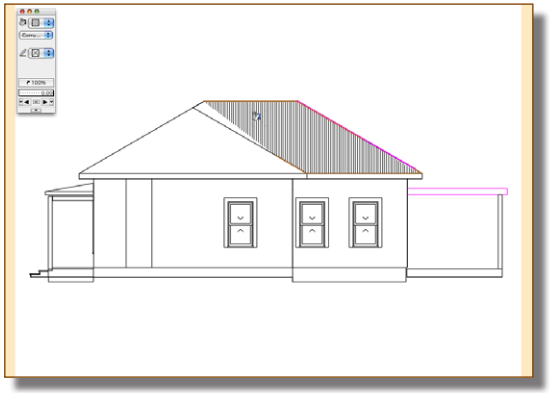
When we are finished, you can return to the drawing by clicking on the **Exit Viewport Annotation** button at the top right of the screen.



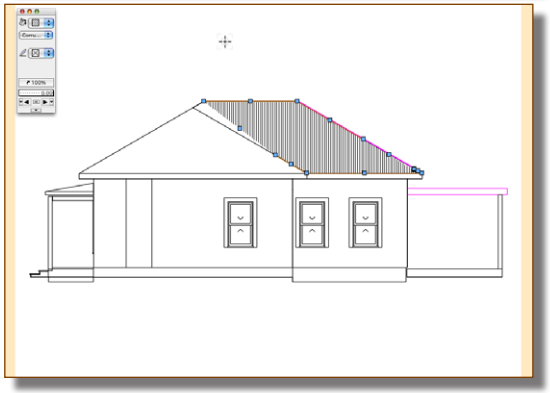
- Go to the **Basic** tool set.
- Choose the **2D Polygon** tool.
- Set your default attributes to the corrugated roof hatching with no line.



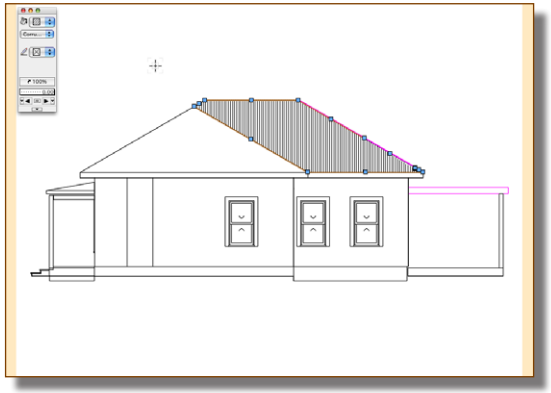
- Click inside the new roof area.



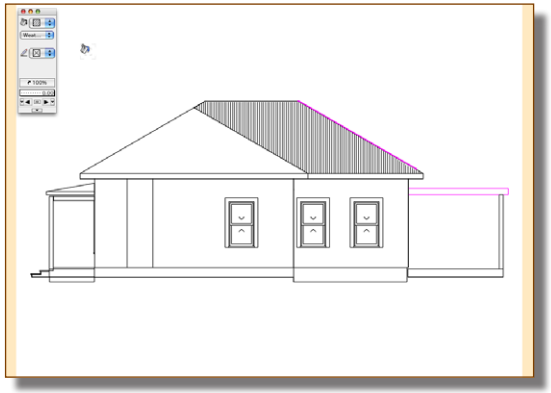
- Vectorworks fills in the roof with hatching.



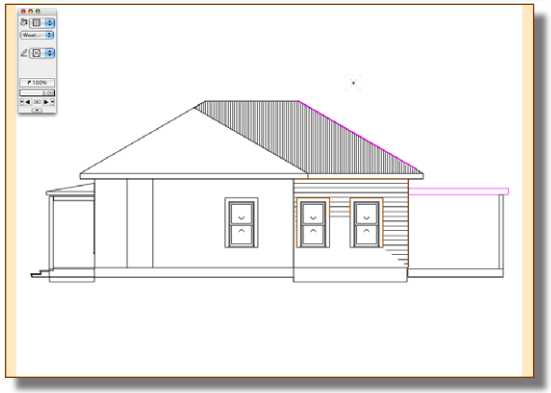
- It may not do a perfect job, so use the **2D Reshape** tool.



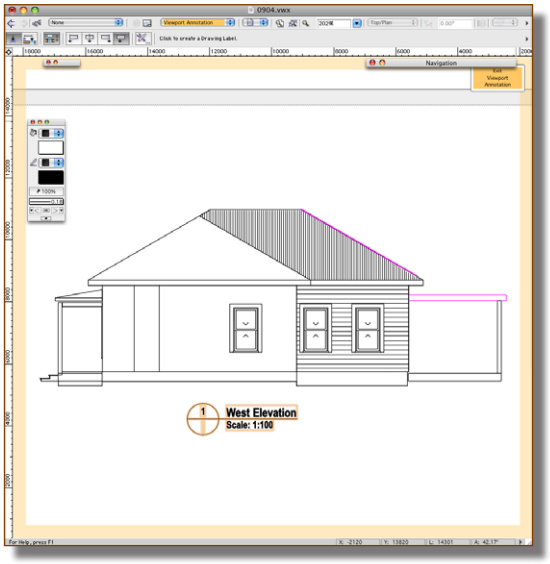
- Edit the roof area to suit.
- Make sure nothing is selected.
- Set your default attributes to the weatherboard hatching with no line.



- Click in the wall area for the new weatherboards.
- It may not do a perfect job, so use the 2D Reshape tool.
- Edit the area to suit.

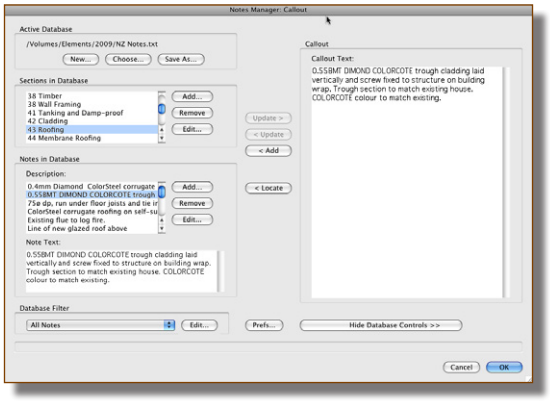


- Add the drawing label.

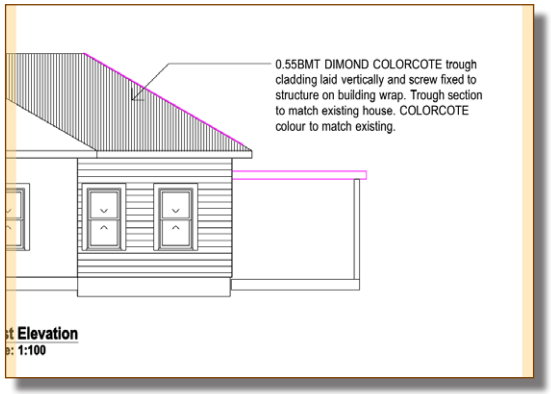


- Go to the **Basic** tool set.
- Choose the **Callout** tool.

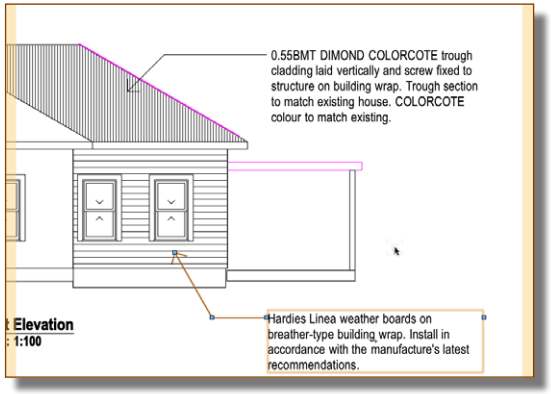
- Place a callout, using text from your database.



- You can quickly add notes from your database for the roof.



- And you can quickly add notes from your database for the walls.



You can see that this method has the advantage of keeping up to date with the 3D model. As you update the 3D model, you only need to click on the update button to see an updated elevation.

The better the model, the better the elevations.

2D Elevations

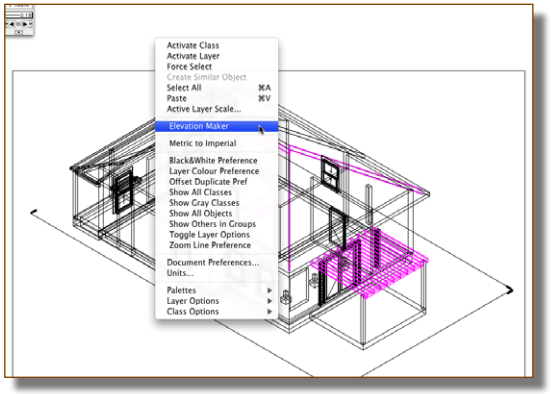
There is another way to make elevations. This is the method where you convert your 3D model into a 2D line drawing. This method suits a lot of people because it is familiar.

The technique is basic; set you view, select everything, then choose Modify > Convert > Convert Copy to Lines... This gets boring very quickly, so I made a command that gets the 4 basic elevations from your 3D model. It's called Elevation Maker and it is a plug-in that you have to copy to the plug-ins folder, then add it to your workspace. You will find Elevation Maker in the exercise folder with this manual.

cadmovie312

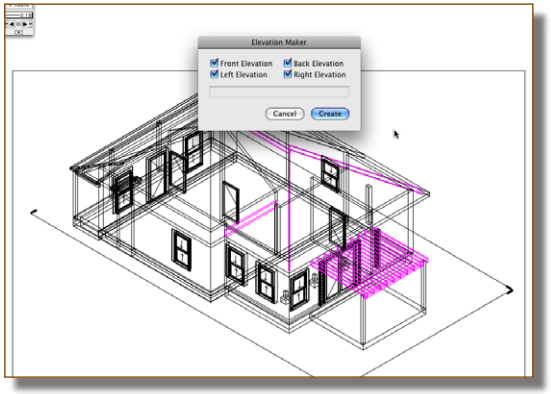
I add Elevation Maker to the right mouse click (Document Context).

- If you have added Elevation to the Document context, right click in the drawing area.
- Choose **Elevation Maker**.



- Choose the elevations you want. You can only create the standard four elevations.

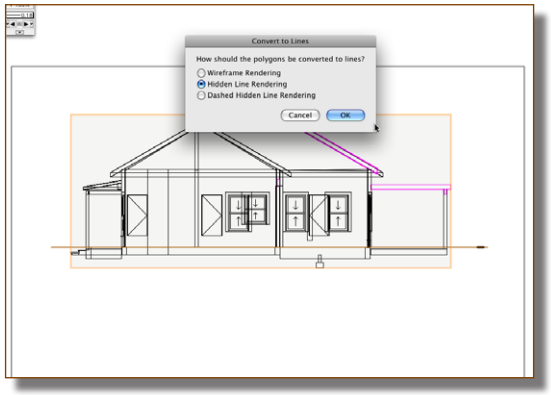
Elevation maker uses a layer called Mod-3D Model as the source layer. If the layer does not exist, Elevation Maker creates it for you. Create layer links or a design layer viewport to make your 3D model.



Vectorworks shows the first view.

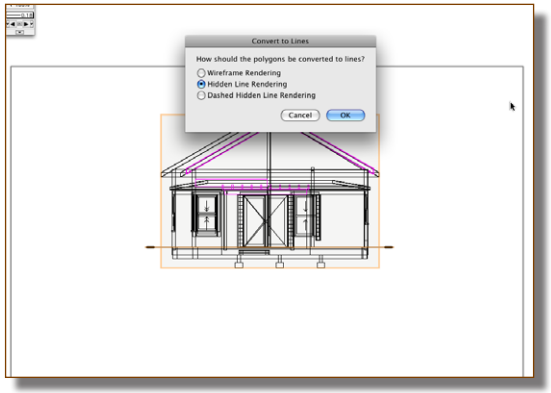
- Choose **Hidden Line Rendering**.
- Click on the **OK** button.

Vectorworks creates the hidden line view, cuts the elevation and pastes the elevation on a layer called Mod-Section /Elevation. If the layer does not exist, Elevation Maker creates it for you.



Vectorworks shows the second view.

- Choose **Hidden Line Rendering**.
- Click on the **OK** button.

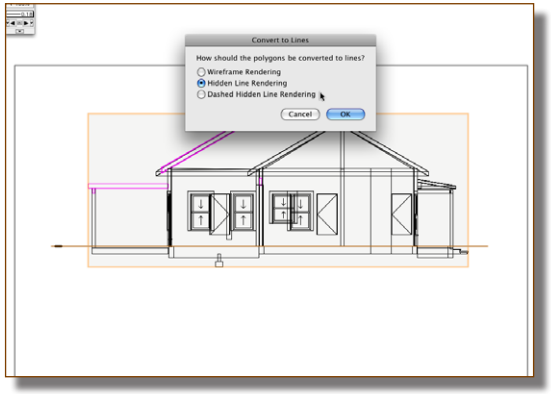


Vectorworks shows the next view.

- Choose **Hidden Line Rendering**.
- Click on the **OK** button.

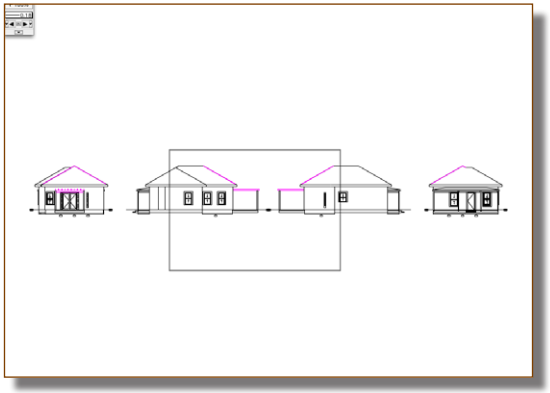
Vectorworks shows the last view.

- Choose **Hidden Line Rendering**.
- Click on the **OK** button.

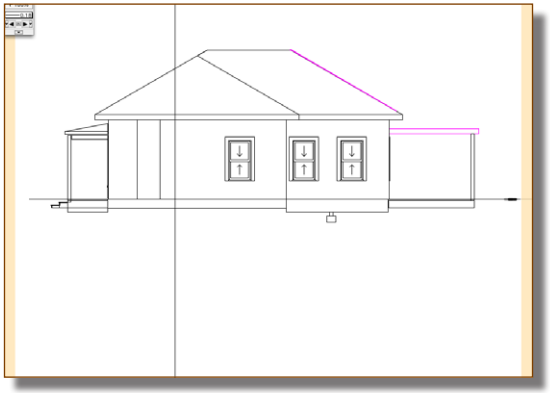


- When it is finished, Elevation Maker makes the elevations the active layer. You should see all the elevations lined up.

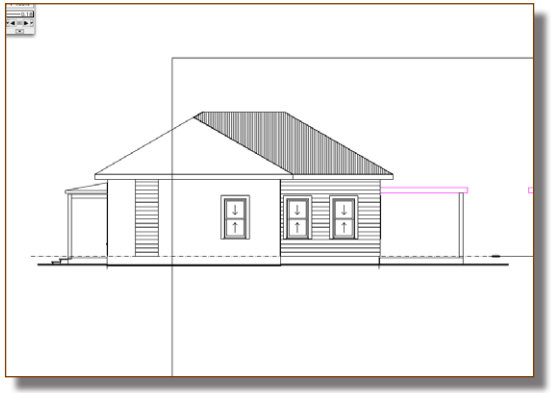
- You will need to move the elevations to create enough room for your notes and annotation.



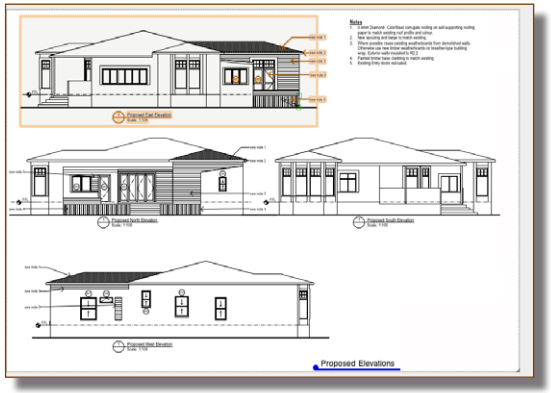
- Editing the elevations should be straight forward. You can double click on an elevation to edit it.
- Add lines you want. Delete lines you don't.



- Add hatching, dimensions and notes.



- Create viewports, and put them on a sheet layer in the order you want.



Sections

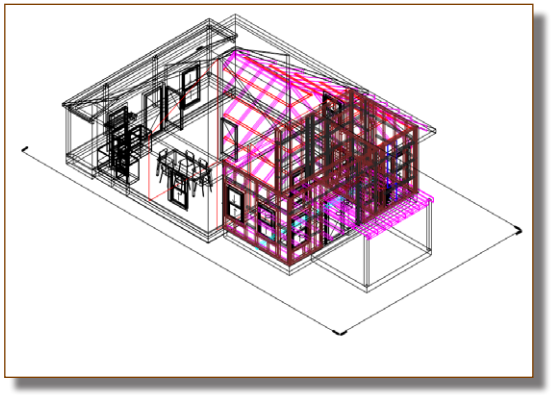
Like the elevations, there are two main ways to create your sections. You can use the 3D model to create section viewports, or you can use your 3D model to create 2D sections.

At the concept stage the first method works really well. The live sections keep up to date with your model. As you add or move windows, you only need to click on the update button to see the revised elevation.

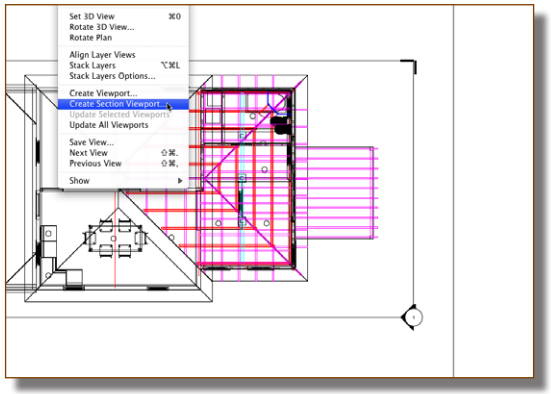
As you move into contract documents or working drawings, you might have to add annotation and details to your sections. This will make them look better. For example, if you want to show weatherboards, or sheet cladding, then you need to add them to the section. This can be done in the Annotation part of the viewport. But as you move windows, or edit window positions, you will have to edit your wall cladding manually.

At working drawings, I often use my 3D model to create 2D sections. These are line drawings from the 3D model, so they start out up to date. But because they are 2D, you can easily change line weights. This method works best when your 3D model is not perfect.

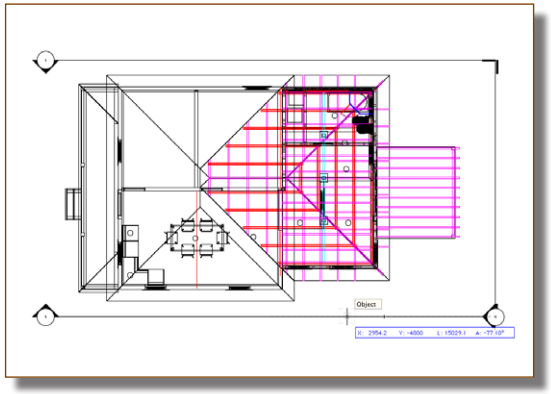
- Make **Mod-3D Model** the active layer.



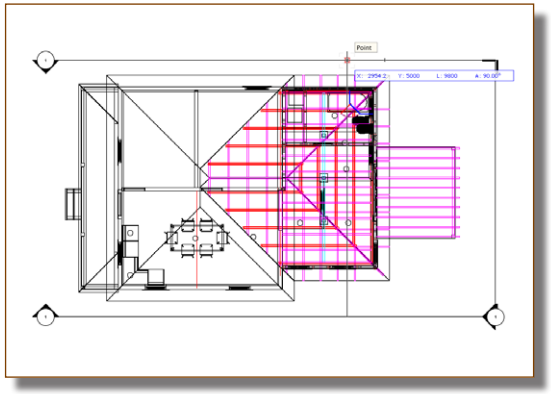
- Go to the Saved Views menu.
- Change to a top or Top/Plan view.
- Go to the **Menu** bar.
- Choose **View > Create Section Viewport...**



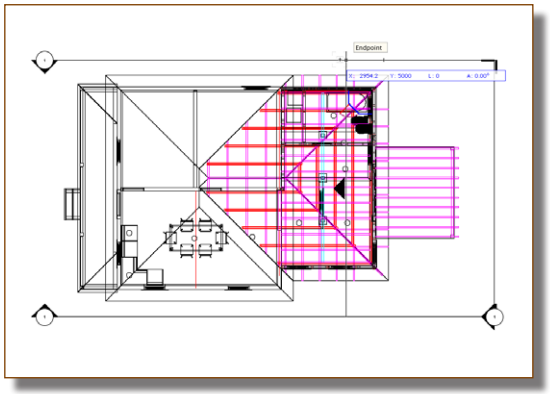
- Click for the start of the viewport. Ensure you start outside the building.



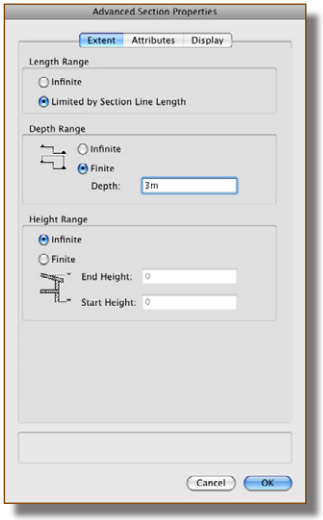
- Move to the other end of the building. Ensure you finish outside the building.



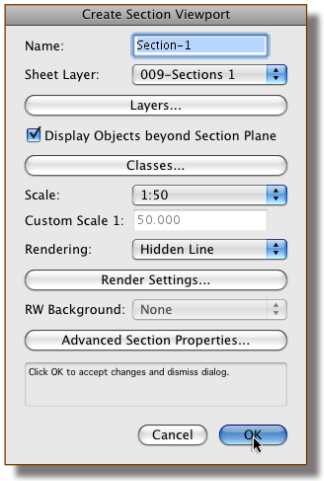
- Move towards the building, so the arrow points to the building.



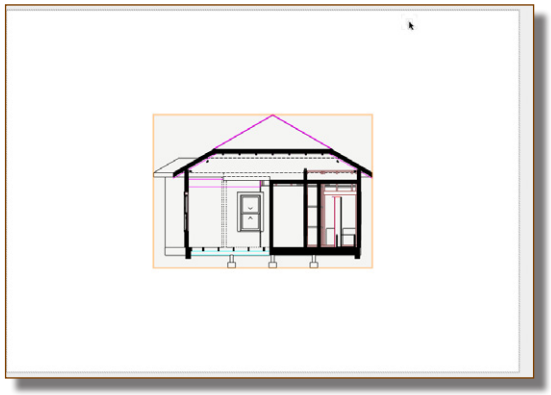
- Double click.
- Click on the **Advanced Section Properties...** button.
- Choose **Limited by Section Line Length**. This will limit the elevation to the length of the section line.
- Click on the **OK** button.



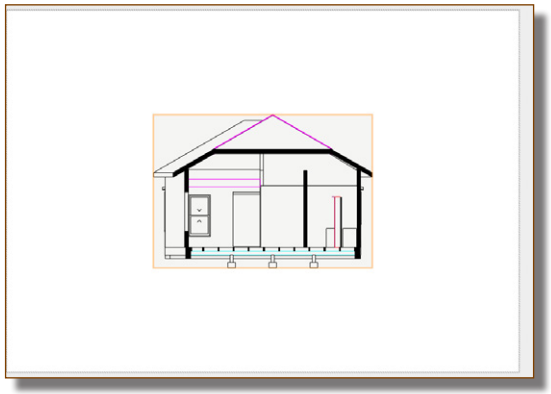
- Name the viewport.
- Create a new sheet layer for the elevations.
- Click on the **OK** button.



The Section is on the drawing. I often find I get too much information.

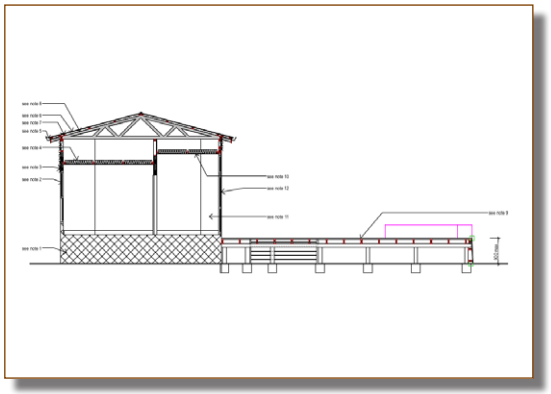


- Use the Object Info palette to turn off classes you do not want.



- The other method for drawing sections is to use the 3D model to cut a 2D or 3D section.
- The command you want is on the standard workspace, so you either have to add it to your workspace, or change to the Standard workspace.
- Go to the menu bar.
- Choose **Model > Cut 3D Section**.
- Look into the section.
- Go to the **Menu** bar.
- Choose **Modify > Convert > Convert to lines...**

- This creates a group of lines, line the elevation 2D method.
- Add hatching, notes and symbols to create your section.



You can create a high level of detail with this method. You could use this section for the roof and gutter details if you wanted.