Short Sharp Training 0905

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 Construction Details

I have seen many tips and tricks on creating drawings, but not many on creating construction drawings. When I was writing the last manual on creating drawings, I wanted to cover creating construction details, but I felt that would have made the manual too long.

So how do you create details? That is what we will be covering. We will need components to assemble into details. These could be pieces of timber, flashings, weatherboards (siding), fixings, hatching, and so on. Where do you make this stuff and where should you store it?

Extended Podcast 082

How to create 3D text for logo, animations and presentations. I also thought it might be fun to create 3D text that follows a curve.

Extended Podcast 083

How to export a site plan to a surveyor. I've just helped a client a client to do this with a file that had a few issues.

Beginnercast009

There are several ways to change the length of a line. We can look at a few different, but simple ways to do this.

Creating Construction Details

I've seen a lot of tutorials about drawings, using viewports and so on, but very few tutorials about drawing your construction details. Someone even said it was brave of me to attempt this.

This tutorial is not going to teach you the construction aspects of detailing for your part of the world, so I will not be worrying too much about vapor barriers, cold bridges, building standards and so on. This tutorial is about how to use Vectorworks to assemble your details.

Detailing in Vectorworks is quicker if you have some symbols already made - like flashings, timber objects (lumber), bolts, steel components and so on. I do not want to spend a lot of time on making these symbols, because that would take the whole manual. And there are other manuals that have covered creating symbols and making your library.

We will look at some of the Vectorworks settings to see how to make Vectorworks easier to detail.

We will look at a few different techniques for detailing:

- Using BIM for detailing, by using section viewports.
- Using 2D sections for creating details.
- Drawing 2D details separately.
- Importing details from a manufacturer.
- Saving details to a library.
- Using details from a library.

We are going to talk about construction detailing. When you create construction details, you should look at the layers and classes you need.

You should use a layer of each scale you want. So if you want to have some details at 1":1' (1:10) and some details at 2":1' (1:5), you should use 2 layers. There are ways around this with viewports, but it really is easier to use a layer for each scale.

Generally, you do not need many classes for details. I always say that you should not have classes without a good reason. The two main reasons are visibility an graphic control. If you are drawing 2D details, you do not need to control visibility in your details very often, but you could easier use classes to control the line weight and line style for your details.

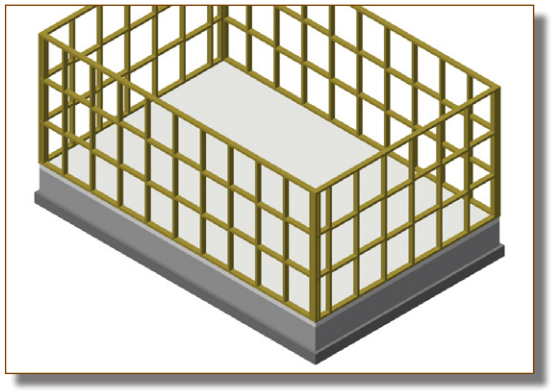
Using BIM For Detailing

If you put a lot of effort into creating a 3D model, you can use your model to start your details. For example, you can use the wall framer to add the timber structure to your walls, you can add floors and walls to create the foundations, but Vectorworks will not add the really important stuff like bolts, flashings, vapor barriers, notes, and dimensions to your details.

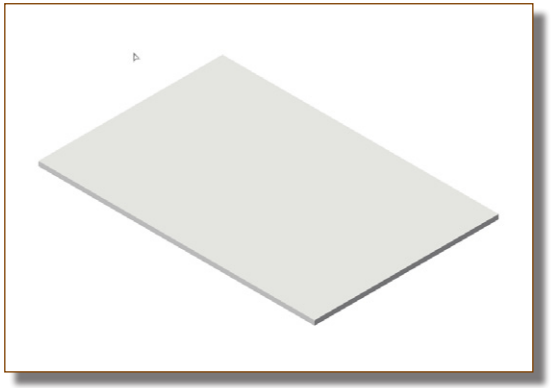
So the question is, should you bother? The answer depends on what you want to achieve. If you want a quick start to a detail, then it might be worth it, and if you want reasonable sections through your buildings, it is really worth it.

cadmovie313

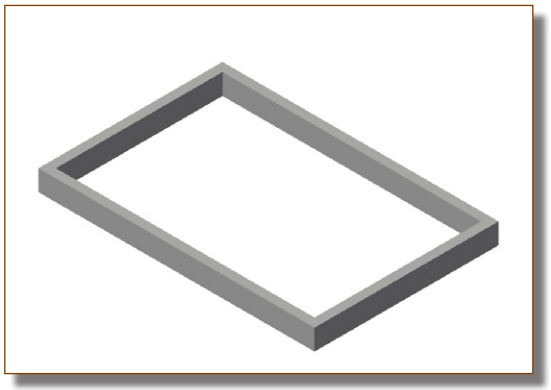
I'm going to show you a simple building, but the principles are the same for a larger building. If you want a section through your building, you have to draw the 3D parts of the building. There is no way around this.



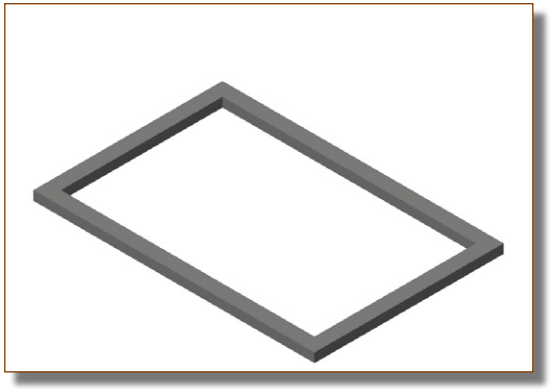
I have drawn a slab using a Floor object.



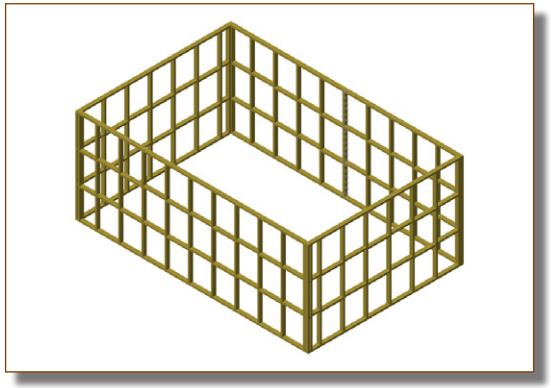
I've drawn foundation walls using a wall style. This draws the walls the correct height and width.



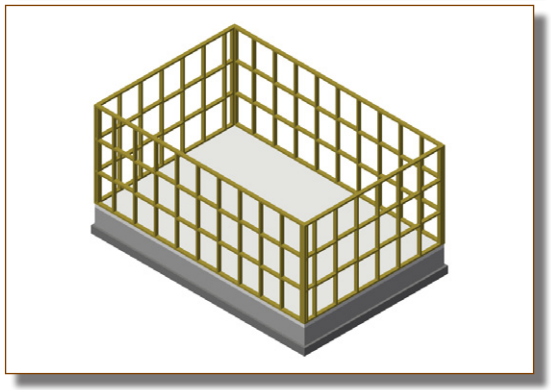
I've drawn footings using a wall style. This draws the walls the correct height and width, but I had to manually move the footing to the correct height (to get the footings below the foundation walls.



And finally, I have used the wall framer to create the timber structure for the walls. I used a wall style to start the walls, and used a custom offset to get the timber walls 1/2" offset from the slab.

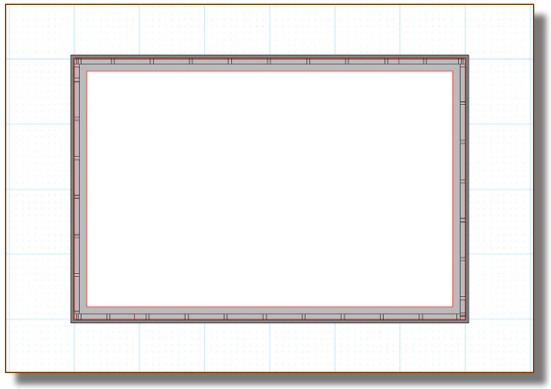


When you look at the complete building, all the 3D components have to join together with the correct relationships. In other words, you have to invest some to time the get the 3D model right. You should do this before you use the 3D model for detailing, but it is not essential.

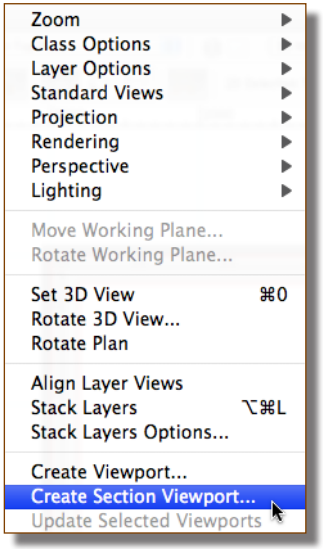


cadmovie314

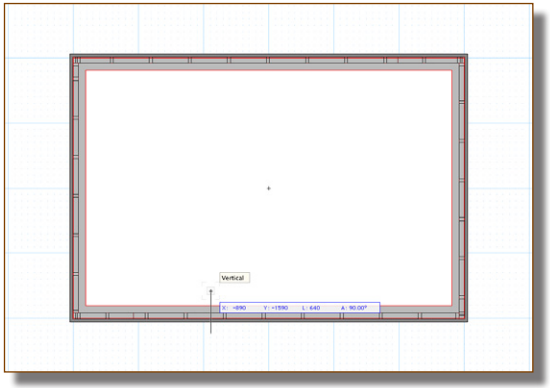
- Change to a Top/Plan view.



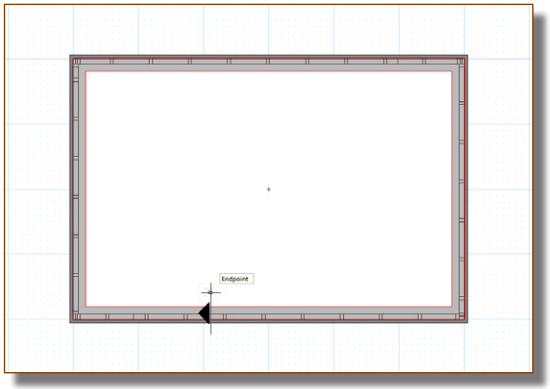
- Go to the Menu Bar.
- Choose **View > Create Section Viewport...**



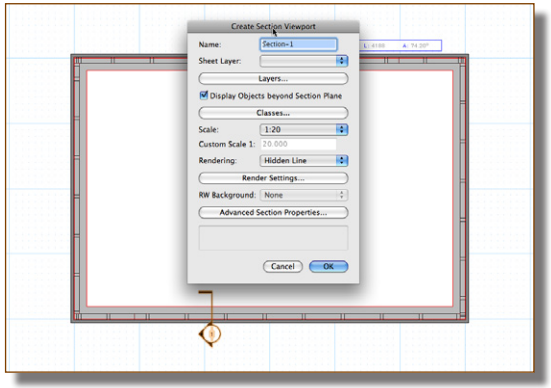
- Click just outside the Footing to start.



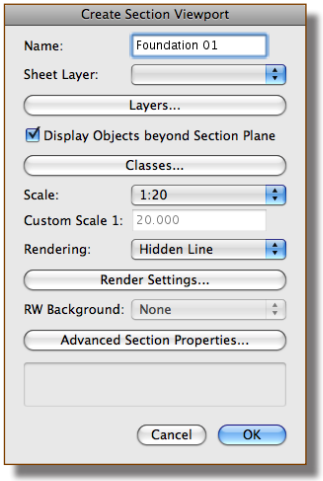
- Move your cursor to just inside the footing.
- Click once.
- Move your cursor to the left.
- Double click.



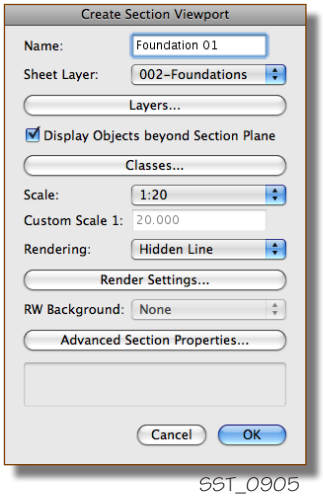
- The Create Section Viewport dialog box will open.



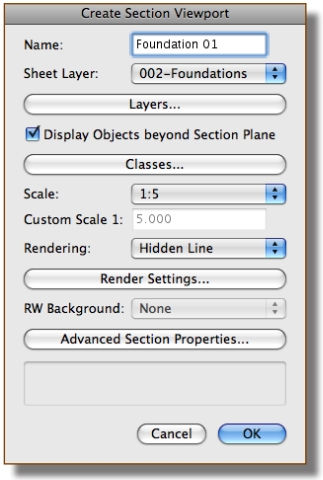
- Name the detail.



- Choose a sheet layer, or create a sheet layer for the detail.

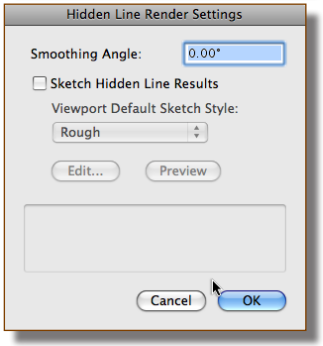


- Change the Scale to suit.

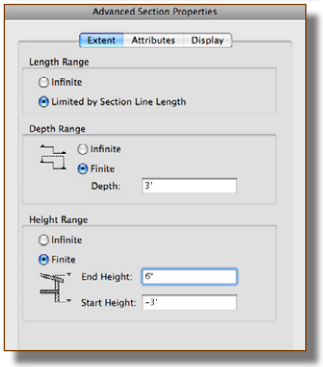


- Click on the **Render Settings...** button.

Make sure you turn off the Sketch Hidden Line results, otherwise you will have hand-drawn details. Of course, if you want hand-drawn looking details, leave this turned on.

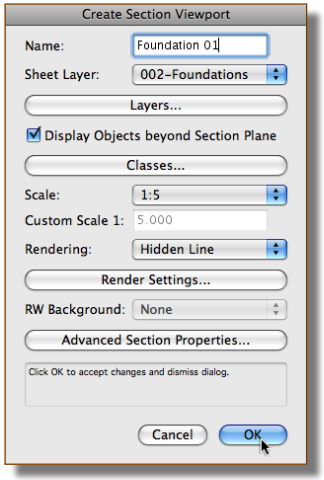


- The Smoothing Angle is useful on curved 3D objects. Setting a higher smoothing angle will remove many of the vertical lines you sometimes see on rounded objects.
- Click on the **OK** button

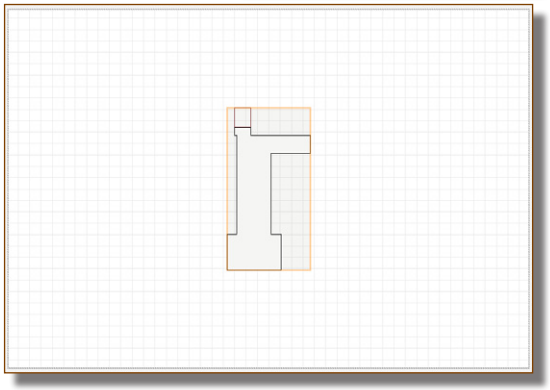


- Click on the **Advance Section Properties...** button. This is where you change your section from a full section of the building to a detail.
- Set The Length Range to **Limited by Section Line Length**. If you have drawn the section line the correct length, we will end up with a small detail of the foundation wall.
- Set the Depth Range to **Finite**, with a depth of **3' (900mm)**.
- Set the **Height Range**:
  End Height : **6" (150mm)**.
  Start Height : **-3' (-900mm).**
- Click on the **OK** button.

- Click on the **OK** button



There is the detail on the drawing. Notice that it has no detail and no notes. You can add the dimensions, missing parts and notes in the annotation part of the viewport.



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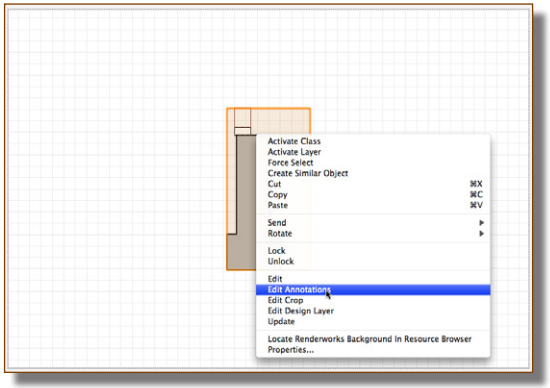
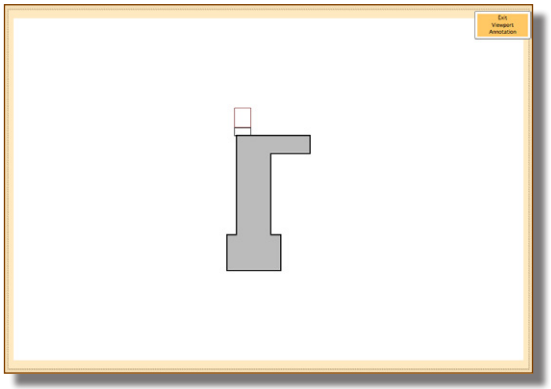
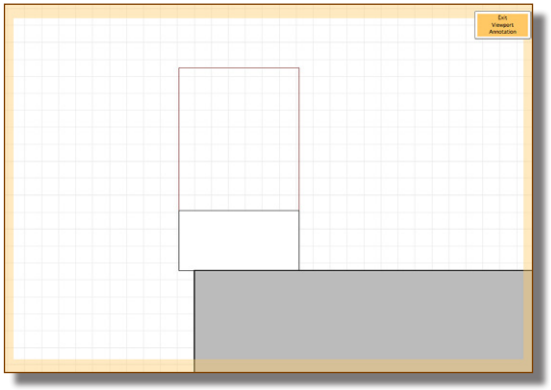
- Right mouse click on the detail.
- Choose **Edit Annotations**.



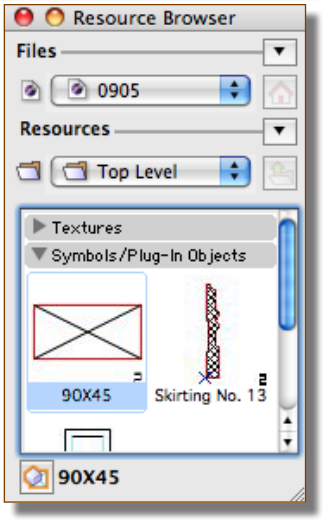
Now you can see the inside of the viewport. This is the area for you to add notes, dimensions and extra information.



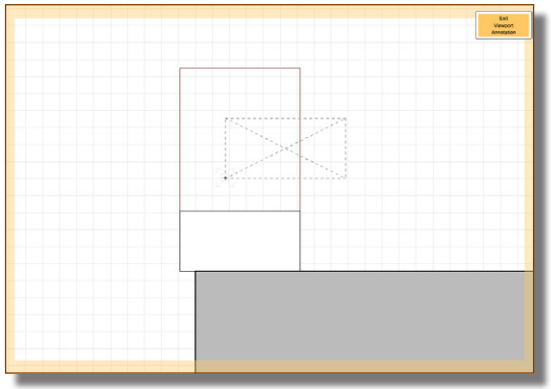
If you zoom in you can see what Vectorworks has drawn.



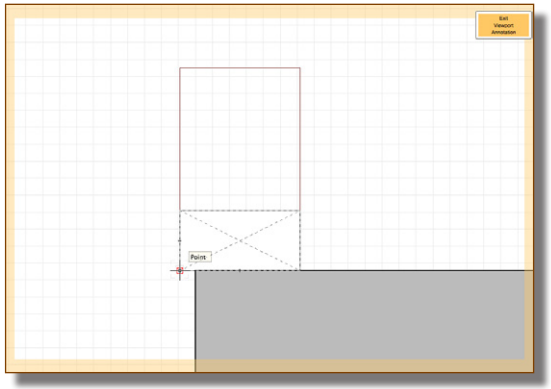
- Go to the **Resource Browser**.
- Make sure your Resource Browser is looking at the correct file, 0905.
- Double click on the timber symbol.



- Move into the drawing area.
- Move to the bottom left of the wall.

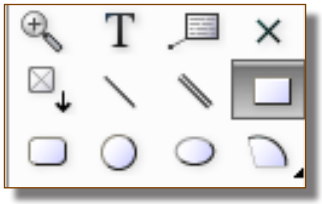


- Double click to place the timber symbol.

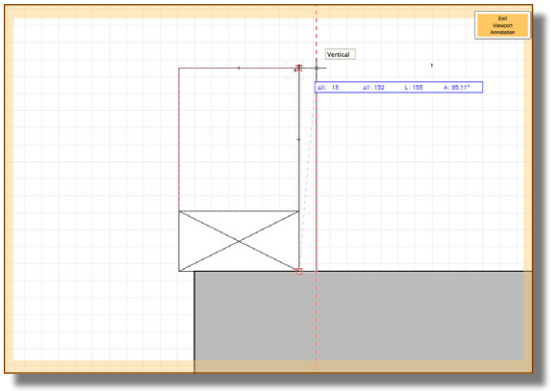


[cadmovie316]

- Go to the **Basic** toolset.
- Choose the **Rectangle** tool.

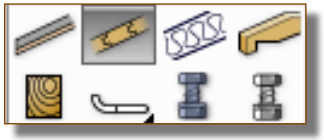


- Use the rectangle tool to draw drywall (gib board) wall lining.

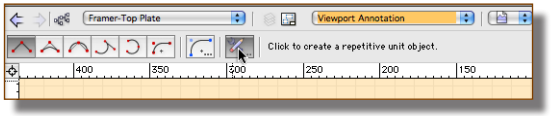


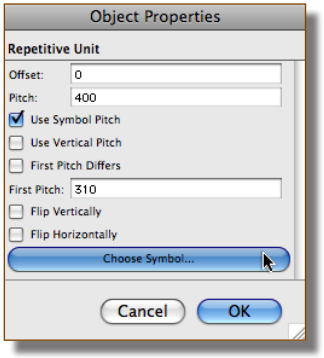
[cadmovie317]

- Go to the **Detailing** toolset.
- Choose the **Repetitive Unit** tool.

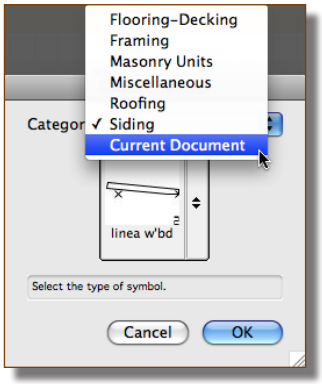


- Go to the **Tool** Bar.
- Click on the **Preferences** button, the last button.
- Click on the **Choose Symbol...** button.

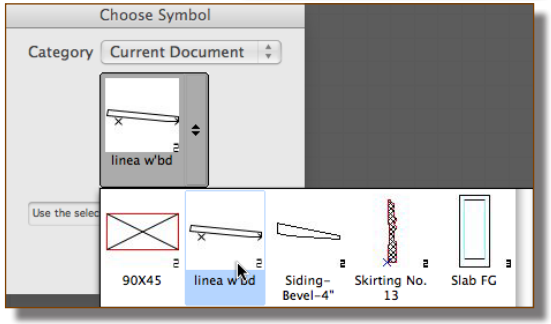




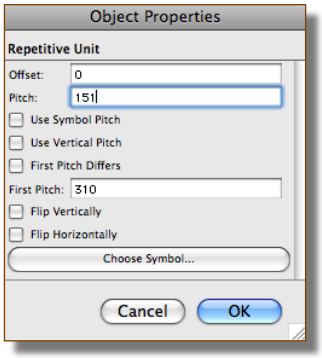
- The siding (weatherboard) we need is in the exercise file.
- Go to the **Category** pop-up menu.
- Choose **Current Document**.



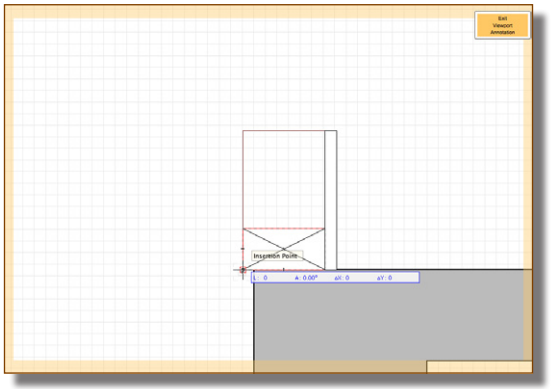
- Choose the **Linea w'bd** symbol.
- Click on the **OK** button to return to the Object Properties dialog box.



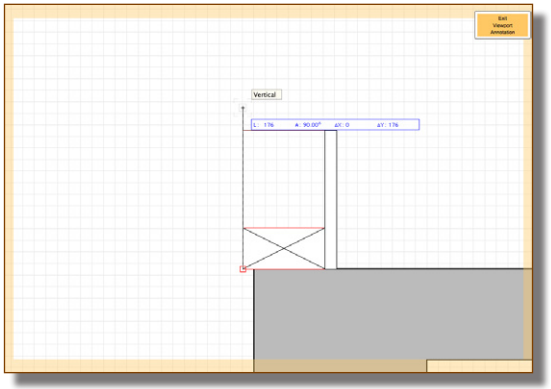
- Turn off **Use Symbol Pitch**.
- Enter the symbol pitch **151mm.** This needs to be exactly 151mm, otherwise the weather-boards will not overlap correctly.
- Click on the **OK** button.



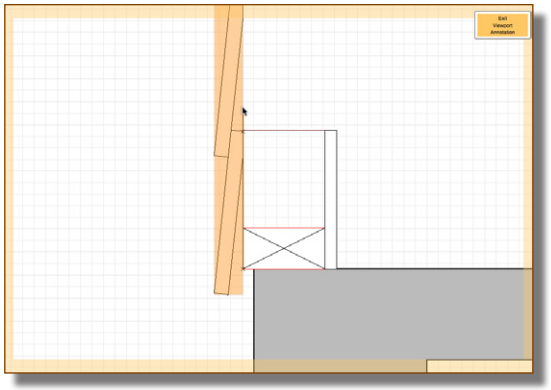
- Move to the bottom of the timber wall.



- Click once to start.
- Move vertically up.



- Move just above the top of the wall.
- Double click to stop.

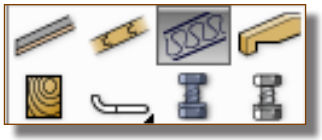


The Repetitive Unit tool puts in as many weatherboard symbols as possible. It does not cut the symbols. If you want to do that you have to ungroup the weather-boards.

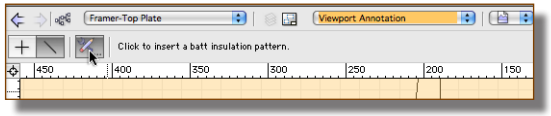
Using 2D Sections

cadmovie318

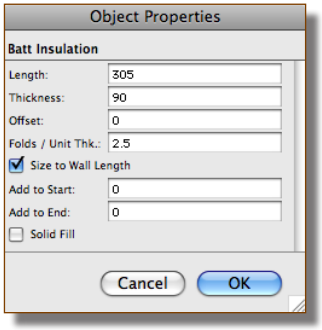
- Go to the **Detailing** toolset.
- Choose the **Batt Insulation** tool.



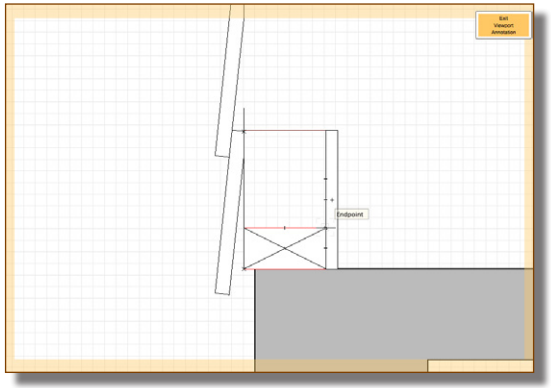
- Go to the **Tool** Bar.
- Click on the **Preferences** button, the last button.



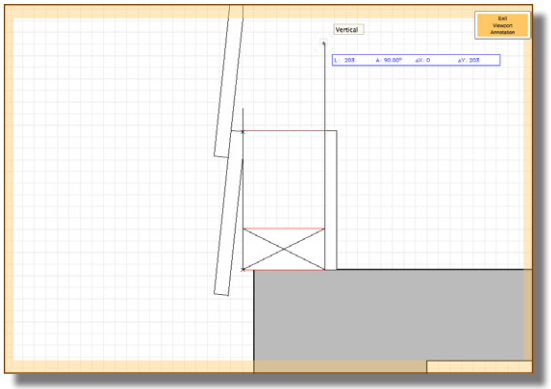
- Fill in the settings to suit the wall.
- Click on the **OK** button.



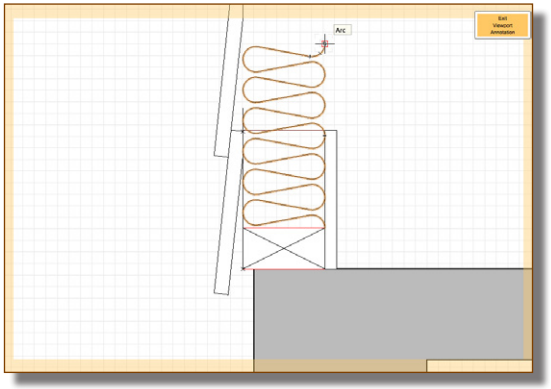
- Click on the inside face of the wall.



- Move to the top of the wall.



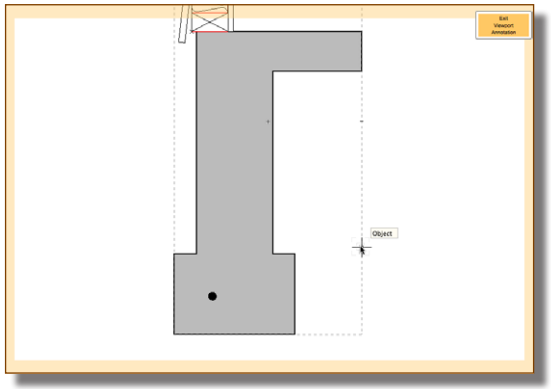
- Click once. This will stop the Batt Insulation tool. If you want to use the Batt insulation tool on a curved detail, you will have to use several small bits of insulation.



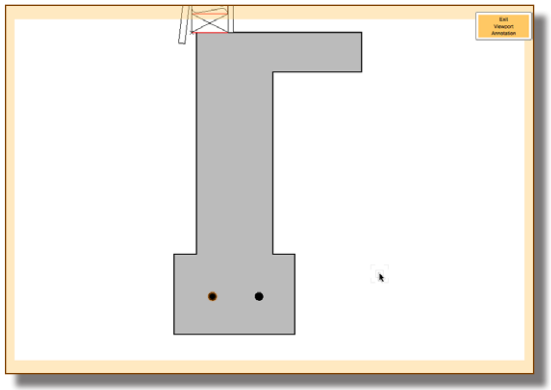
[cadmovie319](#)

- Go to the **Basic** toolset.
- Choose the **Circle** tool.

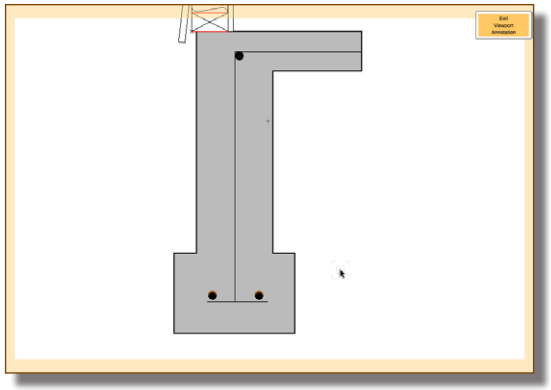
- Place a small circle for the first reinforcing bar.



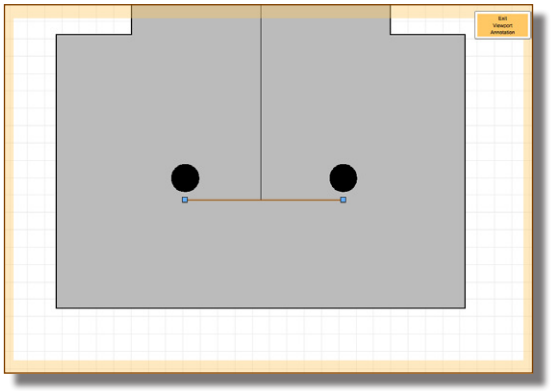
- Copy the circle to make the second reinforcing bar.



- Copy the circle to make the third reinforcing bar.
- Draw a vertical line for the tie bar.

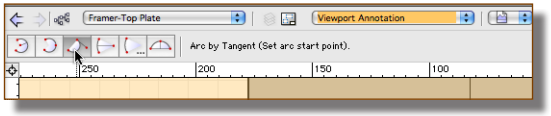


- Draw a horizontal line for the tie bar. Stop each end in line with the center of the reinforcing bars.

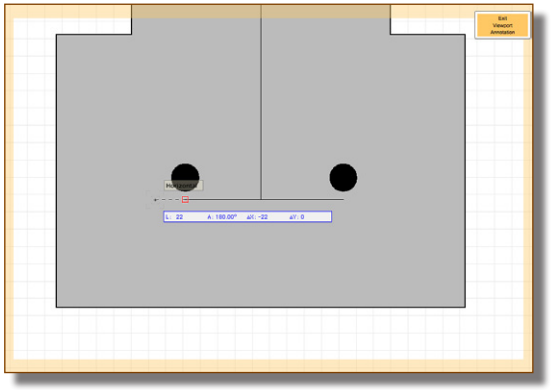


[cadmovie320]

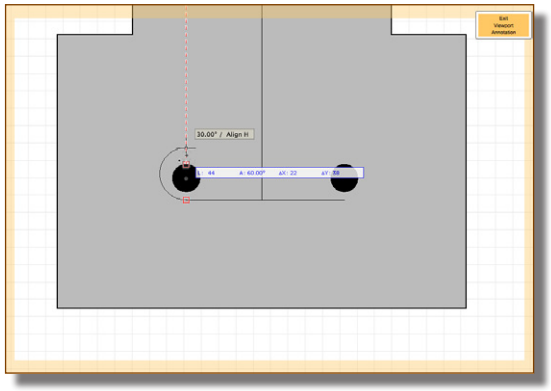
- Go to the **Basic** toolset.
- Choose the **Circle** tool.
- Go to the Tool Bar.
- Click on the third mode, Arc by tangent.



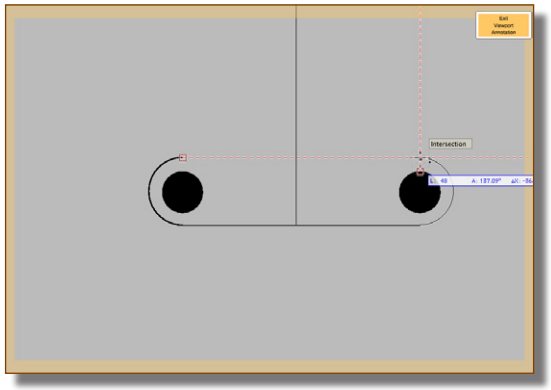
- Click on the end of the tie bar line to start.
- Move out horizontally.
- Click once. This sets the tangent line.



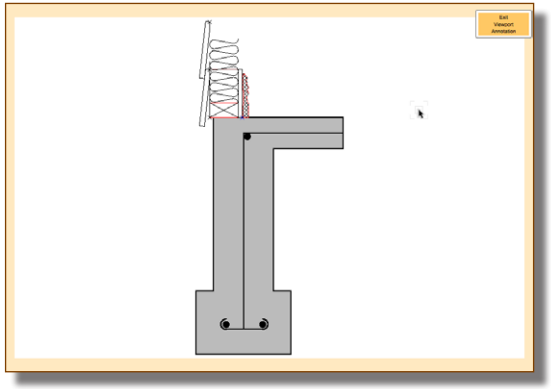
- Move above the center of the reinforcing bar.
- Click once to stop.



- When you draw the other arc, use the first one as a guide to line them up.

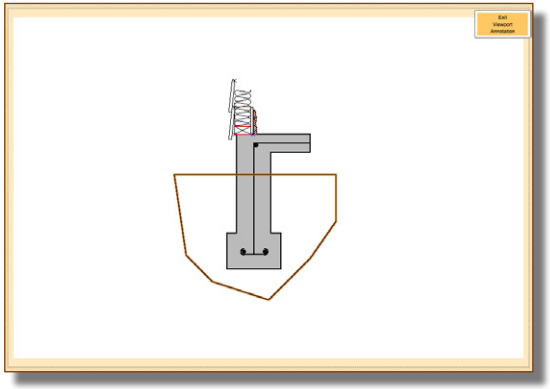


The detail looks like it is floating in space. We can add some hatching to make the detail look better.

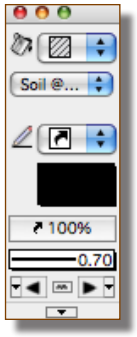


cadmovie321

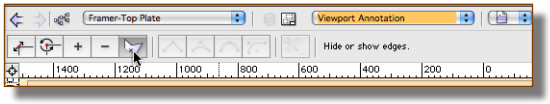
- Go to the **Basic** toolset.
- Choose the **2D Polygon** tool.
- Place an area of polygon. The flat top will be the top of the soil, the rest will have the hatching fade out.

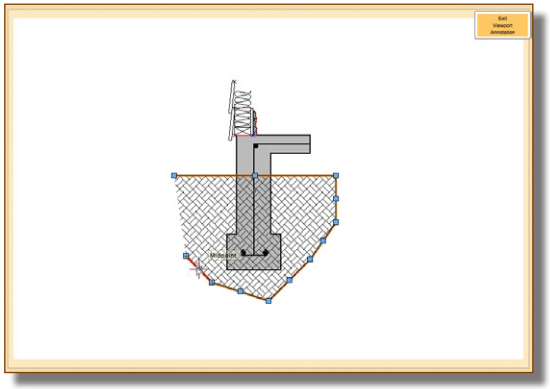


- Go to the Attributes palette.
- Use a heavy line for the outside.
- Use a soil hatch for the inside.
- Go to the **Basic** toolset.
- Choose the **2D Reshape** tool.

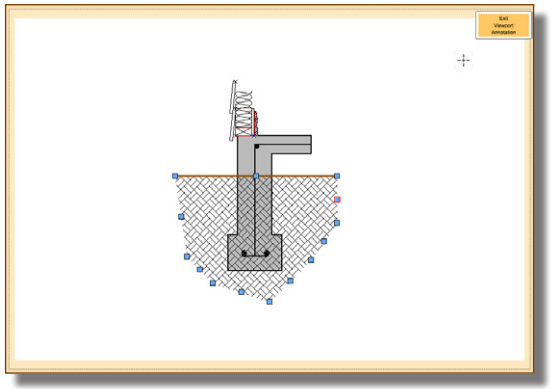


- Go to the **Tool** Bar.
- Click on the fifth mode, hide or show edges.
- Move to the handle on the middle of a side you want to hide.
- Click once.

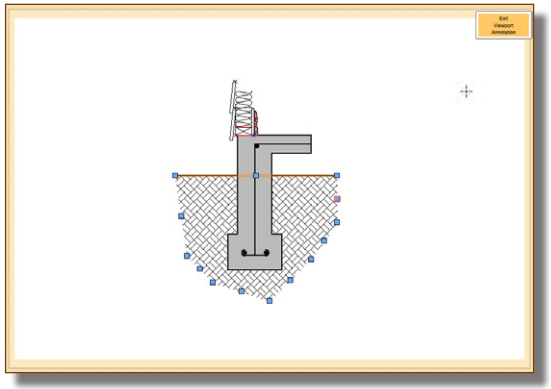




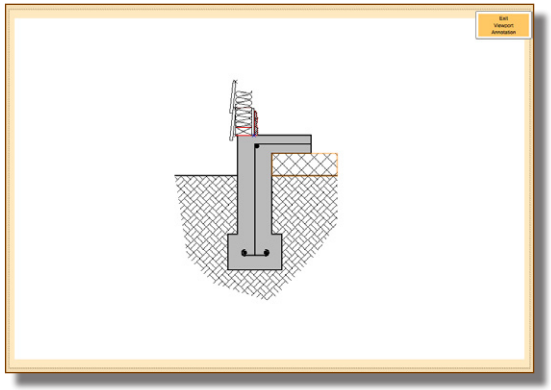
- Click on all the sides you want to hide.



- Send your hatch to the back.
- Right mouse click on the hatch, choose **Send > Send to Back**.



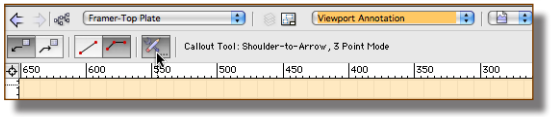
- Draw a rectangle for the Hardfill under the slab.
- Use the Attributes Palette to assign the hard fill hatch, and remove the line.

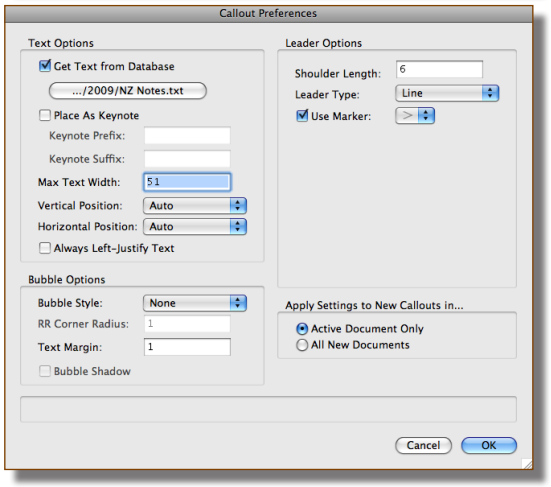


cadmovie322

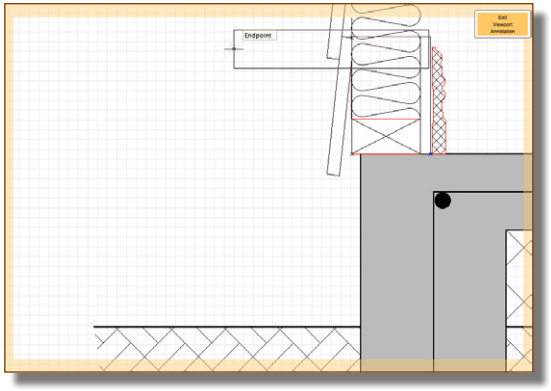
- Go to the **Basic** toolset.
- Choose the **Callout** tool.

- Go to the **Tool** Bar.
- Click on the last mode, the callout preferences.
- Set the callout preferences to suit your drawings style. I like using Get Text from Database. This allows me reuse text from project to project.
- Click on the **OK** button.

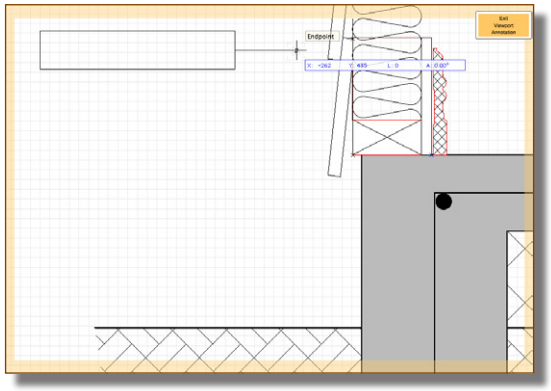




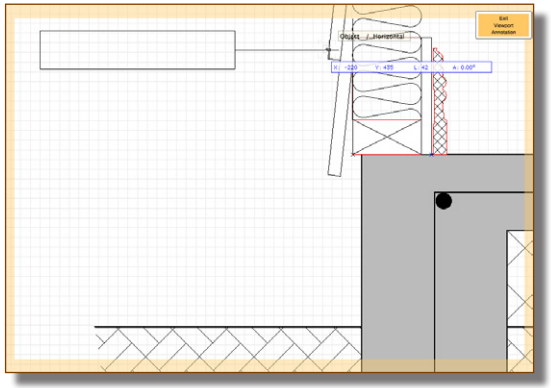
- If you have set your callout modes the same as me (see image above), the first click is the start of the note.



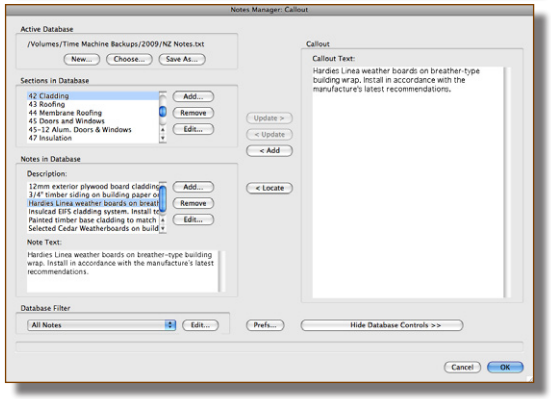
- The next click is the end of the shoulder, where the line changes direction.



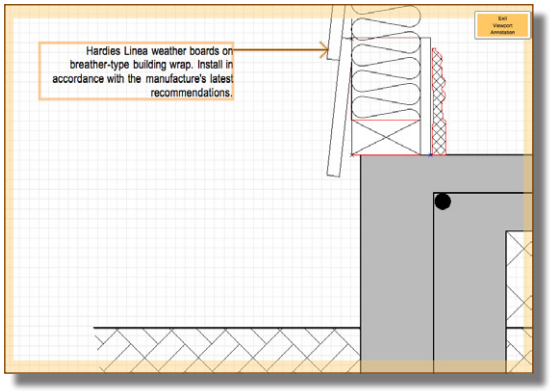
- The last click is for the end of the arrow, the object on the detail.



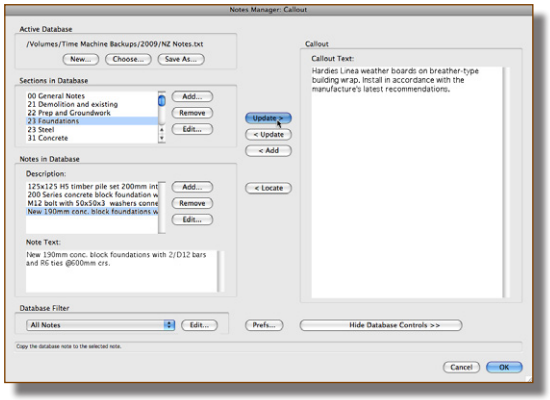
- The Notes Manager : Callout dialog box opens. This is where you choose your notes from the database.
- I have a database with several sections (categories) and each session has several notes in it. As I work from one project to the next, I can save the notes in the database.
- If you have a database, choose the note you want.
- Click on the **Update** button.
- Click on the **OK** button.



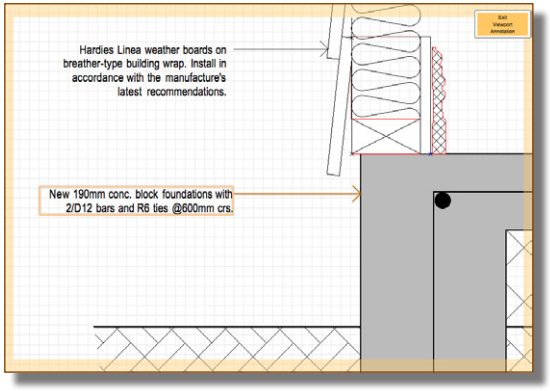
- Vectorworks places your note on the drawing.



- Use the Callout tool to place another note.
- Notice how quick it is to place the notes when they are in your database.

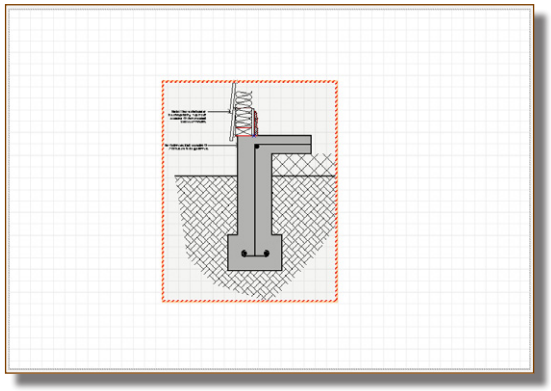


- Click on the **Exit Viewport Annotation** button on the top right of the drawing area.



- Your finished detail.

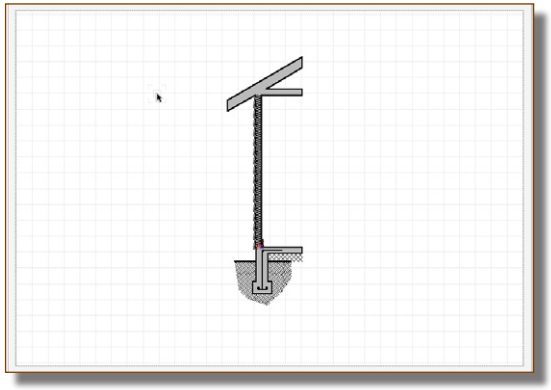
You can add more information to the detail. You can could add dimensions, notes, and more hatching, but I hope you get the general idea.



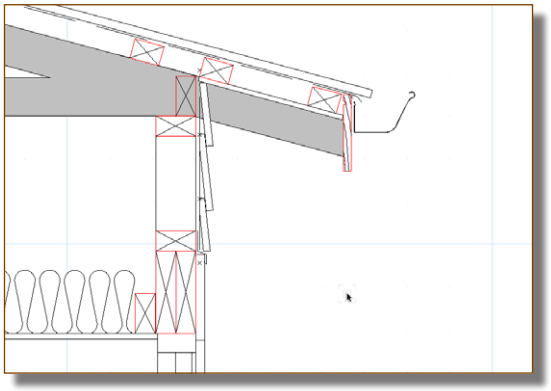
The challenge for me with this detailing is that this is that all the objects are touching each other. When I used to draw details before CAD , we would explode the details slightly to make the details more readable. So, for me, these details are below the standard I want.

[cadmovie323]

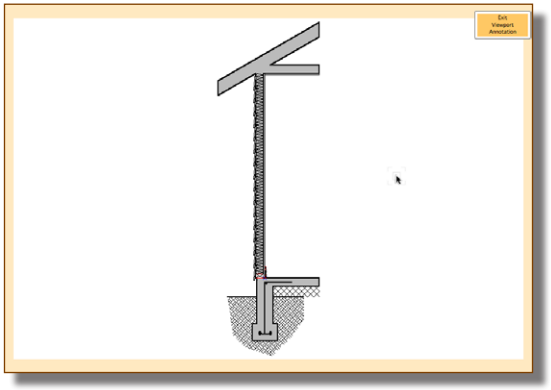
This method can work well for a complete section through a wall. But there is a question of drawing philosophy. How do you want the drawings to look?



I prefer this look, but not everyone does. I have some clients that think this drawing is too detailed.

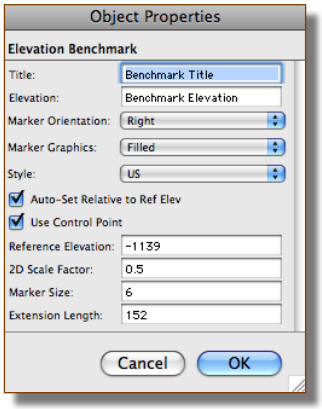


If you edit the annotation of the viewport you can add information, exactly as we did for the other detail.

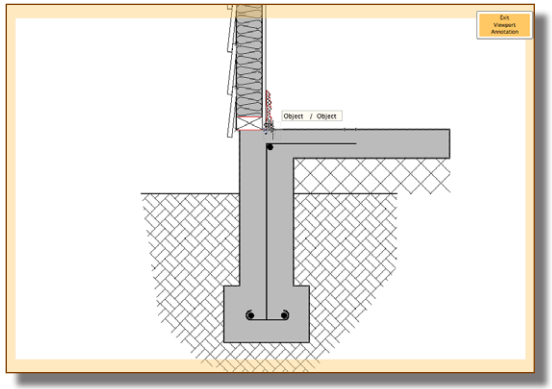


- Go to the **Dims/Notes** Tool set.
- Choose the **Elevation Benchmark**.

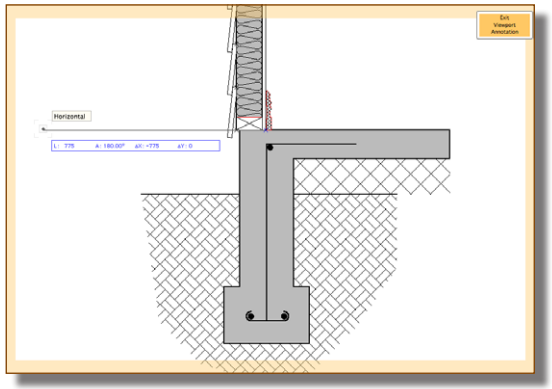
- Go to the **Tool** bar.
- Click on the Preferences button.
- Fill in the preferences to suit your drawing style.
- Click on the **OK** button.



- Click to start the benchmark. I click on the detail first.

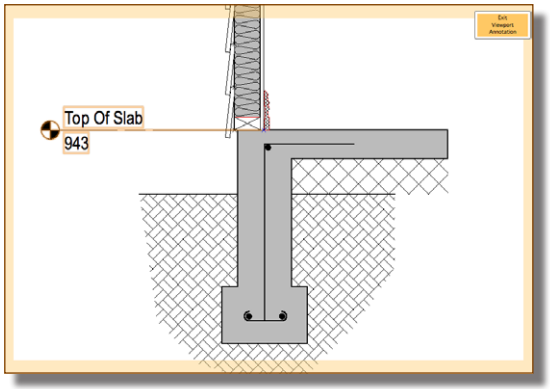


- Move across to the left.

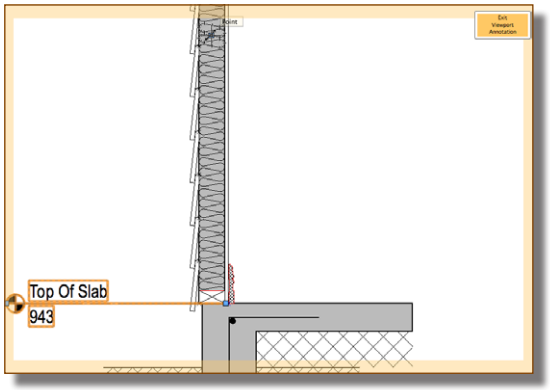


- Click once.
- Go to the Object Info palette to fill in the name for the benchmark.

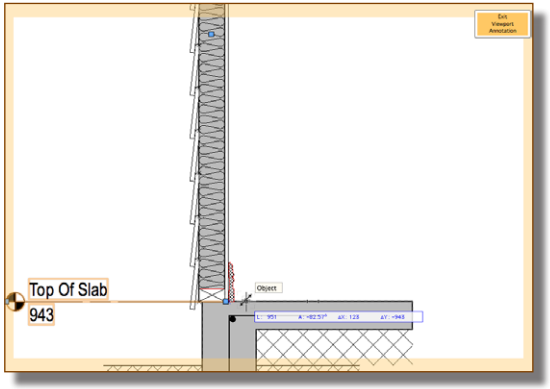
Notice the height of the benchmark. That can't be right. It's not. There is a control point we need to move.



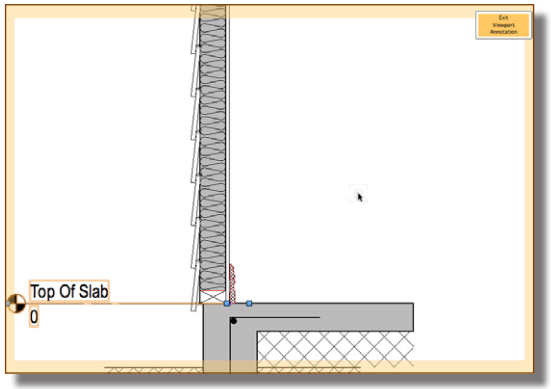
- Zoom out. There is the control point, in the middle of the wall.



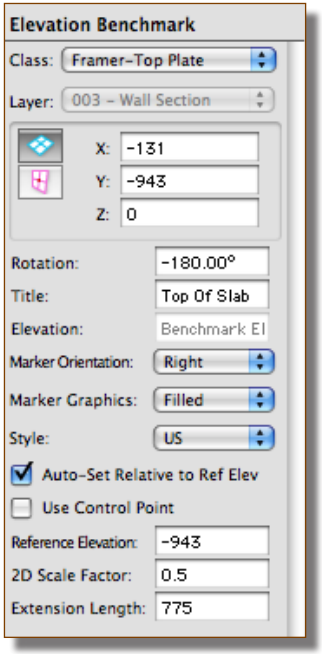
- Use the 2D Selection tool to click on the control point.
- Move to the top of the slab.
- Click once.



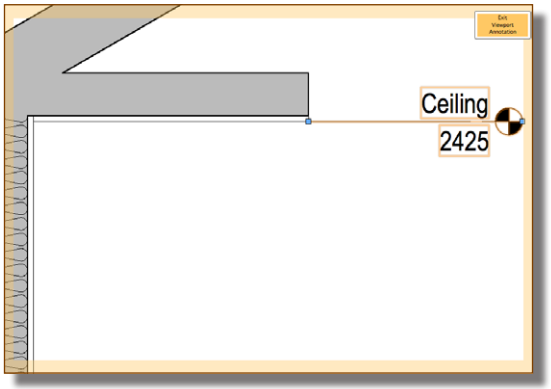
- The benchmark now has the correct height.



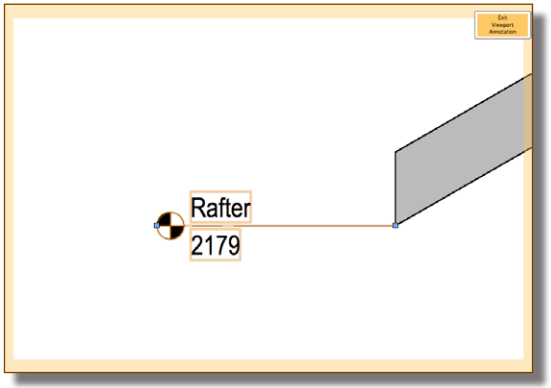
- Go to the **Object Info** palette. Notice the place where you type in the name of the benchmark.
- This is where you choose the style, and the Automatic settings.
- If you turn off the Use Control point, Vectorworks can create errors when you move the section up or down the page.



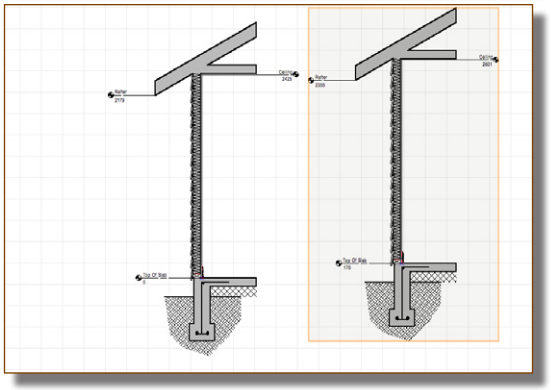
- But, turning off the control point makes it a lot quicker to place the benchmarks.



- You can place benchmarks directly without having to adjust the control points.



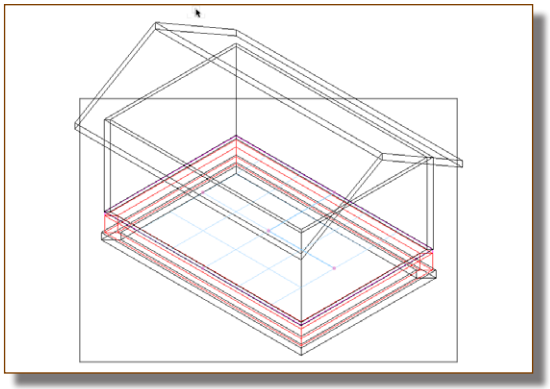
- Just watch out when you move a section. Notice the benchmarks have changed their heights. This could lead to some terrible errors.



Using BIM to Create a 2D Section

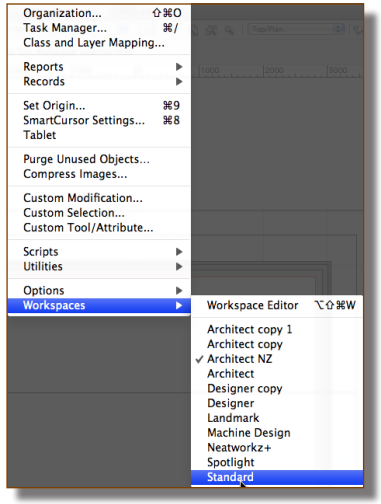
cadmovie324

- Change back to the 3D Model for Details layer.
- Change to a 3D View. You will see a building with walls, foundation and a roof.

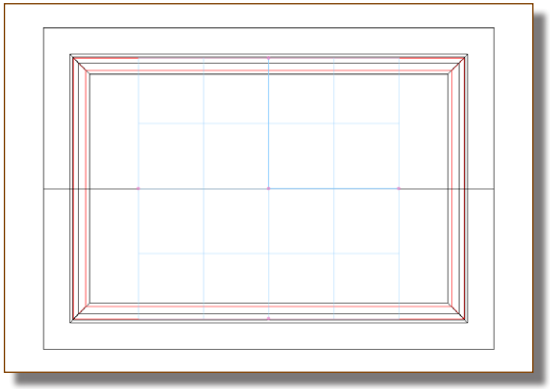


We will be using a model command, but Vectorworks only have this command in the Standard Workspace. If you are going to use this a lot, add it to your main workspace.

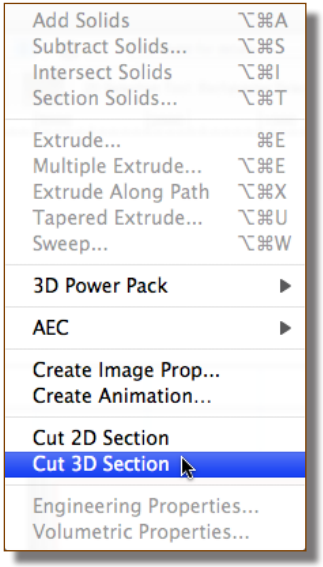
- Change to the standard workspace.



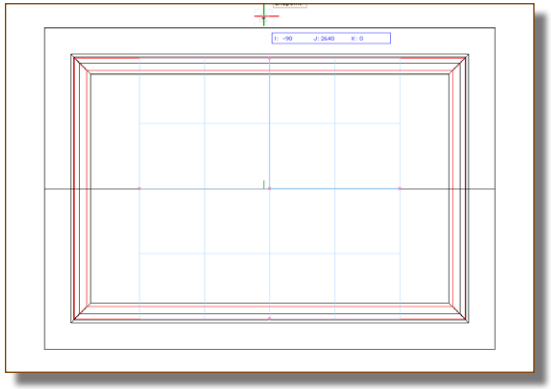
- Change to a Top/Plan view.



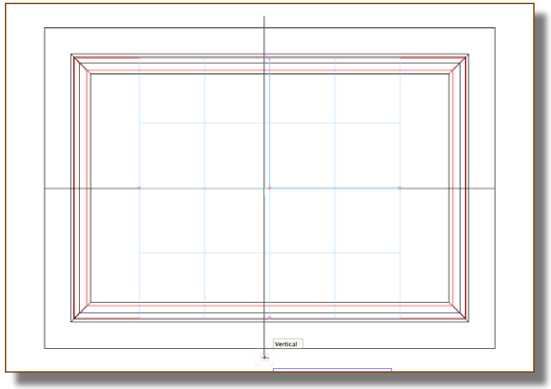
- Go to the **Menu** bar.
- Choose **Cut 3D Section**.



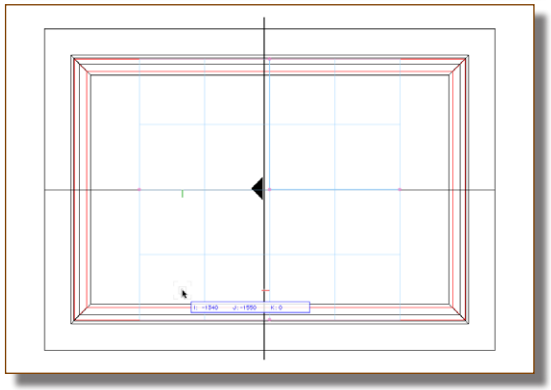
- Click to start. You don't really have to be outside your model, the cut will go through everything.



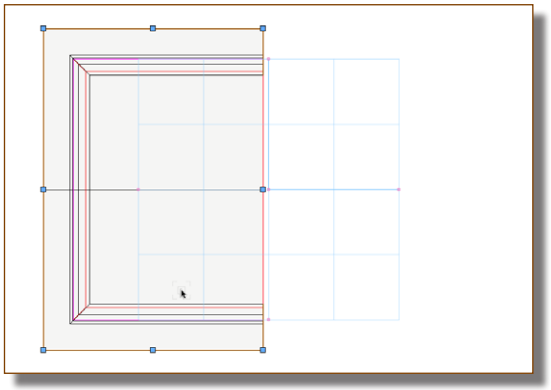
- Move vertically down the screen.
- Click once.



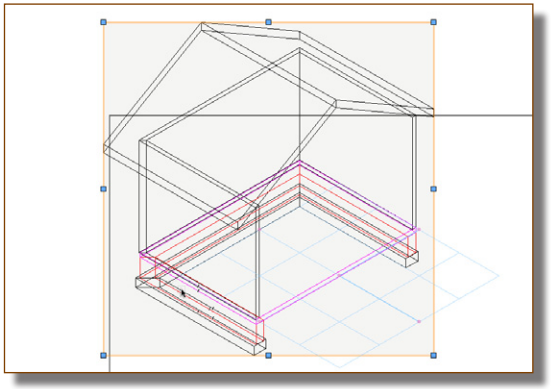
- Move your mouse to the side you want to keep.
- Click once.



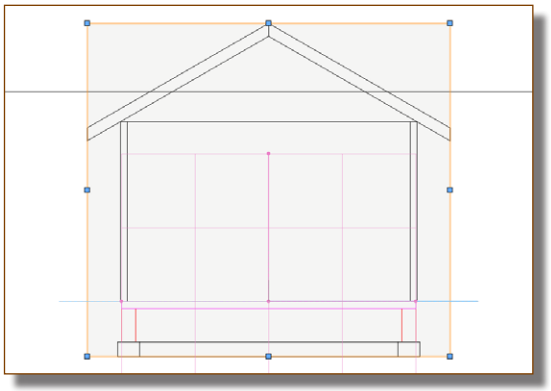
- There is the 3D section.



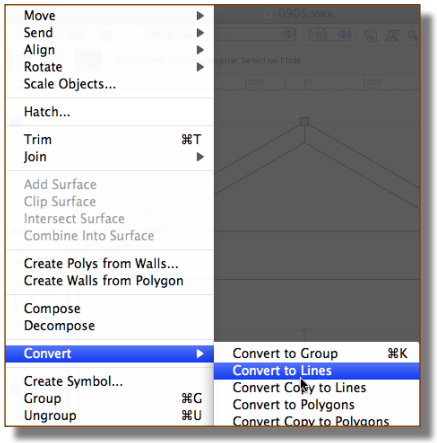
- Vectorworks cuts your model and places it on a new layer. The old model is left in tact.



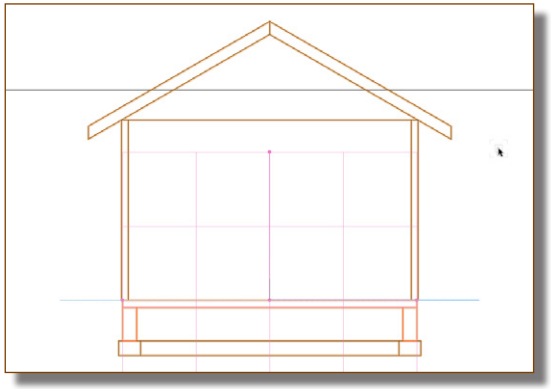
- Change to a view that looks directly into the model.



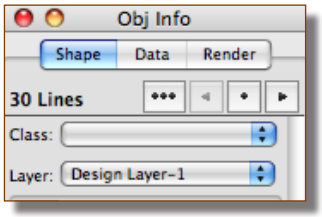
- Go to the **Menu** Bar.
- Choose **Modify > Convert > Convert to Lines...**



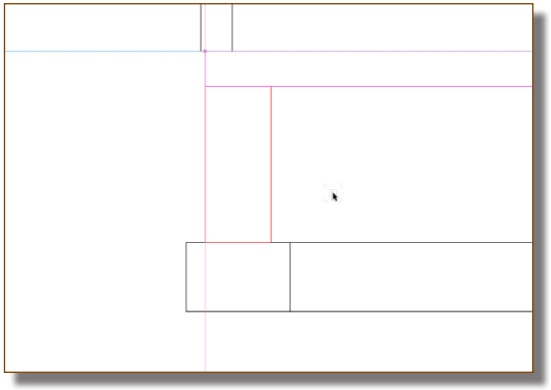
- Vectorworks makes the 3D model into a group of lines.



- If you ungroup this, you will see there is are several lines.

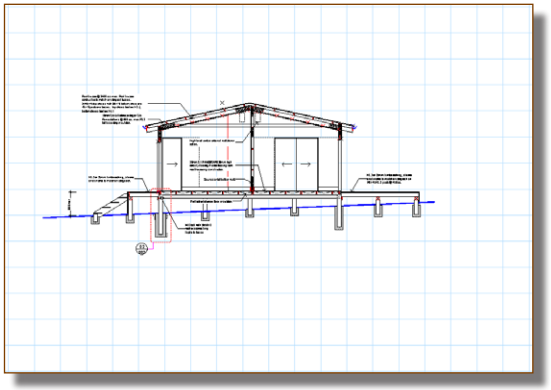


- Zoom in and you can see the lines.

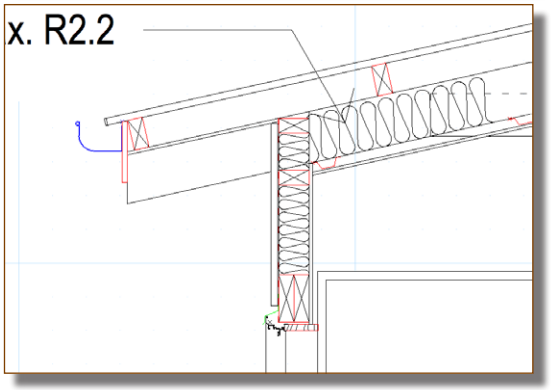


[cadmovie325]

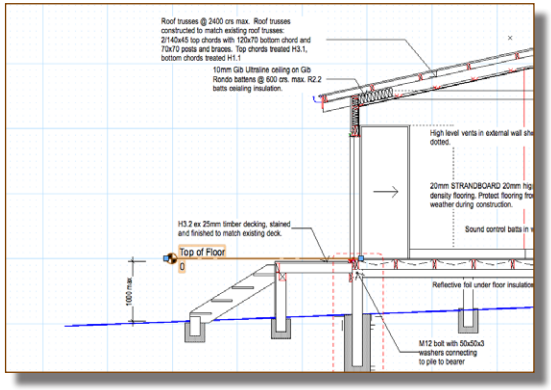
You can use the all the 2D drawing tools in your arsenal to add timber, details, notes and dimensions.



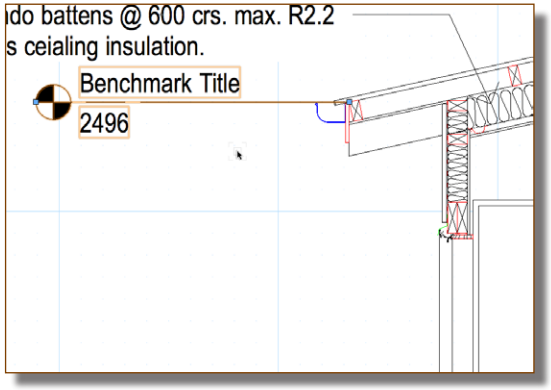
This is how I like to draw my sections.



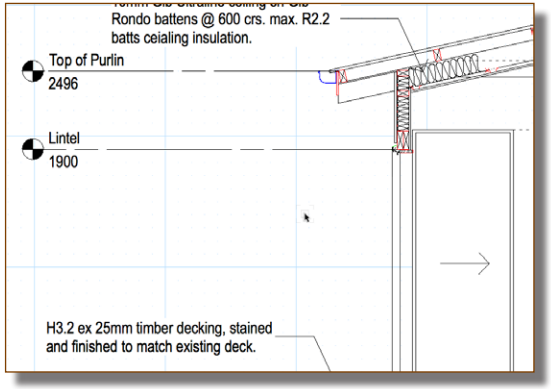
- If you draw the slab, or the finished floor at 0, then you can use the Elevation benchmark tool to add the benchmarks.



- If you use the auto set method, it becomes easier to draw the benchmarks.

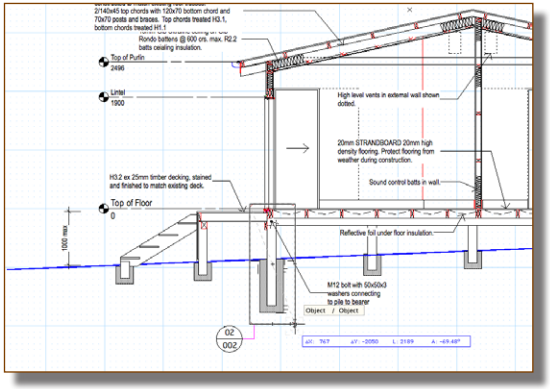


- Name the benchmarks to make them useful.

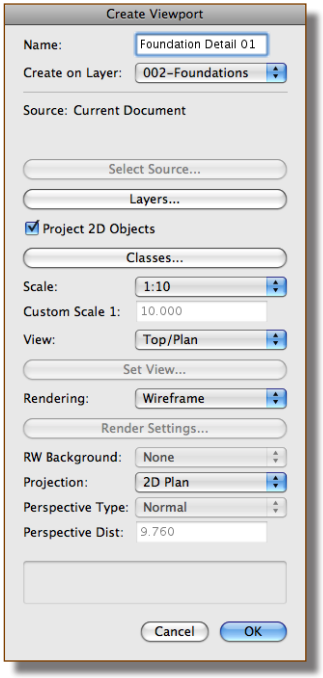


cadmovie326

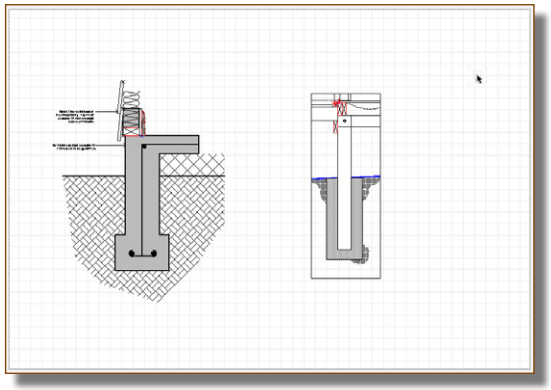
- If you draw your sections to this level of detail, you can use a part of the section to create a detail viewport.
- Define the Area for the viewport with a rectangle.



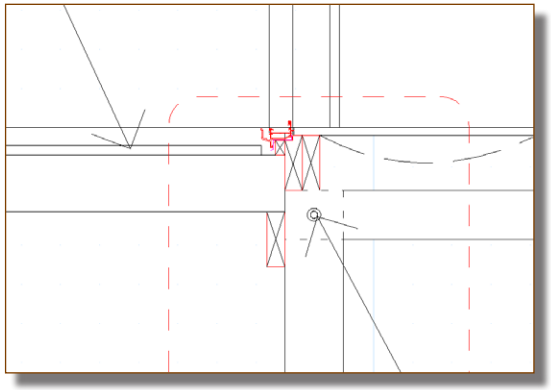
- Go to the **Menu** Bar.
- Choose **View > Create Viewport...**
- Name the viewport.
- Set the correct scale.
- Choose the Sheet layer.



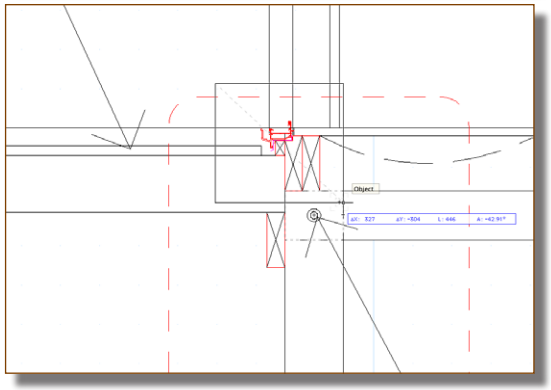
- Click on the **OK** button.



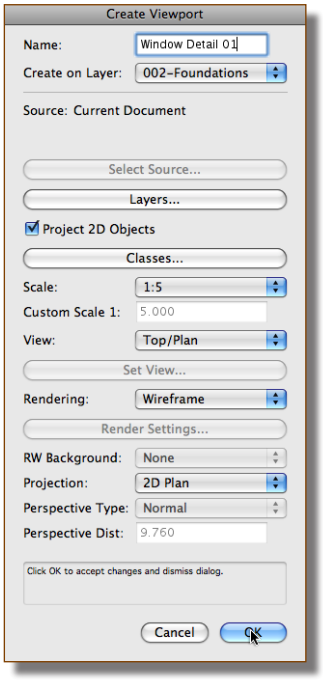
- Move your detail to the correct location.
- Return to the Section layer. Zoom into to the sill of the door.



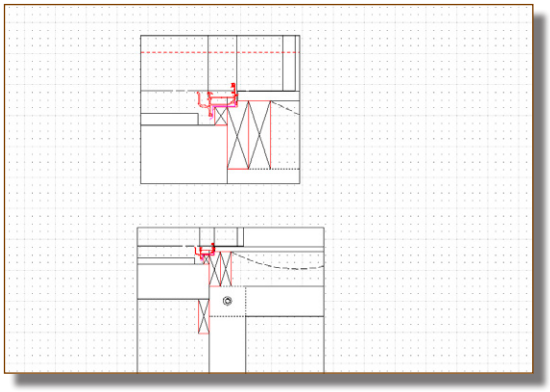
- Draw a rectangle to define the area for the window detail.



- Go to the **Menu** Bar.
- Choose **View > Create Viewport...**
- Name the viewport.
- Set the correct scale.
- Choose the Sheet layer.
- Click on the **OK** button.



- Move your detail to the correct location.



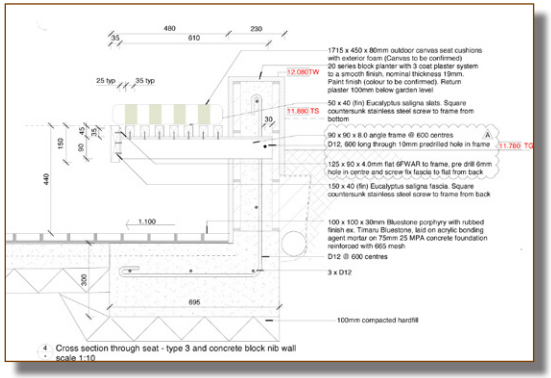
Drawing 2D Details Separately

cadmovie327

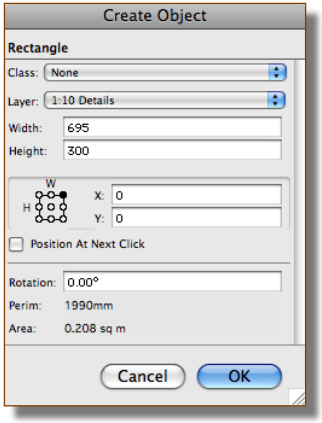
There are times where you don't have a 3D model of the building, or you complete section you can use. Sometimes you just want to draw a detail.

So, when you draw details, what are the quick ways you can use to speed up the process? You can speed up drawing details by using symbols for the detail components, import an existing symbol and edit the detail to suit.

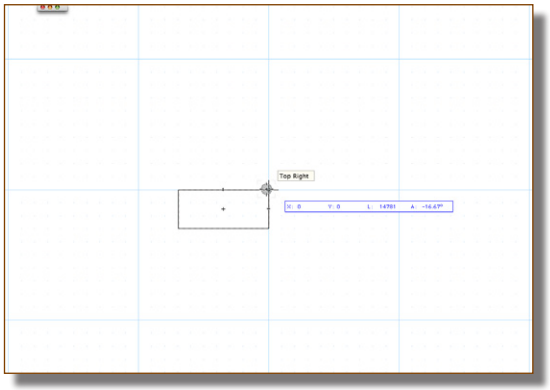
This is a detail I want to draw.



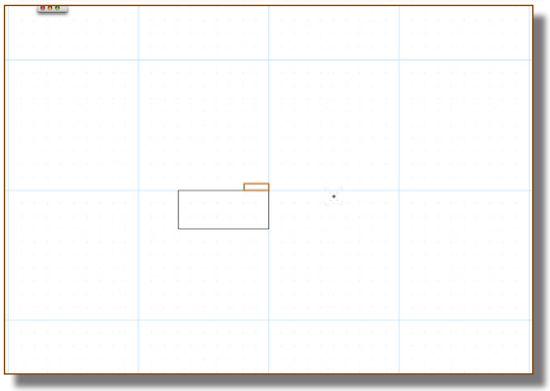
- Starting with a blank file, or a blank layer, create a rectangle for the start of the footing. Like a building, I always start the detail at the foundation.



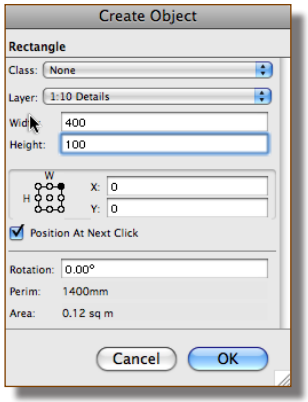
- Create a small rectangle, just **2" (50mm)** high and **7.5" (190mm)** wide. This will create a lip for the blockwork (CMU) to sit on.



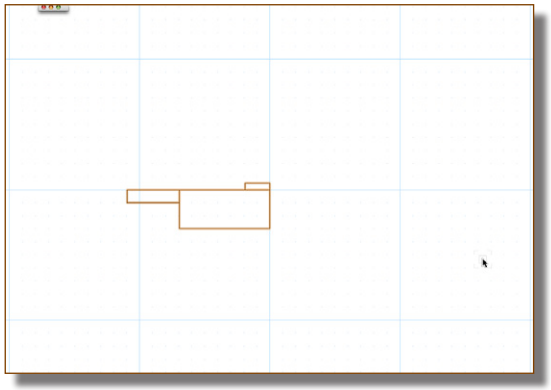
- If you set the options on the create object dialog box correctly, you can use the first object to place the second easily.



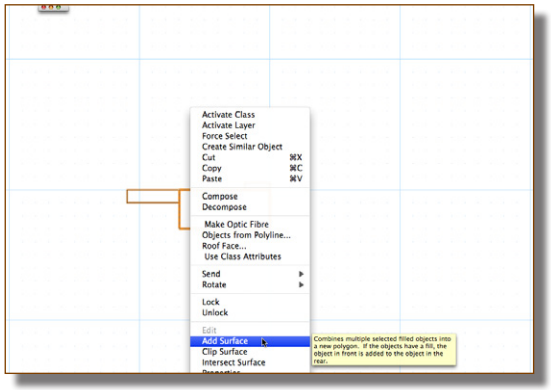
- Create another rectangle for the concrete slab.



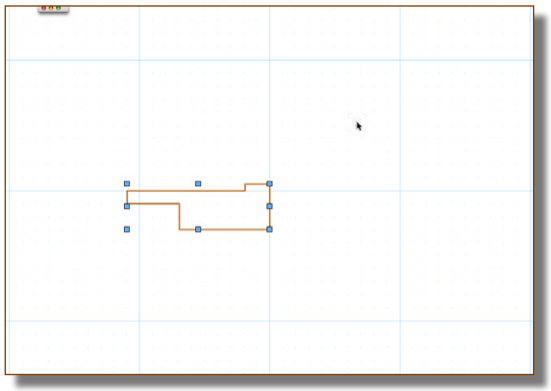
- Setting the options on this dialog box will make it easier to place the rectangle.



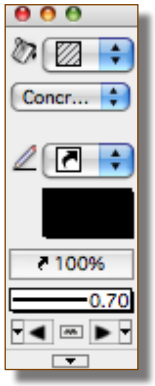
- Select all the rectangles.
- Right mouse click, and choose Add Surface. If you are using Vectorworks 12, you will need to go to the Modify menu to find this command.



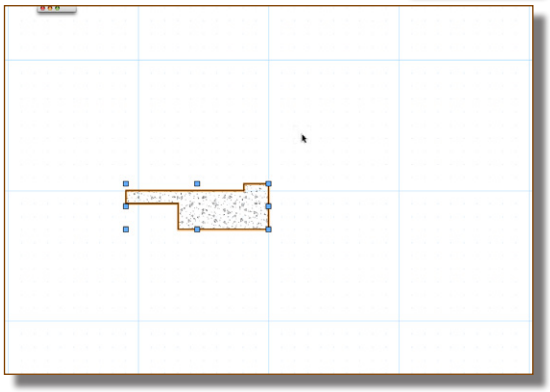
- For me, this is an easy way to create a complex shape.



- Use the **Attributes Palette** to change the foundations to a heavy line with concrete hatching.

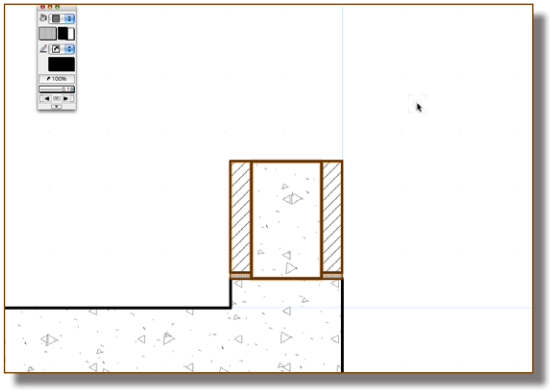


- The hatching is in this exercise file.

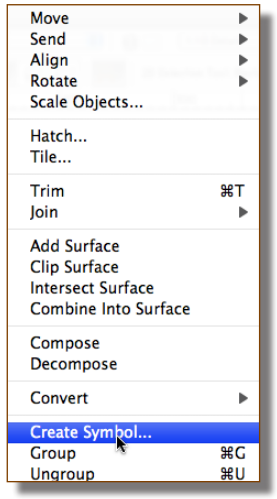


[cadmovie328](#)

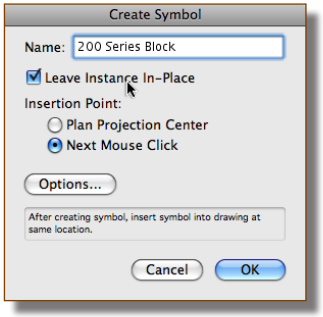
- Create rectangles to create enough information for a concrete block (CMU).
- Select all the parts.



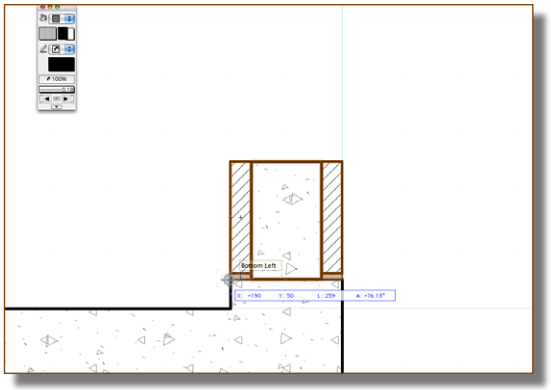
- Go to the **Menu** Bar.
- Choose **Modify > Create Symbol...**



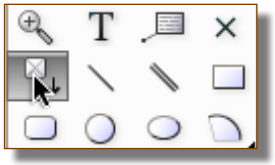
- Name the symbol so you can find it easily.
- Leave the instance in place. This will leave the symbol on the drawing. If you don't turn this option on, you will lose the object on the screen.
- Set the insertion point to Next Mouse Click. This will allow us to check select the insertion point of the symbol, making it easy to place the symbol.



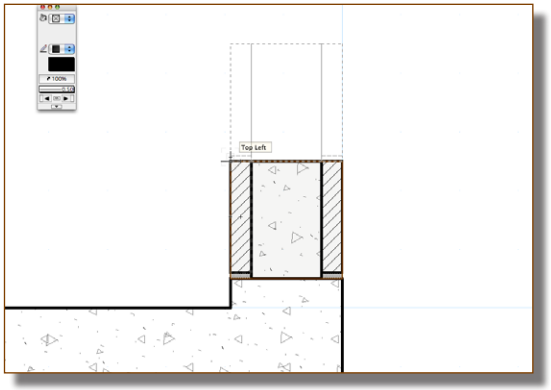
- Move to the bottom left corner of the group. I've made a small rectangle for the mortar, so I would use the bottom left of the mortar. This will allow me to join the blocks, one on top of the other.



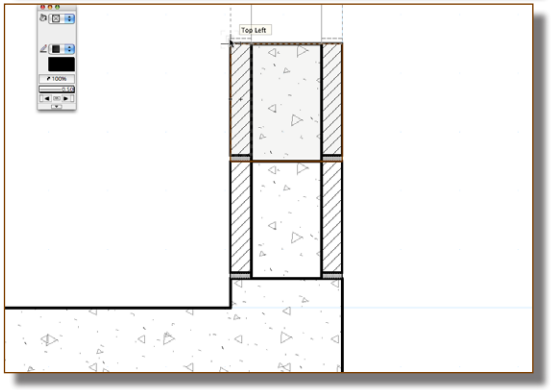
- Go to the **Basic** tool set.
- Choose the **2D Insert Symbol** tool.



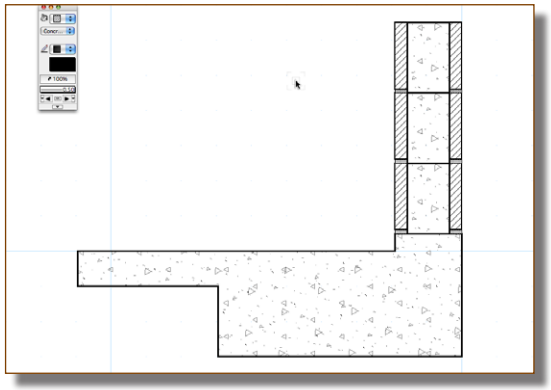
- Move to the top left corner of the existing symbol.



- Double click to place the symbol.



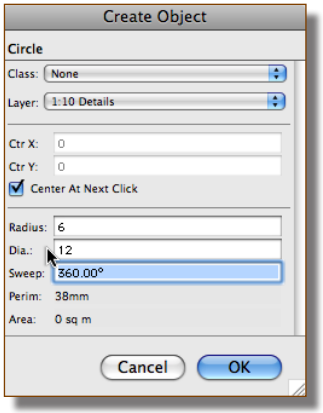
- Place as many as you need to make the wall high enough.



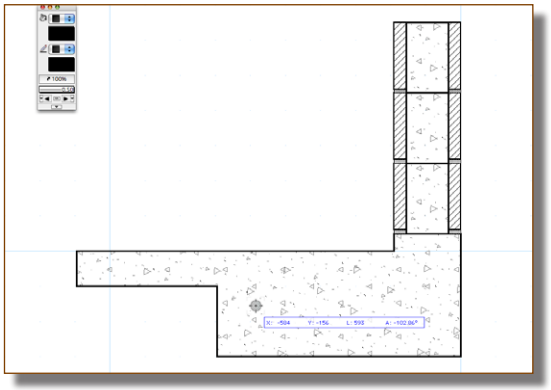
[cadmovie329]

- Make sure nothing is selected.
- Change the settings on the Attributes Palette. We want to place reinforcing steel. A black circle will be good for this.

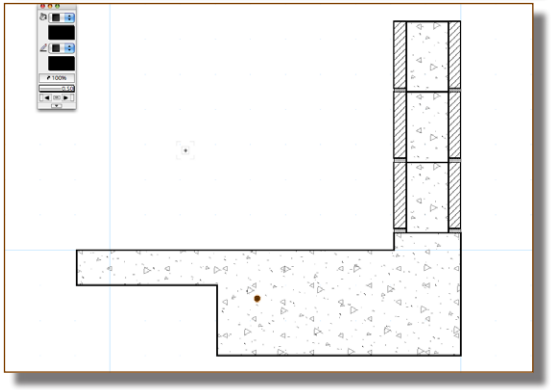
- Double click on the circle tool.
- Set the options to make a small circle.
- Click on the **OK** button.



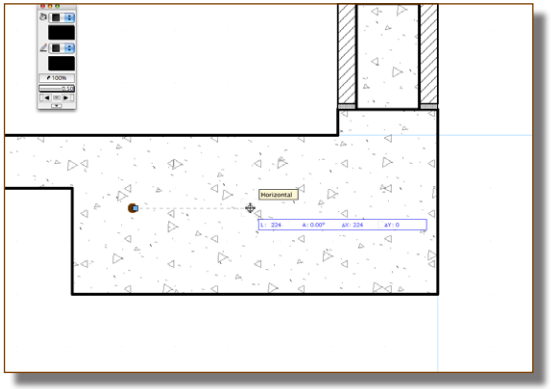
- Click once.



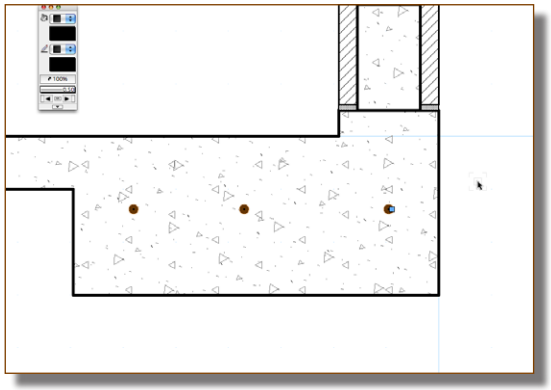
- This places the circle.



- Drag a copy of the circle across to the right. You can use the option key on the Macintosh, or the control key on a Windows machine.

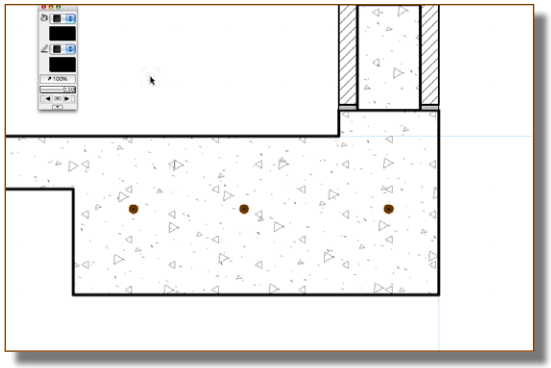


- Make 3 circles. You don't have to have them lined up, and they don't have to be evenly spaced.

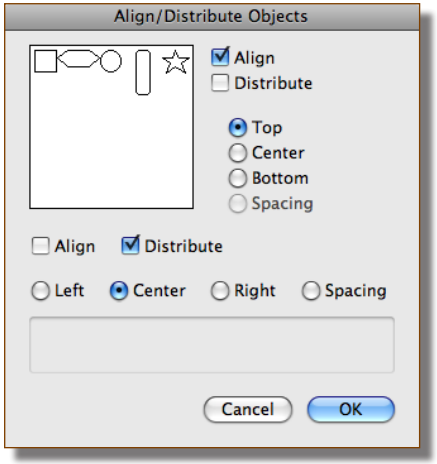


[cadmovie330]

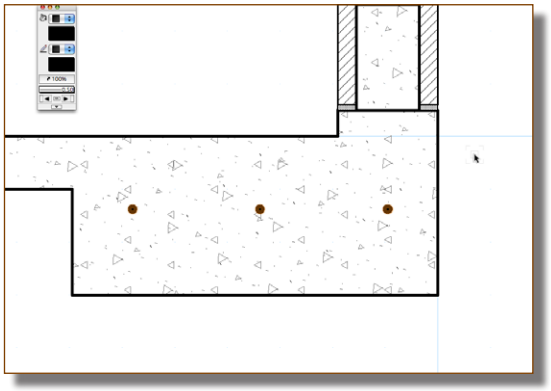
- Select all the circles.



- Go to the **Menu** Bar.
- Choose **Modify > Align > Align/Distribute...**
- Set the options to align the tops, and distribute the centres.
- Click on the **OK** button.

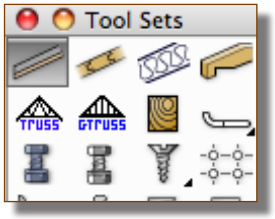


- Notice the circles are all lined up and evenly spaced. Some people think my way of drawing looks sloppy until it's finished. I find it easier to draw sloppy, then use Vectorworks to fix it.

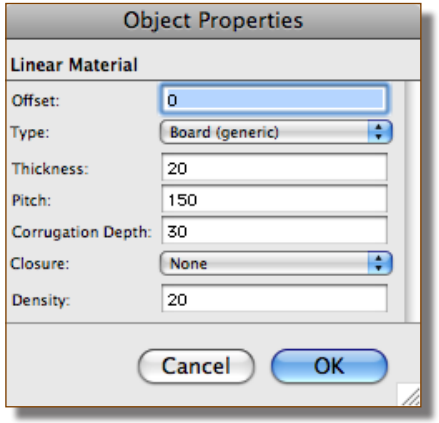


[cadmovie331]

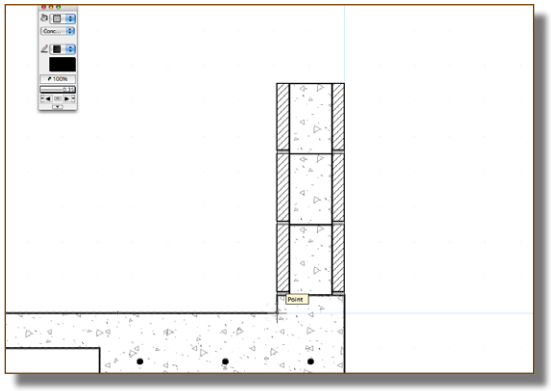
- Go to the **Detailing** toolset.
- Choose the **Linear Material** tool.



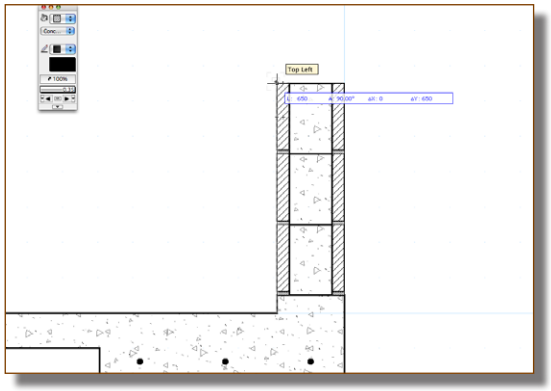
- Go to the **Tool** bar.
- Click on the **Preferences** button.
- Put in the settings you want for the plaster finish on the blockwork.
- Click on the **OK** button.



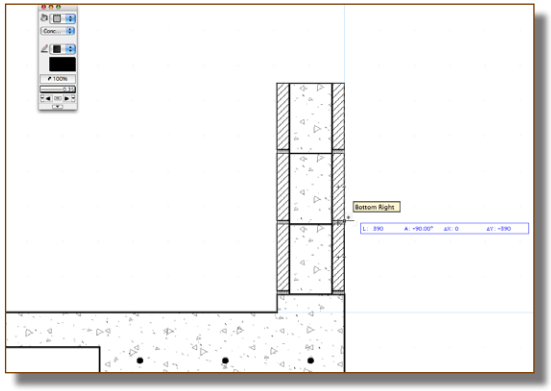
- Click at the bottom of the block wall to start.



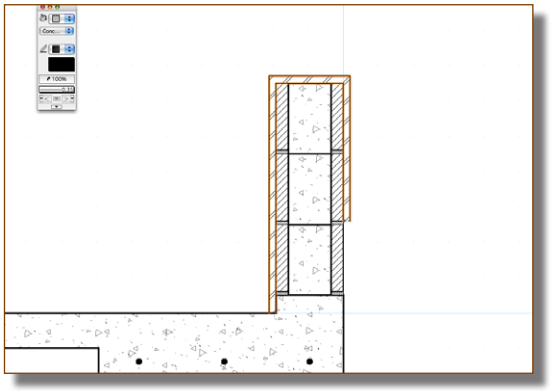
- Move up to the top corner.
- Click once.



- Move to each corner and click.

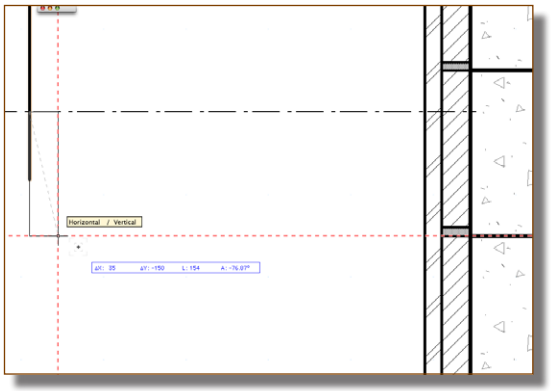


- Double click to stop.

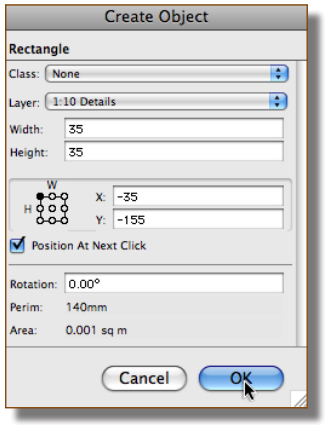


[cadmovie332](#)

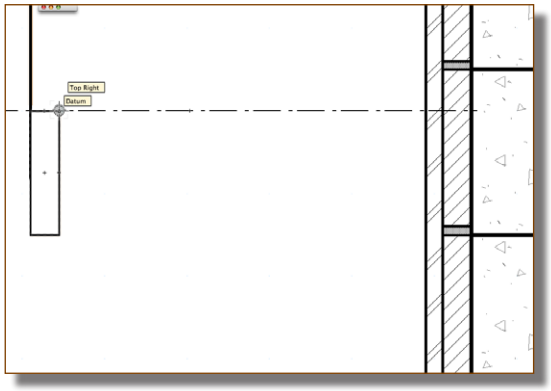
- Draw a heavy line for the extent of the seating. I use this as a guide line. There a few ways to get the line in the correct location. You can draw it a move it, or you can use the floating datum to get it in the correct location.
- Draw a rectangle for the front piece of timber. The timber needs to be 6” (150mm) high and 1.5” (35mm) wide.



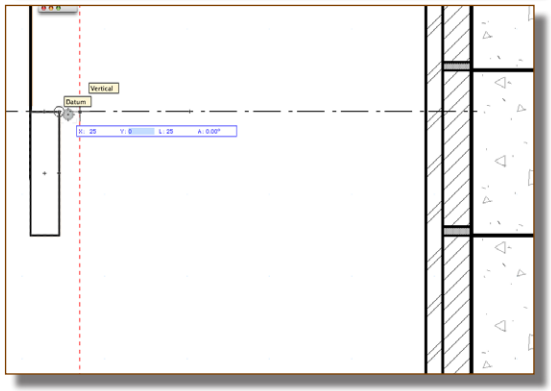
- Double click on the rectangle tool.
- Set the rectangle height and width to 1.5” (35mm).
- We can use **Position at Next Click** with the floating datum to position the rectangle accurately.
- Click on the **OK** button.



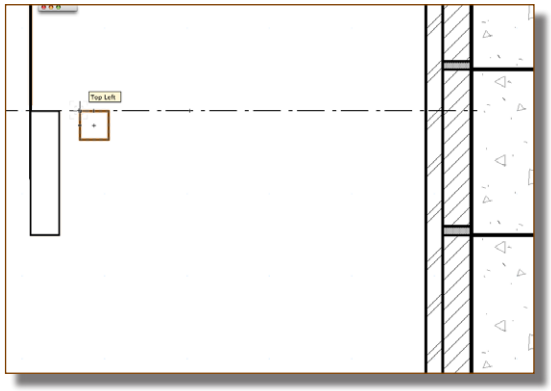
- Move to the top right of the timber at the front edge.
- Hit the **G** key on your keyboard. DO NOT CLICK.



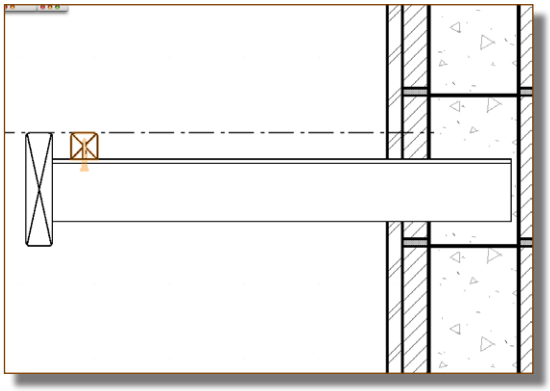
- Hit the TAB key until you get to the X field on the data display bar. Vectorworks 2008 and 2009 have the data bar floating next to the cursor. Earlier versions of Vectorworks have the data bar above the mode bar.
- Type in the gap we need, 1” (25mm).
- Hit the Tab Key once.



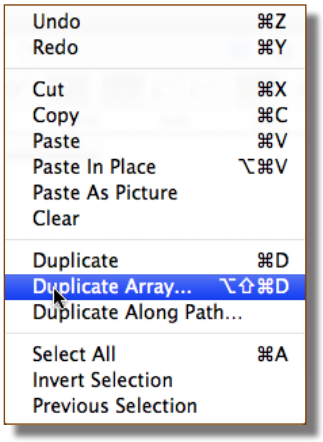
- Click once to place the rectangle. You can leave the rectangles as they are, but with a little effort you can make them look more like timber.



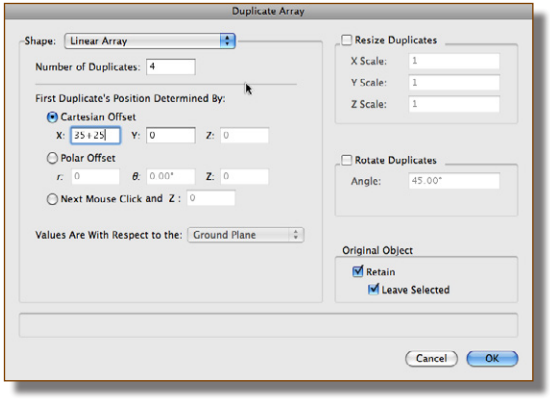
- Cross lines, and rounding the edges make a difference. You add a wood screw from the Detailing tool set (Vectorworks 2009 only).
- Rounding the edges of the rectangles is easy with the fillet tool.
- Select the timber, and wood screw if you added it.



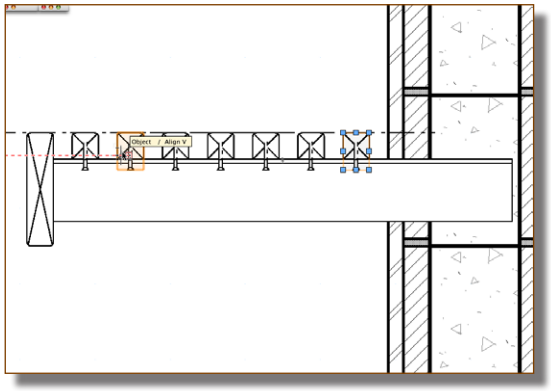
- Go to the **Menu** Bar.
- Choose **Edit > Duplicate Array...**



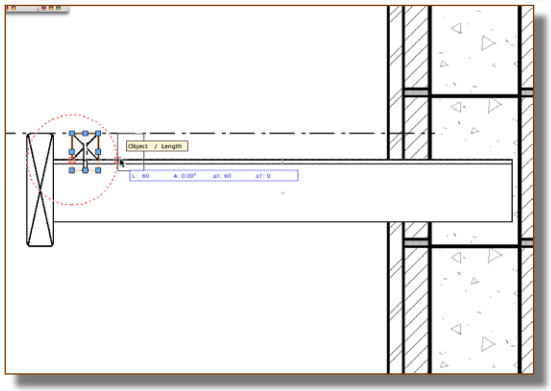
- Fill in the settings. I use the linear array in this situation.
- The distance can be typed in as a formula, **1"+1.5" (25mm+35mm).**
- Click on the **OK** button.



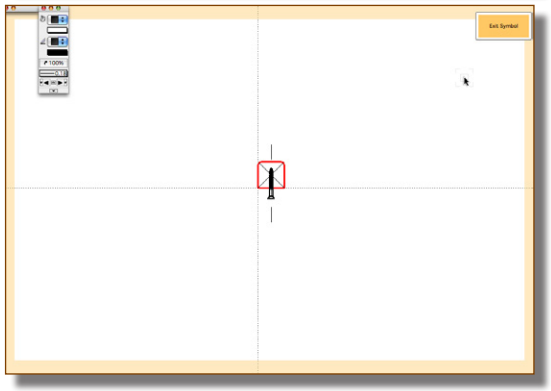
- You should find this a quick way of making duplicates.



- Another way to draw the timber is to use a symbol. Once you have drawn the timber and screw, you can make them into a symbol.
- You can then use the Duplicate Array... command, to place the timber objects.

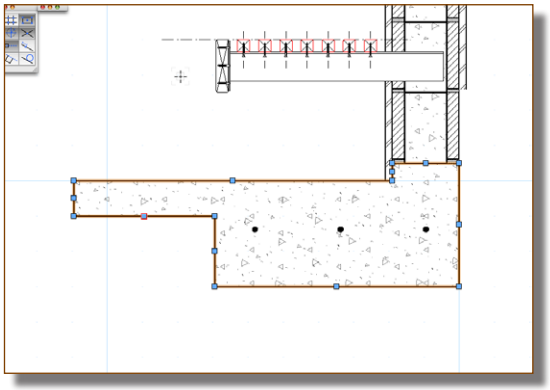


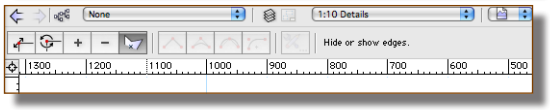
- When you use symbols, you can edit the symbol definition to change the line weights and line colors.
- When you exit the symbol, all instances of the symbol are updated.
- You can even set up the symbol with the gap as part of the symbol.



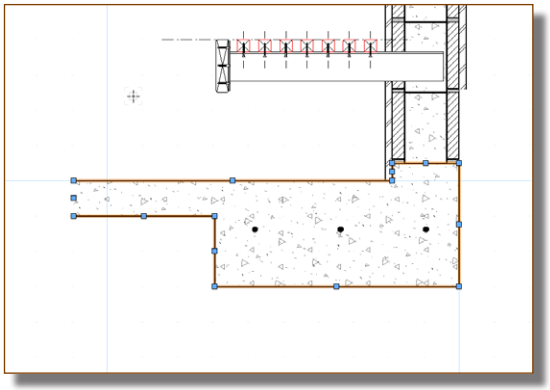
cadmovie333

- The polygon for the foundation shows a closed end, it needs to show an open end.
- Go to the **Basic** tool set.
- Choose the **2D Reshape** tool.





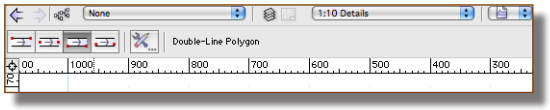
- Go to the **Tool** bar.
- Choose the **fifth** mode, to hide or show edges.
- Click on the edge of the polygon. The line on this side will turn off.



[cadmovie334](#)

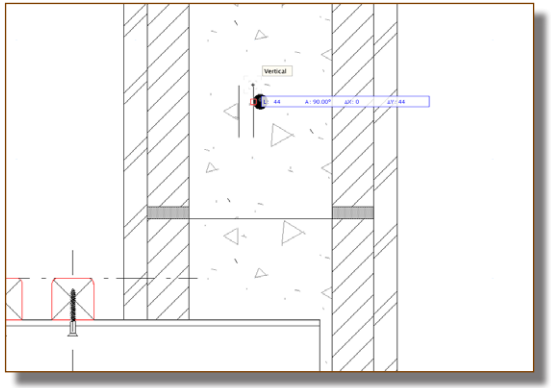
- Go to the **Basic** tool set.
- Choose the **Double Line Polygon** tool.

- Go to the **Tool** bar.
- Choose the third mode, to hide or show edges.

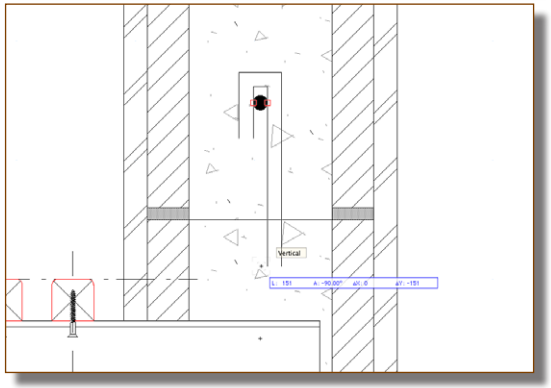


- Click on the last mode, the preferences. Fill in the separation as **1/2" (12mm)**, the thickness of the reinforcing bar.

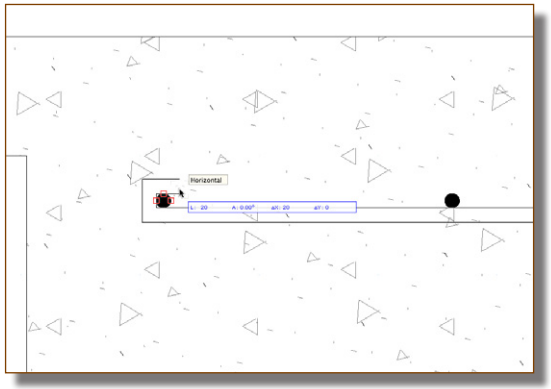
- Start on the left hand side and below the re-bar.
- Click to form a U shape around the top of the re-bar.



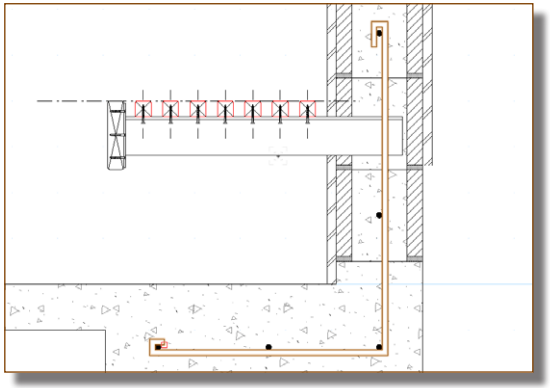
- Come down the block wall.
- Click at the bottom of the reinforcing.



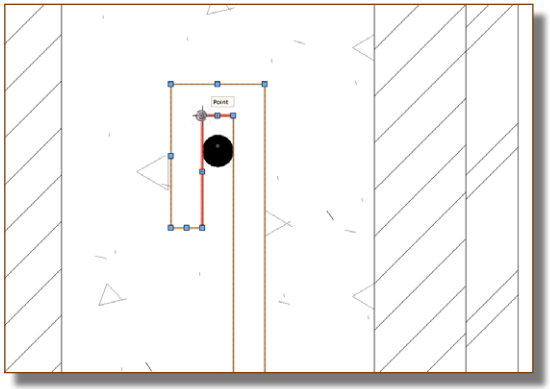
- Move across to the left.
- Draw a U shape around the last re-bar.



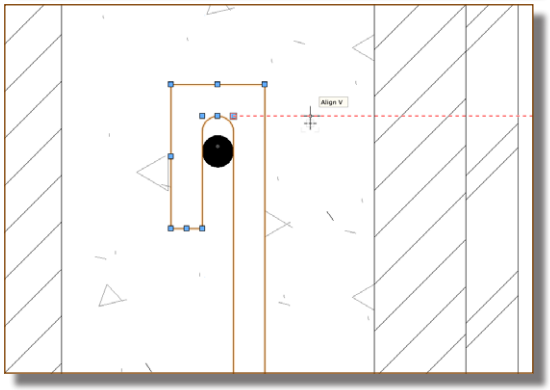
- You should have a complete tie bar in elevation.



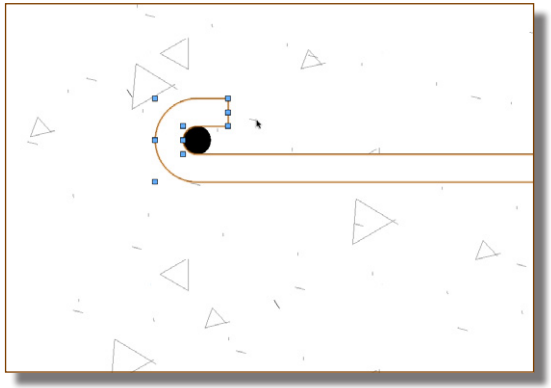
- Zoom in to the top re-bar.
- Go to the Basic tool set.
- Choose the **2D Reshape** tool.
- Click on the second mode, change vertex type.
- Click on the ninth mode, fillet point mode.
- Set the Fillet Preferences to 1/4" (6mm).
- Click on the first corner.



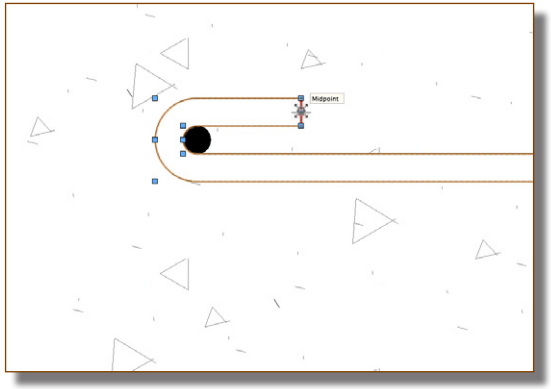
- Click on the second corner.
- Change the fillet preferences to 3/4" (18mm).
- Click on the outside corners.



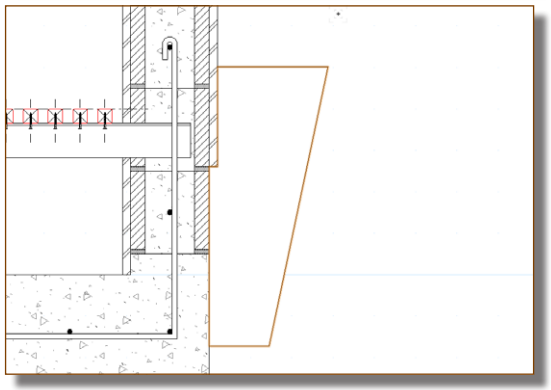
- Edit the corners at the other end as well.



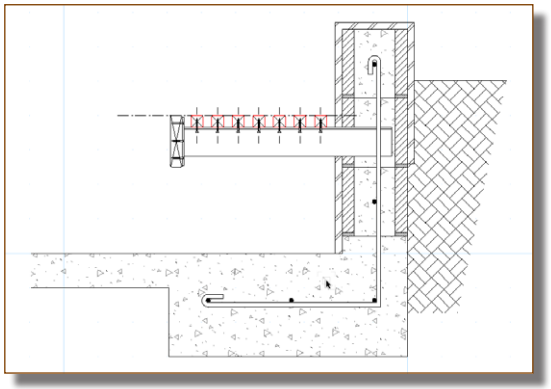
- If your reinforcing is not long enough, you can use the first mode on the mode to edit one part.



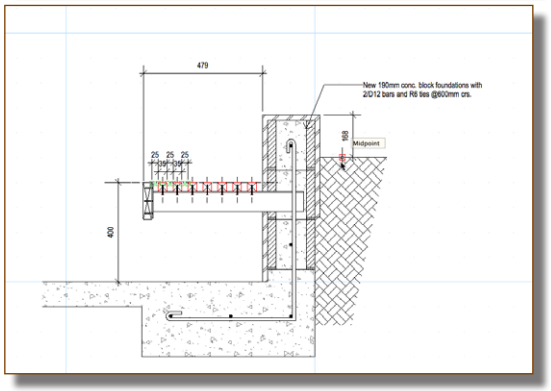
- Add a polygon for the soil.



- Assign the hatching for soil.



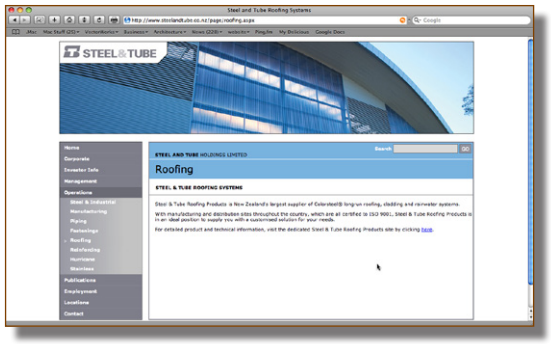
- Add the dims and notes.



Importing Details From A Manufacturer

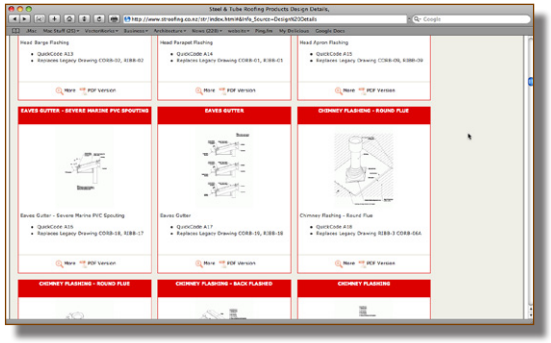
cadmovie335

There are several web sites that have details you can use. Usually you will have to register before you can access the details.

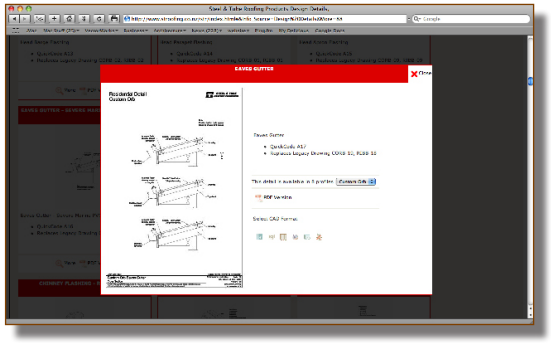


I often find the details are hidden, so you have to look for them in sections like Technical, specifiers, or details.

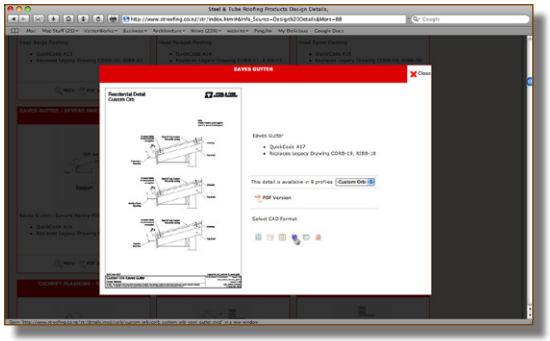
When you finally get to the details, you might see something like this. It may be obvious, but to access these details, you have to click on the detail you want.



For this particular web site, you get a further window. This window is displaying the download options.

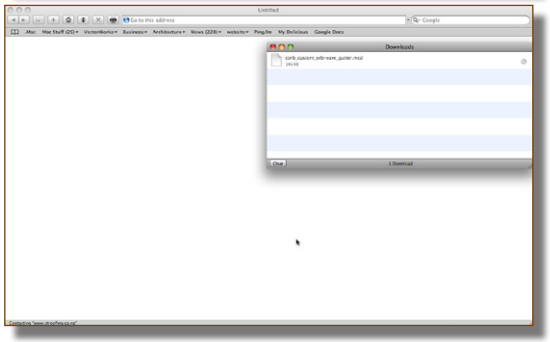


When you click on the drawing type you want, they detail will start to download.



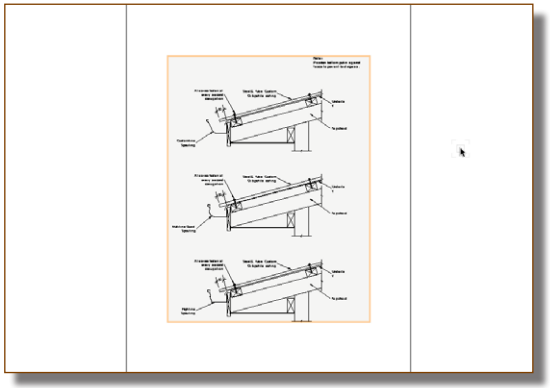
This web site has Vectorworks drawings, which is handy. You don't have to import them from DWG/DXF.

The details download and are stored in the same folder as your other downloads.

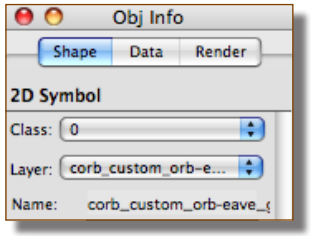


Generally the web site will be using a old Vectorworks format to suit as many Vectorworks users as possible.

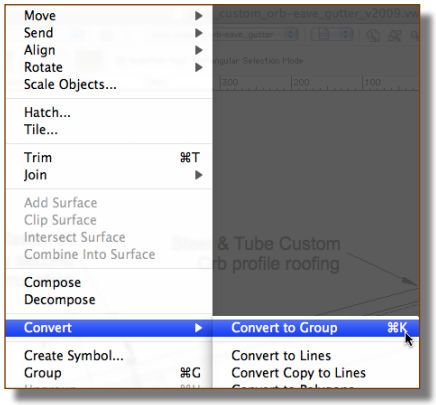
When you open the file, it might have a message about converting the file.



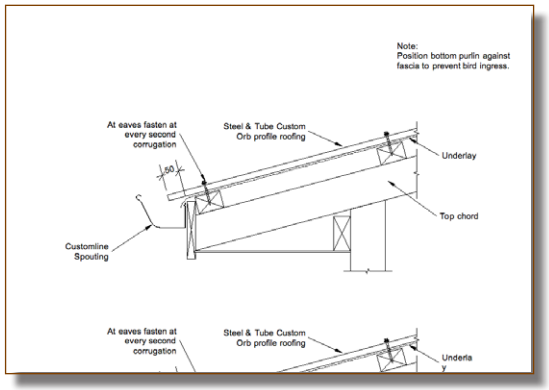
This web site makes the details into symbols. This can work really well, because you can access the details from this file using the Resource Browser.



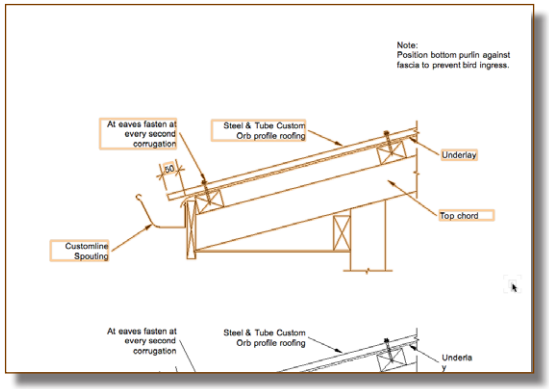
If you do not want the symbols, then convert them to groups. This will stop you being able to use the details directly from the Resource Browser, but you can make them back into symbols later.



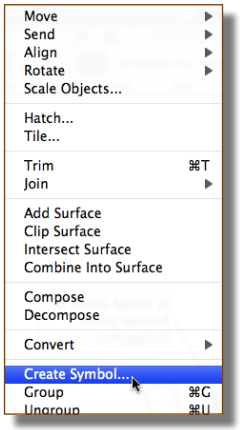
- Edit the details to suit you. Add extra cladding, change the line weights and so on.



- Select everything for the detail.

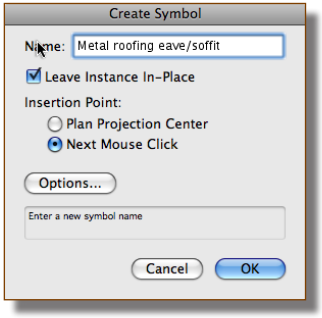


- Go to the **Menu** Bar.
- Choose **Modify > Create Symbol...**

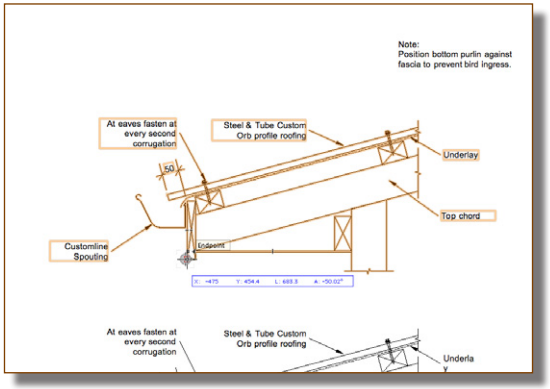


- Name the symbol.

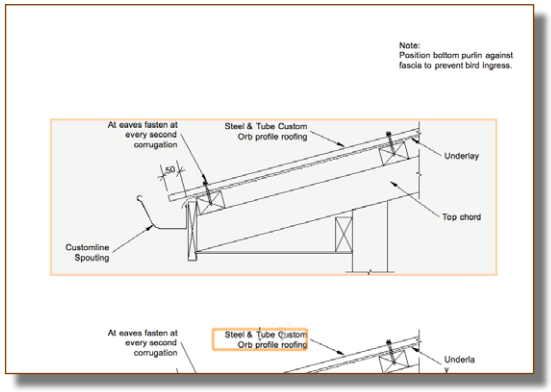
Give it a name that makes sense. I used to call my foundation details Foundation 1, Foundation 2 and so on. After seven details, I can't remember which is which. When I name them, Slab Edge, Garage Door Edge and so on, I can find them more easily.



- Use the Next Mouse Click for the insertion point. That way you can choose an insertion point that suits you. A point on the barge board, or the wall line can work, but the middle of the detail will not work.

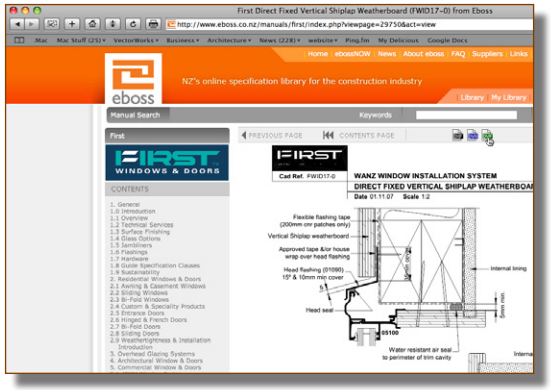


Now you've made it back into a symbol you can use it from the Resource Browser.

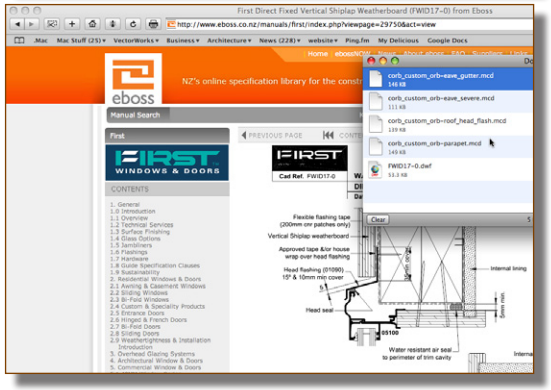


[cadmovie336]

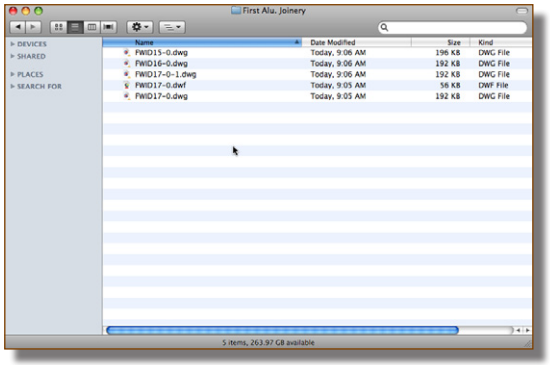
Sometimes, the files you want to download are not in Vectorworks format. In this case look for DXF or DWG files.



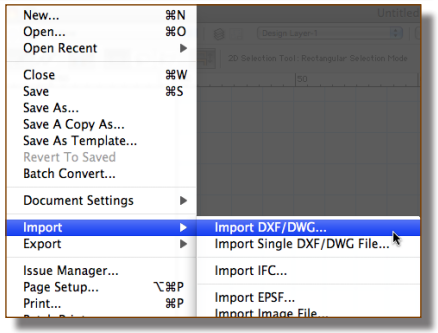
- You can download these files.



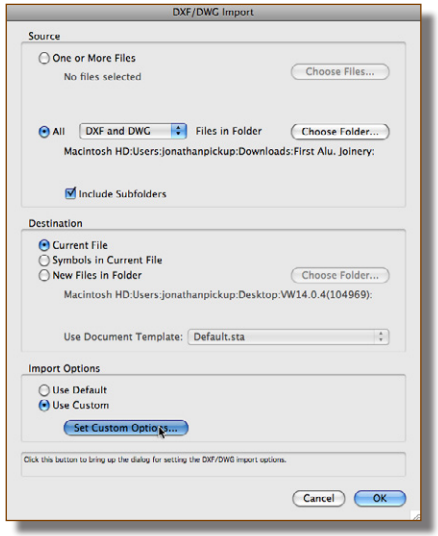
- Store them all in a new folder, so that only these downloaded files are in that folder.



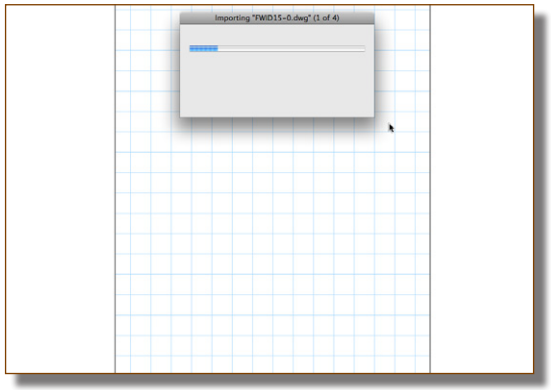
- Start a new Vectorworks drawing.
- Go to the **Menu** bar.
- Choose **File > Import > Import DXF/DWG...**



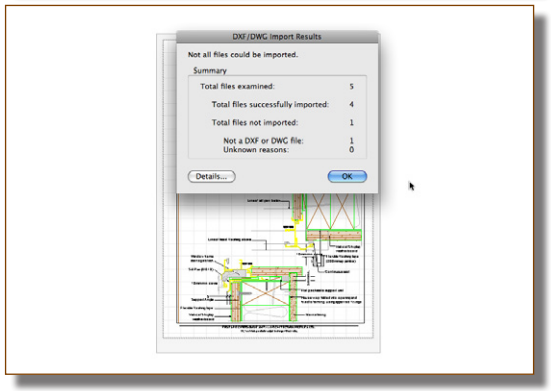
- Click on the option to **Choose Folder...**
- Choose the folder with all your downloaded files.
- Set your custom options to suit.
- Click on the **OK** button to start.



Vectorworks imports one file after the other.



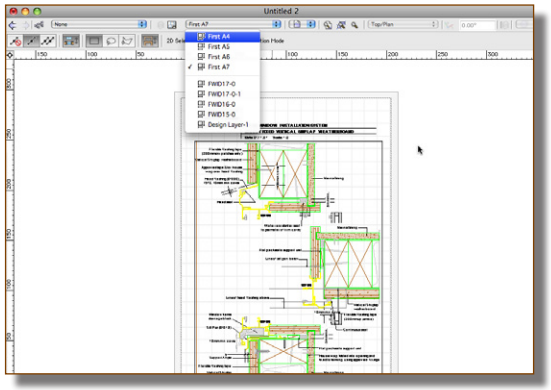
When they are completed, you get a report on the success.



Normally you will get a series of design layers (the ones at the bottom) and sheet layers (the ones at the top).

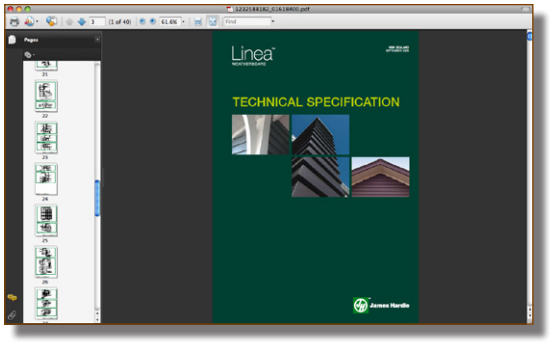
Only the design layers are of interest. Each detail will normally be on a separate design layer.

Tidy up the details to sit your drafting style.

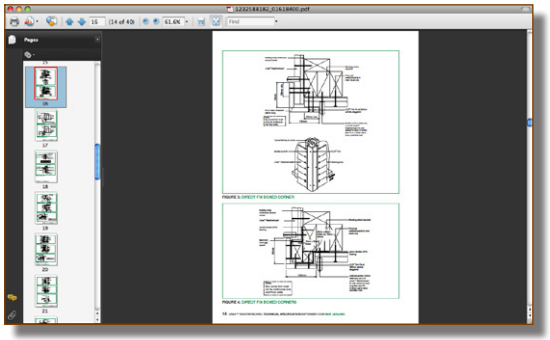


cadmovie337

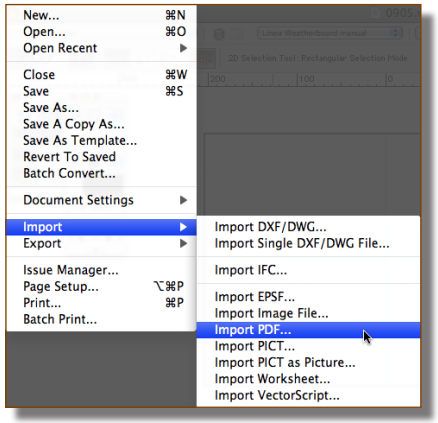
There is one more way to import details for your projects, that is to import a PDF file. The example I will use is a technical manual from the manufacturer, James Hardie. I've downloaded the technical manual for Linea Weatherboards, you can use any PDF file that has technical details.



- Open the PDF manual.

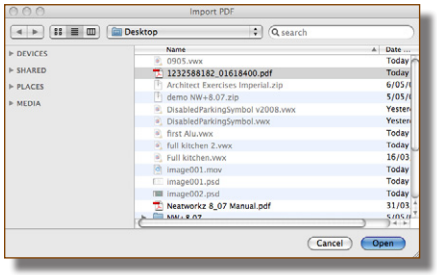


- Find the pages with the details you want. If there are a lot of pages, write down the page numbers.

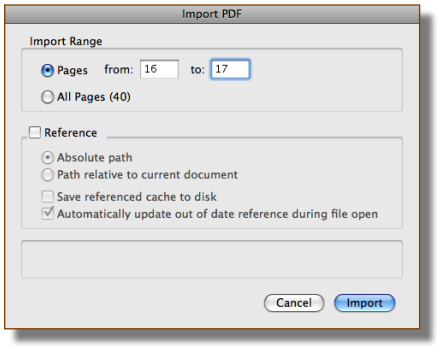


- Go back to Vectorworks.
- Go to the **Menu** Bar.

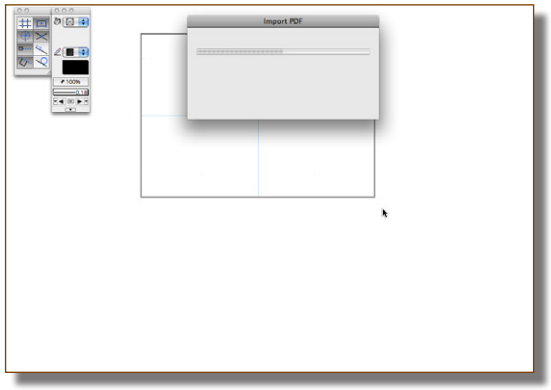
- Choose **File > Import > Import PDF...**



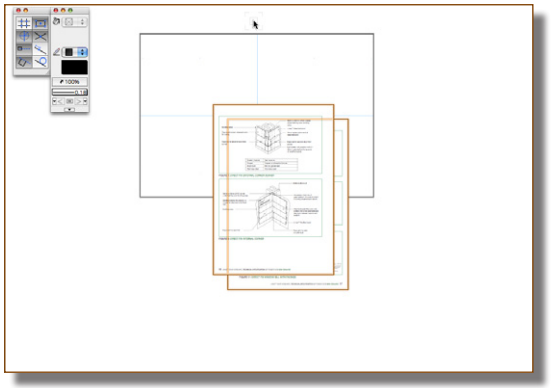
- Locate your PDF file.



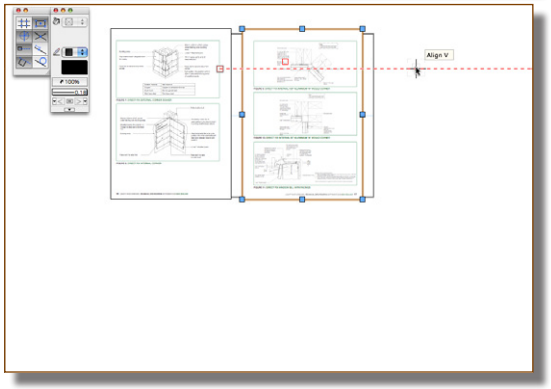
- Enter the page numbers you want to import.
- Vectorworks will import the pages. You should get a progress bar showing you how the import is working.



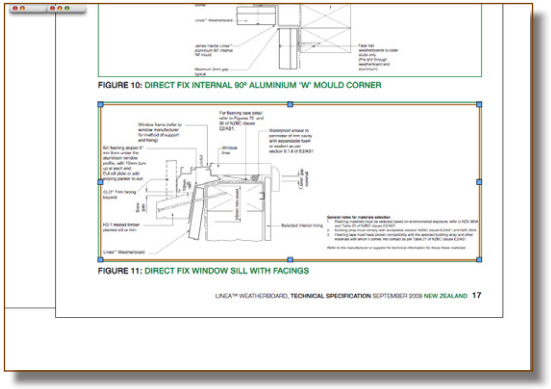
- Vectorworks imports the pages as separate objects.



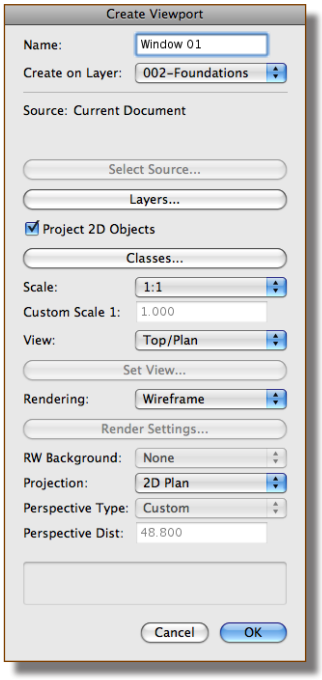
- Move the pages so they line up. Don't worry about staying inside the printable area, you can make viewports from the parts you want.



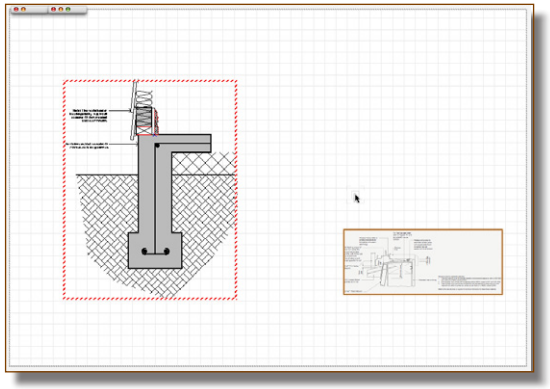
- Draw a rectangle over the area you want to viewport.



- Go to the **Menu** Bar.
- Choose **View > Create Viewport...**
- Fill in the setting to suit. I've used a 1:1 layer for the imported layer. I'm not sure that it matters, because the details on the pages could be at several scales. If you know the scale of the details in the technical manual, then use that scale.
- Click on the **OK** button.



- Move your viewport on the sheet layer to suit your drawing.



Using Details From Your Library

There are at least two ways to use the details from your library. If you make your details into symbols, you can use the Resource Browser to import your details from your library into your current project. You can use Workgroup Referencing to import the complete layer of symbols.

Using the Resource Browser

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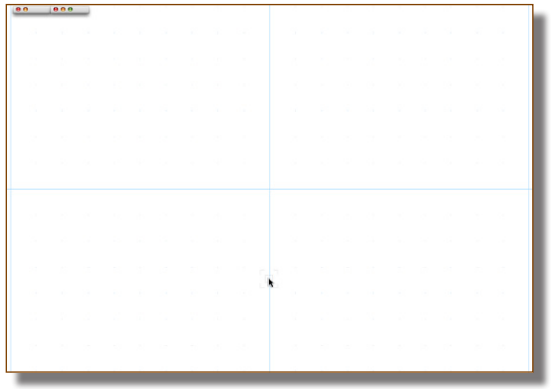
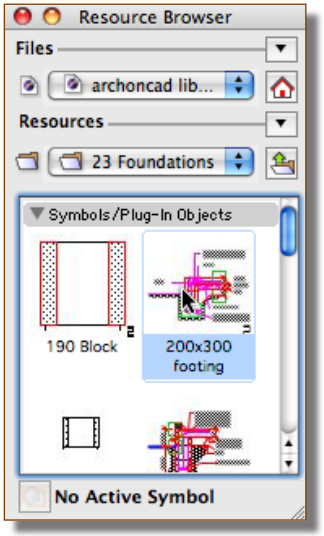
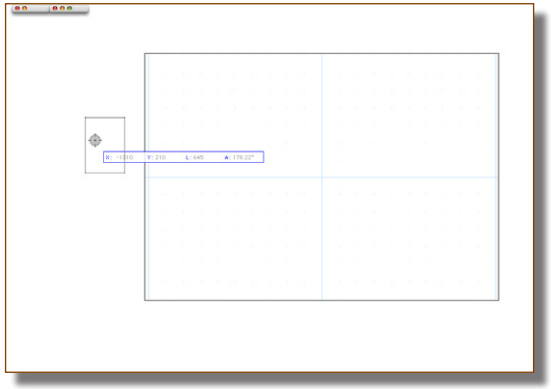
With this method, you MUST make your details into symbols, otherwise they will not appear in the Resource Browser.



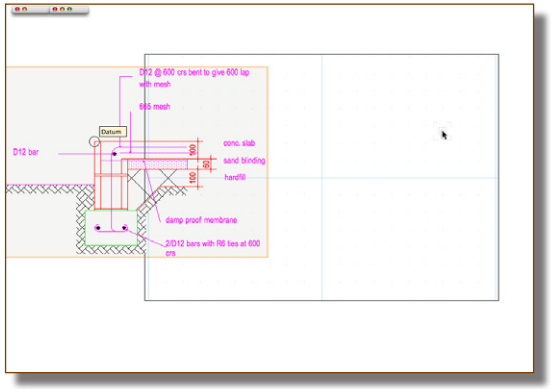
- Start with the layer where you want the details.



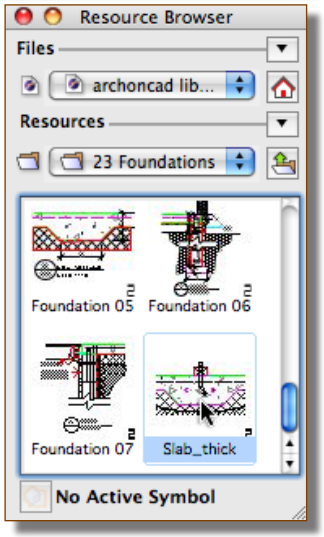
- Go to the **Resource Browser.**
- Locate the symbol you want to use. You must use the Resource Browser to add your library as a Favorite file, that will give you quick access to the details.



- Click and drag the detail you want.
- Choose where you want the detail to be.

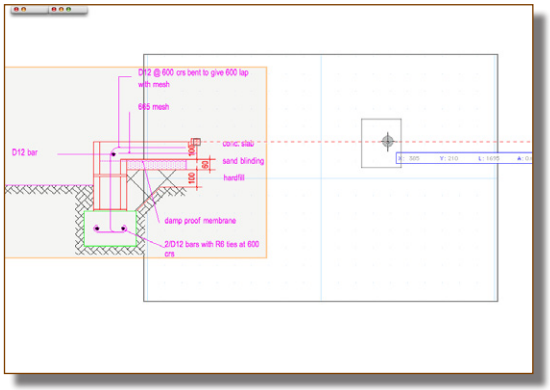


- When you release the mouse button, Vectorworks will import the symbol.

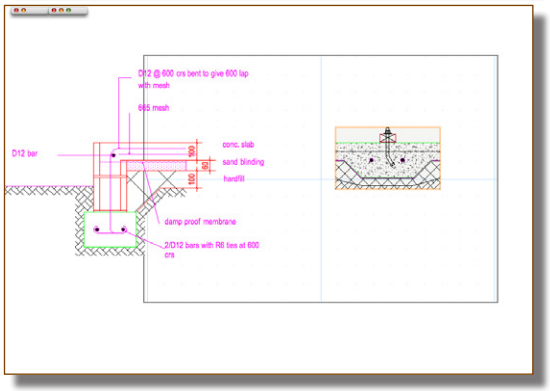


- Go to the **Resource Browser.**
- Locate the next symbol you want.

- Drag the detail into the drawing area. I like to make sure the details line up, using the smart points.



- When you release the mouse button, Vectorworks will import the symbol.



This method works well, but you have to make the details into symbols. When you make the symbol, you can set the insertion options so that the symbol automatically converts to a group. This would allow you edit the detail without upsetting any other instances of the same symbol.

The other thing to think about is, when you import a symbol using the Resource Browser, it will not update automatically from the library.

Using Workgroup Referencing

This method allows you import a whole layer from your library. You could draw all your details on one layer.

Think about drawing all your foundation details one layer.. If you imported this layer into your current drawing, you would be able to choose any of these details to place on your foundation drawing.

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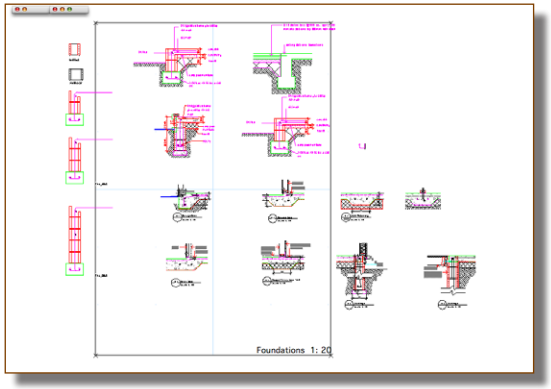
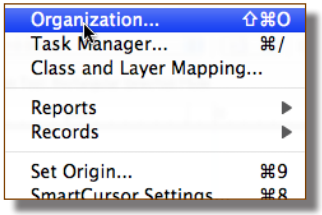
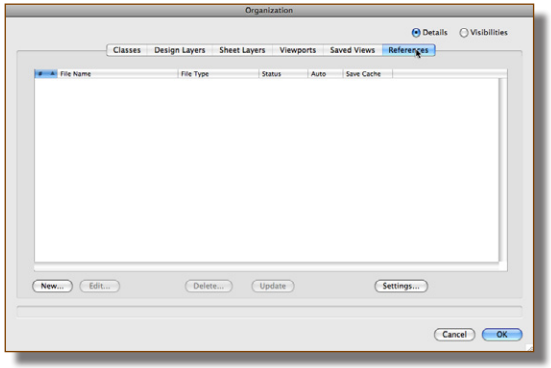
You could draw all your cladding details for a cladding type on one layer and import that.



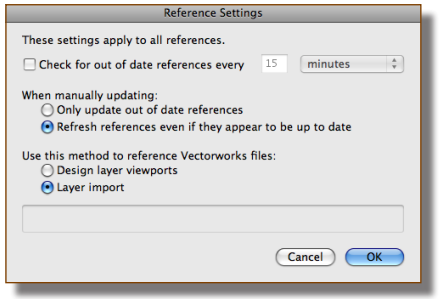
- Go to the **Menu** Bar.
- Choose **Tools > Organization...**



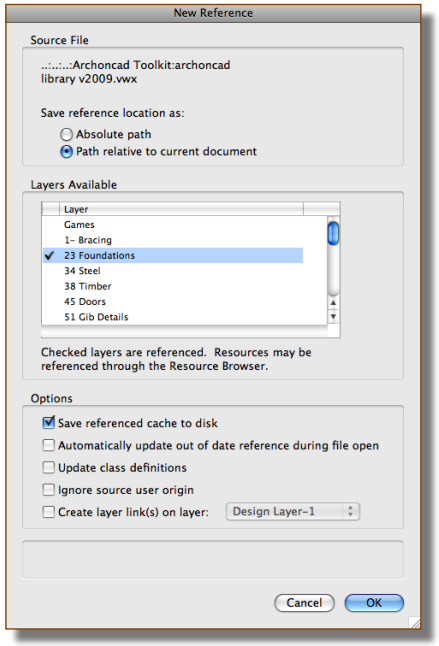
- Change to the **References** tab.



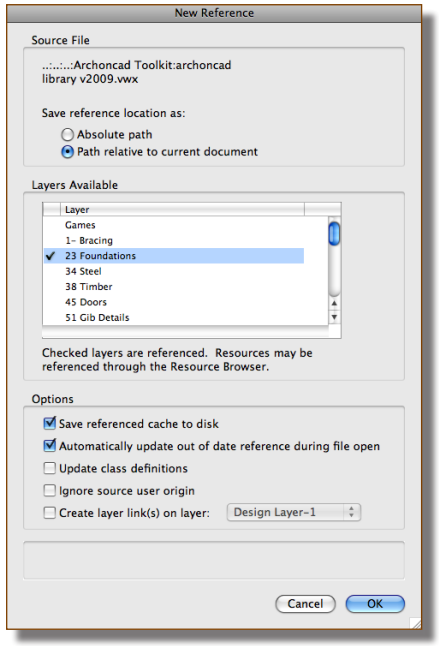
- Click on the **Settings...** button.
- Use Layer Import.
- Click on the **OK** button.



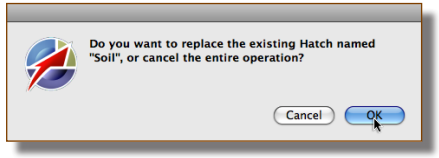
- Click on the **New...** button
- Choose the library file.
- Choose the layer you want to import, by clicking on the tick next to the layer name.



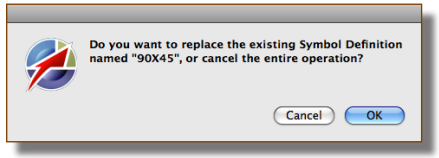
- If you turn on the Automatically update out of date references during file open, then every time you open this file, Vectorworks will automatically update your details. If the details get updated in the library, you will always have the latest version.
- This option should be on until you get to tender stage (pricing). After that, turn this off.
- Click on the **OK** button.



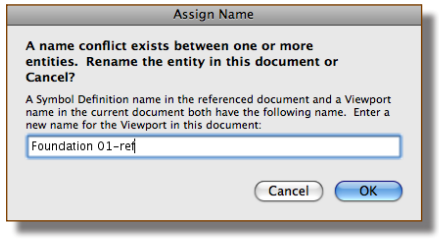
- If you have a conflict with hatches, you will get this message.
- Click on the **OK** button.



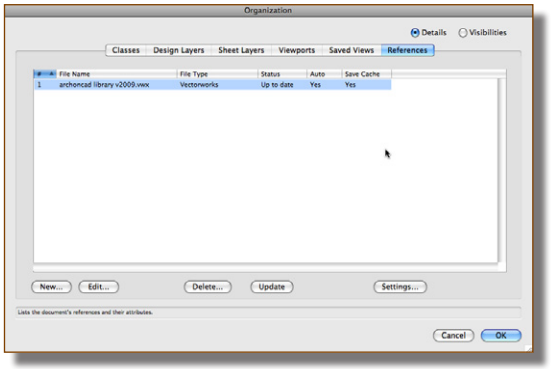
- If you have a conflict with symbols, you will get this message.
- Click on the **OK** button.



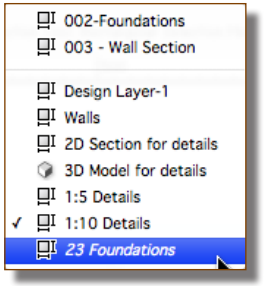
- If you have a conflict with names of objects, you will get this message.
- Edit the name.
- Click on the **OK** button.



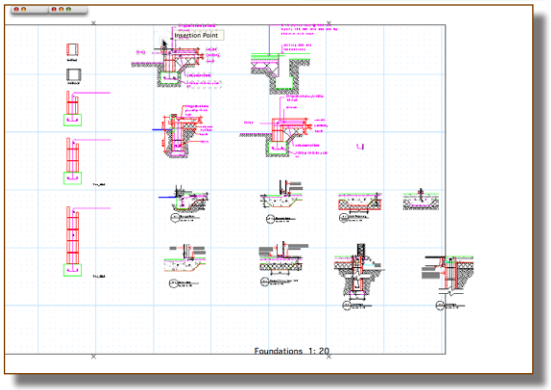
- The file is linked.
- Click on the **OK** button.



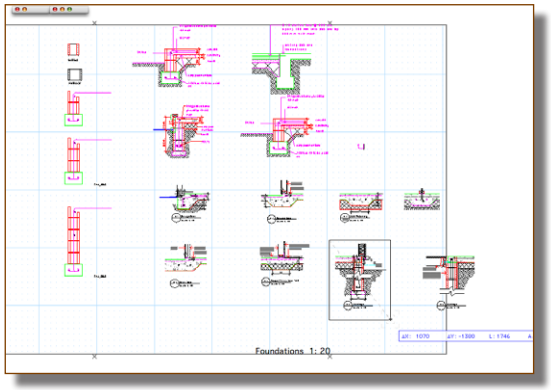
- When you check your list of layers, the new layer is shown at the bottom. Vectorworks shows the name in italics so you know the layer is referenced.



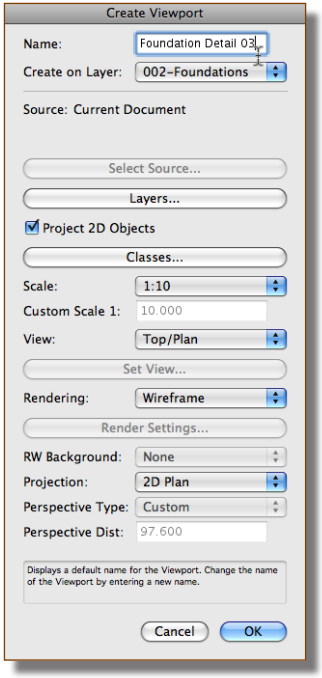
- You can see all the details on the layer.



- Use the rectangle tool to make a crop object, then make a viewport for the detail.



- Name the detail, choose the layer.
- Click on the **OK** button.



- Move the detail on the sheet layer.