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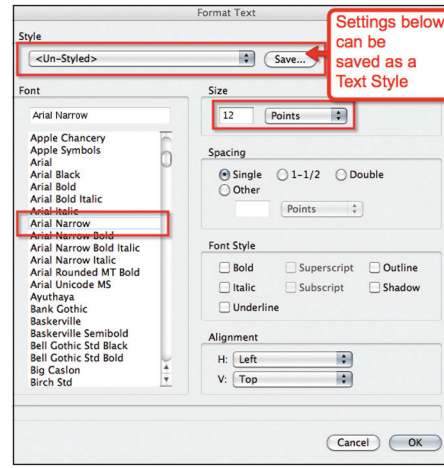
Using Text and Dimensions to Annotate Your Plan

We're going to cover adding dimensions and text to the plan now as it seems like the next logical step in the design process. We have our ground plan, and it makes sense to keep these blank shapes as a potential setting–out plan for a contractor. I should point out though, that my ultimate recommendation will be to add text and dimensions to the plan once you have created Sheet Layers and Viewports. However, as you don't yet know how to create Viewports, I thought now would be a good time to learn the tools. Later you'll see why it's a good idea to put text and dimensions in Viewports instead of on your design layer.

Vectorworks 2011 has introduced fantastic flexibility with text in the form of Text Styles, which allow you to create and apply different text formatting to different text blocks with the same ease as using classes to apply color. The default Text Styles, as installed, are quite large and are based on using a Design Layer scale of 1:1. Rather than debate the wisdom of this, be assured that for some users this makes sense. But for the landscape designer, it may not. So, in the starter file for this exercise, I have changed these Text Styles to be more suited to your needs. Text Styles are essentially saved settings from the Format Text dialog. Once created, you will find them sitting in your Resource Browser and will be able to apply them to new and existing text.

Exercise Twenty-One: Add Some Text

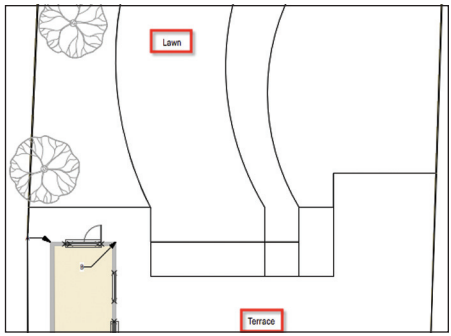
The text tools are varied, allowing you to create a simple text block on your drawing right through to creating labels using text from a set of commonly used notes held in the Vectorworks notes database. Default text size is determined in the Format Text dialog in the Text menu. In this dialog you can set the font, size, alignment, and spacing of the text as well as font style (bold, underline, or italic). Text can be rotated to any angle.



Open the file Start Text and Dims.vwx. If you colored your shapes, that's fine, but for clarity on my setting–out plan, I've chosen to keep it black and white. Don't worry if your colors don't match my screenshots!

Label the Lawn and Terrace

For this, we will use a simple text block.

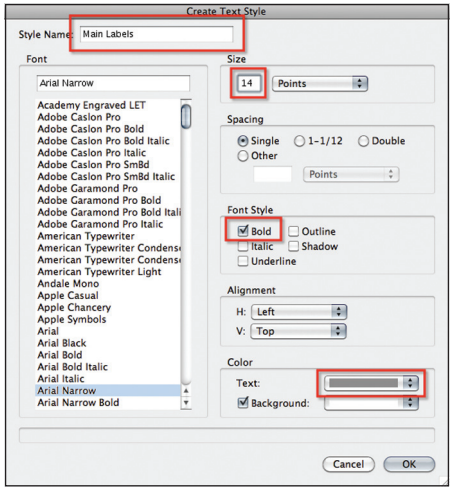


1. Under the Text menu, choose Format Text. Make any changes you desire for your text. Ignore the Save button for now.
2. Make the Notes–Text Block class active via the Navigation palette.
3. Click on the Text tool in the Basic palette. Select it, and then click once on the lawn area. Type the word “Lawn.” Click on the terrace and type the word “Terrace.”
4. To update text, double-click on it with the Selection tool and make your changes. You can also select the text and make changes to its formatting via the Object Info palette. Alternatively, if the Text tool is already selected, you can click on existing text boxes to make changes.

Note: You can move the text box in the same way that you can any other object on the Drawing area. If you want to create a block of text to fit in a specific space, select the Text tool and then drag a box onto the drawing before starting to type. The text will then be resized and adjusted to fit the box you drew.

Create and Use a Text Style

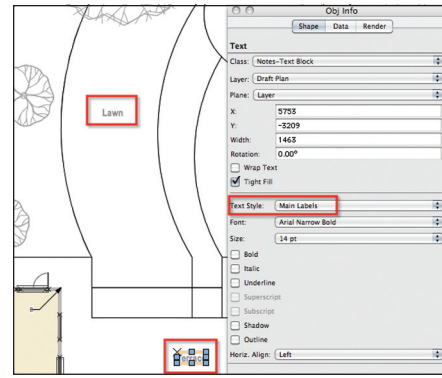
You will now learn how to create and apply a Text Style.



1. Place your cursor on a blank space within the Resource Browser window. Double–click to invoke the Create Resource dialog.
2. Choose to create a new Text Style.
3. The Create Text Style dialog will open. Complete the dialog as follows:
   - Give the style a name such as Main Labels.
   - Choose a font, size, style (bold) and color.
   - Click OK.
4. Notice that the Text Style now appears in the Resource Browser.
5. Drag the Text Style from the Resource Browser onto one of your existing Text blocks.

6. Select the other text block. On the Object Info palette, change the text from Unstyled to Main Labels.

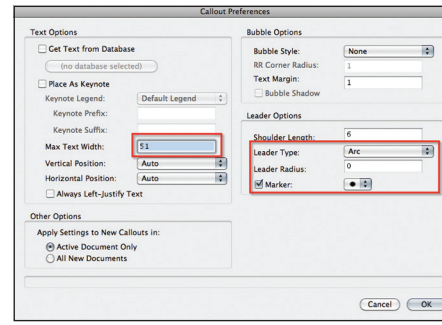
7. Notice the changes to the text on the drawing.



Label the Formal Planting Area with the Callout Tool

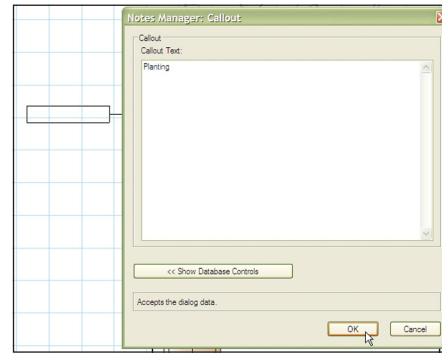
Callouts are text boxes with "leader lines" that point to the object being labelled. Callouts can be typed as required, or stored in a notes database and recalled as you need them (e.g., "All paving joints 10mm (½")"). You will probably want to use this on most plans and can avoid typing it again since you can recall it from a list.

1. Select the Callout Tool from the Basic palette. (You used this tool in the chapter on drawing up the survey. It's to the right of the Text tool.) From the Tool bar, click on the Callout Preferences button.



2. Examine the options. Here you can choose, for example, to justify your text to the left (it will usually default towards the leader line), if you would like to use a bubble style (to enclose the text), and if you would like to use a marker (e.g., an arrow) at the end of the leader line. You can choose a curved leader line instead of a straight one and you can set your favorite marker style. You can increase the Max Text Width to prevent your callouts from "wrapping" the text and change the Text Margin to adjust the space between the leader line and the text. You also have the option to fix these settings for all future documents. Set some options, and Click OK.

3. The default mode for the tool is Towards Target, meaning your first click determines the position of the label. Click to the left of the left–hand boundary fence, and then click on the planted area on the left of the garden. If the Notes Manager dialog box opens, click on Hide Database Controls—we will look at the Notes Manager in the next section. When the dialog box opens, type "Planting" in the Callout Text field, and click OK.

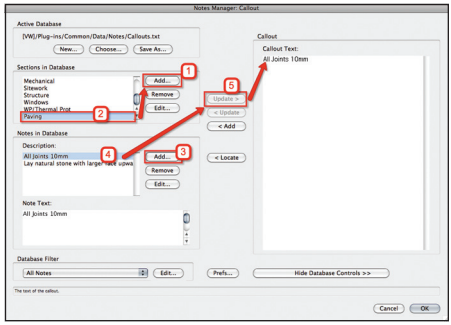


Note: The Callout tool's Preferences dialog also allows you to pick notes directly from a database. In the following exercise you will learn how to set up your notes. You could then set the dialog to go directly to the database.

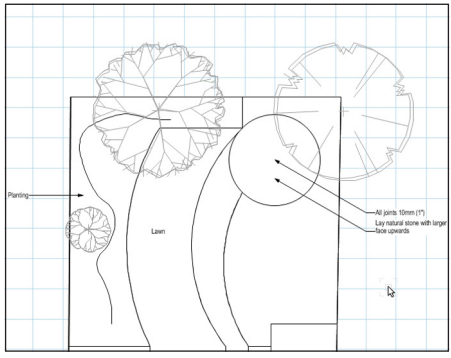
Using the Notes Database

In this section you will learn how to add a new notes category, place some new notes in it and then use the notes on the drawing.

1. Change the Callout tool's mode to Towards Text mode on the Tool bar. Click on the circular seating area. Hold down the SHIFT key to constrain your leader line to one of the preset angles, and then click to the right of the right-hand boundary fence. If the Notes Manager dialog does not open, click Show Database Controls. The Notes Manager will open.
2. In the area titled "Sections in the Database," click Add. In the Notes Manager dialog box, type the word Paving. Click OK.
3. Ensure the heading Paving is selected. In the area below titled Notes in Database click on the Add button to add a new note into the Paving section. Type the words "All joints 10mm (½ inch)" into the dialog and click OK. Add a second note within the Paving category containing the words "Lay natural stone with larger face upwards."



4. Highlight the "All joints 10mm (½ inch)" note and click on Update to choose this note for your callout. Click OK. When prompted to Save Database Changes, click Yes.
5. The note is placed relating to the seating area. Place another callout relating to the same seating area, this time select the note about laying natural stone.



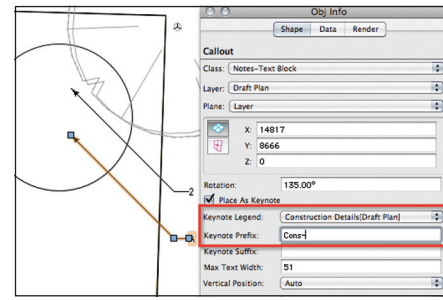
6. From the Basic tool set, select the Select Similar tool and ensure it is set to Select Any Object mode. Click on one of the callouts that you created above. Notice that all callouts have been selected.
7. Via the Object Info palette, click the box Place as Keynote. Notice the callouts are now numbered and relate to a separate text box with numbered notes. If you were to place duplicate notes on the drawing now, you would see their number repeated on the Callout and the note itself shown only once in the legend.

8. Move the Keynote Legend to a suitable position on your page. The use of Keynotes can also be set via the Callout Preferences button before the callouts are placed.

9. Since Vectorworks 2010, it has been possible to have multiple Keynote Legends running simultaneously, making it easy to create a page of construction drawings, each with its own legend. Click on the existing legend and hold down the CTRL (⊞) /ALT (⌘) key, and then click and drag to create a copy of the Legend (or choose Duplicate from the Edit menu).

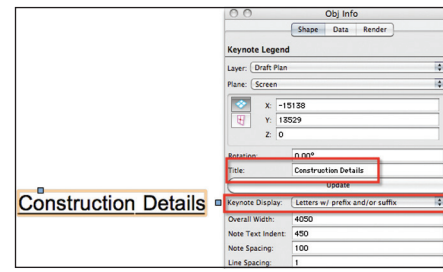
10. In the Object Info palette, change the following:

    - Title: Construction Details
    - Keynote Display: Numbers w/prefix and/or suffix



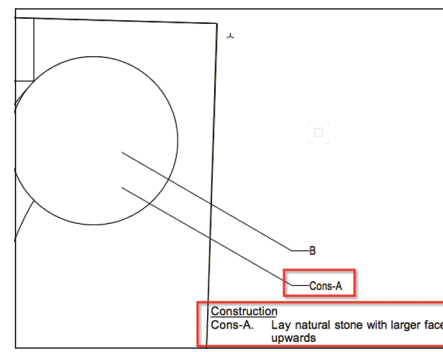
11. Select the Callout that relates to natural stone paving using the Selection tool. In the Object Info palette, change the following:

    - Keynote Legend: Construction Details
    - Prefix: Cons-



12. Notice that the keynote callout is removed from the first legend and is placed in the second. The new prefix displays on both the callout and the legend.

13. Select the Construction Details Legend and drag the blue handles to increase the spacing between the prefix and the text.



Note: To add text that is not related to a specific object on the drawing, but rather to the whole project, use the General Notes tool found in the Dims/Notes tool set. The General Notes tool uses the same database functionality, but a notes object can use more than one note. A text box is placed on the drawing, and all the notes are automatically numbered. However, the notes can be easily updated, reordered and have the text format changed. You can place multiple General Notes objects on the drawing.

Exercise Twenty-Two: Adding Dimensions to the Plan

One of the things I found most tedious about hand-drawing was writing in all the dimensions. Vectorworks provides all the tools you need to place accurate dimensions onto the plan wherever you choose. It also gives you the ability to show dimensions for circles and arcs. In our imaginary garden, we will be able to provide accurate information on how to build the garden, including the curved path. It's important to make such specifications at this early stage because once we have converted these shapes into different types of objects, the dimension tools may no longer recognize the curves. The plan is still very simple, which makes the dimensions easy for your contractor to work from.

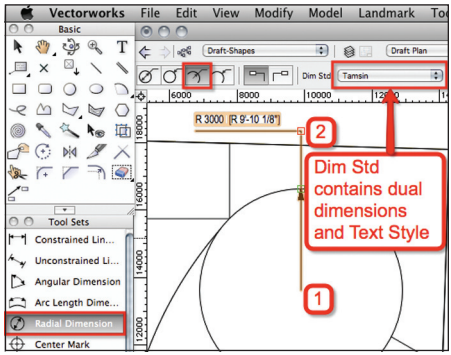
The tools are found in the Dims/Notes tool set, and they work in a similar way to the Tape Measure tool, which you've used already. For a simple linear dimension, you click on the first point, click on the second point, and then click where you would like the dimension text displayed.

When you create dimensions, they are automatically placed in a class called Dimension, so that you can make them invisible in certain contexts. You may want to create subclasses of the dimension class in order to control the visibility of different types of dimensions (e.g., levels, etc.).

Note the Dimension of the Circle

1. On my drawings, I usually want to display dimensions using a smaller font than the callout text and other text boxes. In the file, I have included a text style already in this file as well as a custom dimension standard to show dual dimensions. This Dimension Standard has the Text Style embedded in it. Later in the exercise you'll see how to edit this for yourself.

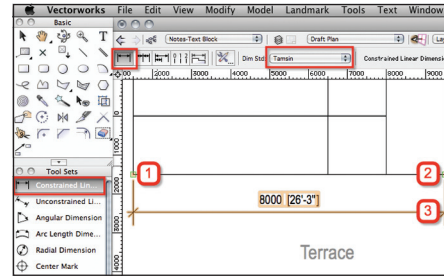
2. Select the Radial Dimension tool in the Dims/Notes tool set. On the Tool bar, choose the Interior Radial Dimension Mode button. Choose also the Right Hand Shoulder Mode button. Choose Tamsin from the Dim Std drop–down menu.



3. Move the cursor onto the circle, and notice it changes to a cross and the circle highlights in red. Vectorworks is showing you objects on which you can place a Radial dimension. It will ignore objects that do not contain arcs. Click anywhere on the circular seating area to mark the center and show the radius of the circle. Click again, just outside the circle to place the radius dimension label (or inside if you prefer your dimension to remain inside the circle). Note that the tool also has modes for measuring the diameter.

Note the Dimensions on the Terrace

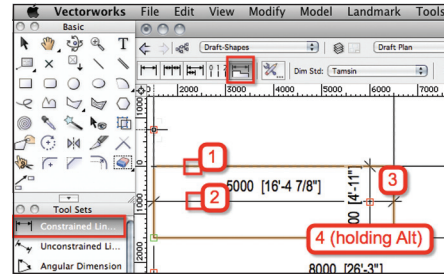
1. Select the Constrained Linear Dimension tool from the Dims/Notes tool set. Click on the bottom left corner of the Formal Pool. Click on the bottom right corner of the planting bed. These two clicks tell Vectorworks which length you want to measure. Click a third time to position the text and "witness" lines.



You are now going to use the same tool to place dimensions automatically for a selected object.

2. Using the Selection tool in the Basic palette, select the rectangle that will become the pool.

3. From the Dims/Notes tool set, select the Constrained Linear Dimension tool again. From the Tool bar, choose Selected Objects mode. Click once inside the selected rectangle. Click again either above or below the rectangle. A horizontal dimension line is automatically created.



4. Repeat the above step, but this time, for your second click, hold down the Alt/Option key before clicking. This will produce the vertical dimension.

Note: My dimension text is rather lengthy. That's because I'm showing both imperial and metric dimensions together. I would usually use one or the other. Your dimensions should look more manageable and show just your chosen unit of measure (as set in the chapter on Setting Up Your Drawing Board).

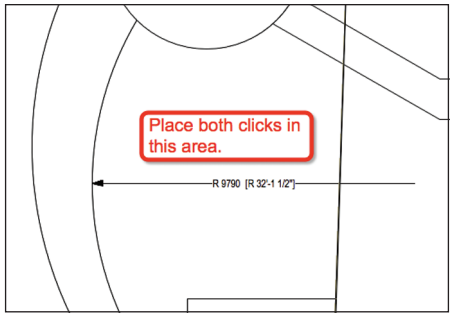
Note: I have used metric dimensions when drawing my objects. If you are using imperial, your measurements may not exactly match mine. This is because in my instructions I have rounded up where sensible for imperial users. If you've followed the imperial measurements, your dimensions will reflect this.

Note the Dimension of the Curved Path to the Circle

The Polyline tool's curve modes (Arc Tangent to a Line and Point on Arc) are great for landscape designers—you can draw the curve you want for your design and then you can add dimensions to show someone how it's to be built. The Radial Dimension tool can be used to add radial dimensions to curves made from arcs and standard circles. (If you used the Bezier or Cubic modes, the Radial Dimension tool can't be used on the curve.)

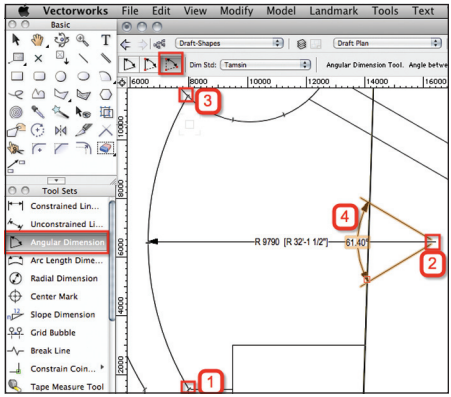
In our design, we've used Point On Arc curves and created a number of arcs on the drawing. We are going to use the Radial Dimension tool again to provide information about these arcs.

5. Select the Radial Dimension tool from the Dims/Notes tool set. Ensure it is set to Interior Radial Dimension mode on the Tool bar. Click anywhere on the area to the right of the curved path. The tool recognizes the arcs as part of a circle and creates a dimension line to the center of the arc. Click again to place your dimension text.



6. Now that we have the center point and radius marked, we need to measure the sweep of the arc. Select the Angular Dimension tool from the Dims/Notes tool set. Choose Angular Dimensions from Two Reference Lines mode on the Tool bar.

7. Click on the bottom of the arc, then the center point (as marked by the Radial Dimension tool above), and then on the top of the arc. Two dashed lines will appear, as well as a curved line either inside or outside the reference lines. Move the cursor inside and outside of the two gray lines and notice that you can measure either the interior or exterior angle. Ensure your cursor is inside the two lines and click where you want to place the interior angle text.



As mentioned above, Dimension objects are automatically placed in the Dimension class, which Vectorworks creates in any new drawing. This gives you the flexibility to show or hide the dimensions as you wish.

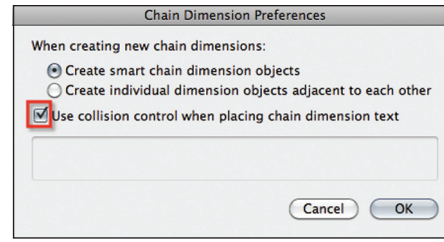
8. On the Navigation palette, change the Dimension class to invisible. Note that all your dimensions disappear. If you change the class back to visible, the dimensions will reappear magically! You are now developing a multi–purpose drawing.

9. Save your work.

Note: The center of my arc is in the neighbor's garden, which is not ideal! However, in this case, using artistic licence, we are going to assume that we are replacing the fence and the neighbor does not mind us measuring from his plot!

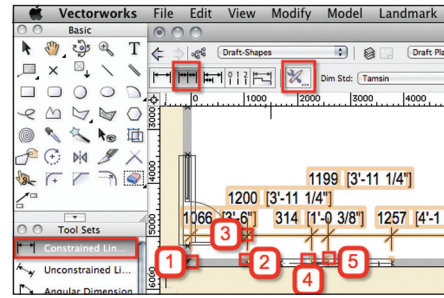
Create Some Chained Dimensions

We are now going to place some dimensions along the edge of the house. Rather than place individual dimension objects, we can do this using the tool only once but in either Chain mode or Constrained Baseline mode (which creates running dimensions).



1. Choose the Constrained Linear Dimension tool from the Dims/Notes tool set. Choose Chain Mode from the Tool bar. Click on the Preferences button and check the box called Use collision control when placing chain dimension text.

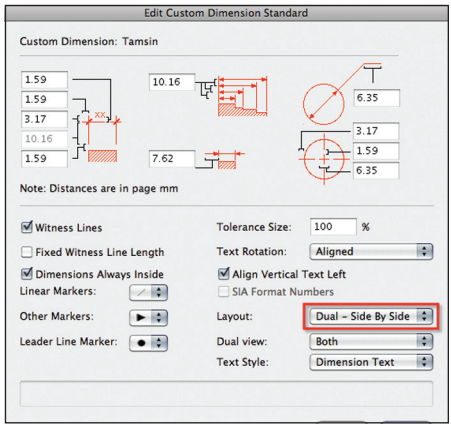
2. Click on Point C on the house. Click on the left edge of the first window to the right of Point C. Move the cursor up the page to a place where you would like the dimension text to appear and click again. Now continue to click along the edge of the house at the start and end points of windows and doors. Double-click at the corner to complete the chain dimension.



3. Notice that your chain dimensions have been staggered above and below the dimension line. This is the effect of the Collision Control setting.

Change Your Dimension Preferences

The way dimensions are displayed can be set in the Dimension Preferences dialog box, (found in the File/Document Settings/Document Preferences dialog box, by clicking on the Dimensions Tab. In Vectorworks 2010 they can also be set via the Tool bar when using any of the dimension tools or via the Object Info palette for existing dimensions. However, if you have used Collision Control for Chain Dimensions, you cannot change the standard used after drawing them. You will need to redraw with the new standard.



1. Select any of your dimensions (except the chain dimension on the house wall). On the Object Info palette, drop down the menu on the Dim Std field. Choose another dimension standard from the menu. If you change the current standard in the file to ISO, you will see arrows instead of slashes as dimension markers. If you try Arch you will get slashes.
2. Change your choice to Custom Standards. Click New and give your new dimension standard a name. Click OK.
3. Click Edit. Experiment with some of the settings to create a dimension style that you like, using the diagrams as a guide. Click OK.
4. Apply your new Dimension Standard to the existing dimensions on the pool. Choose another dimension tool from the Dims/Notes tool set. Notice you can change your current dimension standard on the Tool bar before placing your dimensions.
5. Save your work. If you have not completed this exercise, you can open the file Dims and Text-Completed.vwx before moving on to the next section.

Note: There are a number of industry standards for dimensions available, but you can create your own "standard" and have dimensions appear exactly as you want them. Once you have setup your dimension standard, I suggest you update your template so that this specification carries over into any file you work on.

Note: If you wish to change your dimension style for all dimensions, use the Select Similar tool on one of your dimensions to select them all. Choose the new standard from the Object Info palette.

Note: Changing the Dimension Standard for existing chain dimensions that utilize collision control will cause the Collision Control to be lost. This is working as designed. If you need to change the standard for such a dimension, you will need to recreate it using the new standard.