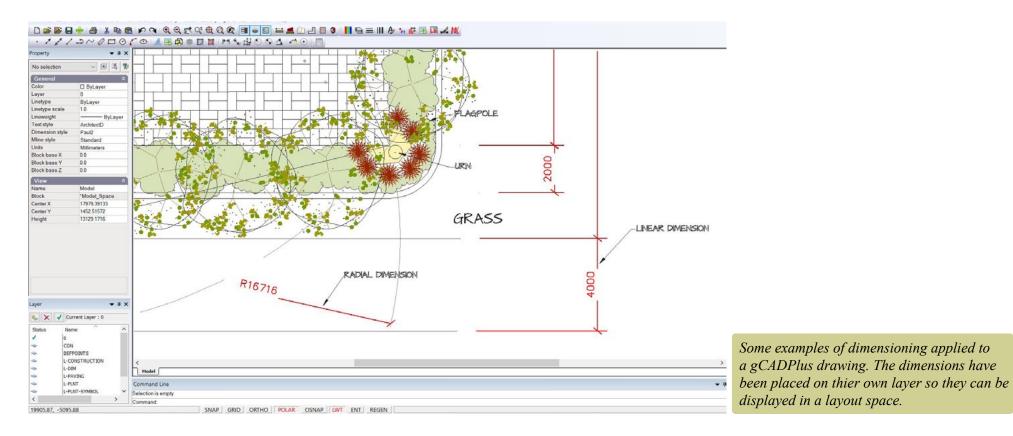# Dimensioning

This chapter focuses on the use of dimensioning in CAD drawings. One of the most important and often under-rated aspects of any CAD program is the ability of the software to place appropriate dimensioning into the drawing so that the design may be built by a construction team.
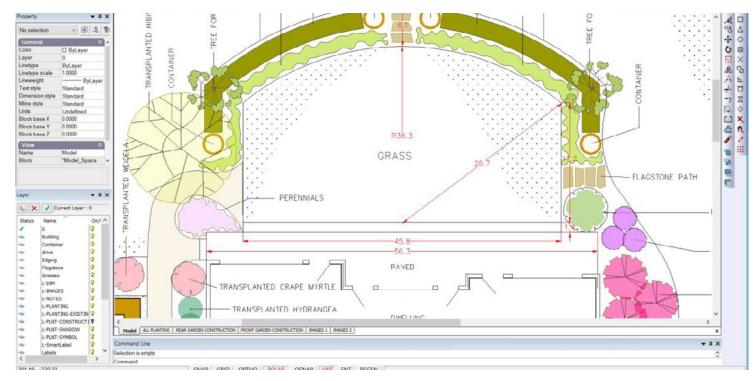
Here is a small movie demonstrating the application of some some simple dimensions in a gCADPlus design. We then switch to a 'proper' landscape design for a remembrance garden and show how the designer can provide enough dimensional information for the construction team to build the job.

The drawing database

Like other CAD software (AutoCAD, MicroStation etc.) gCADPlus creates a database as the drawing grows. It accesses this database whenever dimensional data needs to be added to the drawing. Just as accuracy is important when creating a drawing, it is also important when adding dimensions. There is no point in drawing accurately and then being sloppy when adding dimensions. Care must be taken, and osnaps should be used when placing dimensions.
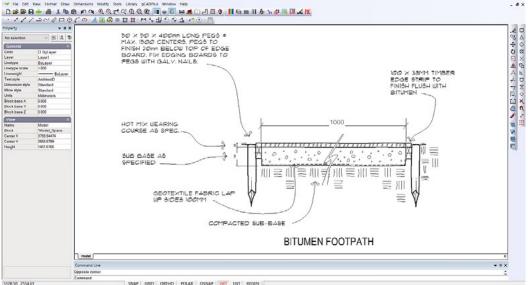
Tip: If you always draw full size, as we have emphasized in our gCADPlus training materials, then you can (and should) let the software take its dimensioning from the model that you have constructed.at inputting details of site location, scale and so on becomes a straightforward process.
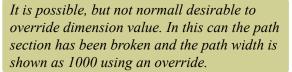
Some examples of dimensioning applied to a gCADPlus drawing. The dimensions have been placed on thier own layer so they can be displayed in a layout space.

An example of dimensioning in a gCADPlus design from the USA. Here the base drawing unit is decimal feet. If needed, the dimension style can be edited to display dimensions as feet and inches.

This movie shows how to use the linear dimensioning tool to apply dimensions to a drawing for a site in the USA where the base unit is decimal feet. The dimension style used automatically expresses the final value in feet and inches.
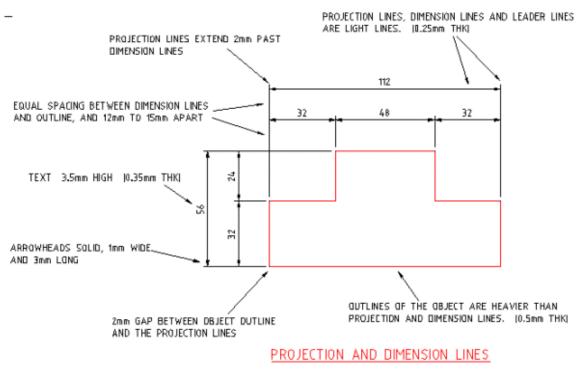

It is possible, but not normally desirable to override dimension value. In this can the path section has been broken and the path width is shown as 1000 using an override.

How to place dimensions

The figure below provides some guidance for the application of linear dimensions to a plan view. While the actual dimensions shown here might not be the units you would use, the positioning, distance from model, arrowhead sizes etc. are common to all dimension work. So dimensions are used to show the measurements of objects, the distances or angles between objects, or the distance of a feature from an origin you specify.

PROJECTION LINES, DIMENSION LINES AND LEADER LINES
ARE LIGHT LINES. [0.25mm THK]

PROJECTION LINES EXTEND 2mm PAST
DIMENSION LINES

EQUAL SPACING BETWEEN DIMENSION LINES
AND OUTLINE, AND 12mm TO 15mm APART

TEXT 3.5mm HIGH [0.35mm THK]

ARROWHEADS SOLID, 1mm WIDE
AND 3mm LONG

2mm GAP BETWEEN OBJECT OUTLINE
AND THE PROJECTION LINES

OUTLINES OF THE OBJECT ARE HEAVIER THAN
PROJECTION AND DIMENSION LINES. [0.5mm THK]

112   32   48   32   24   56   32

PROJECTION AND DIMENSION LINES

[ALL DIMENSIONS ARE PLOTTED FIGURES]

Dimension types

CADPlus provides three basic types of dimensioning: linear, radial, and angular

 Linear dimensions can be horizontal, vertical, aligned, rotated, ordinate.

Note that it is possible to dimension objects, such as lines, arcs, circles, and polyline segments, or you can dimension between point locations.

Every dimension assumes the current dimension style, which controls characteristics such as arrowhead style, text location, units format, etc. With dimension styles, you can make subtle modifications to a base dimension style for different types of dimensions. The figure below shows a timber screen in plan view with a dimension applied indicating that the screen is to be 2 meters long.

Note that gCADPlus places dimensions on the current layer, but it is a good idea to put dimensions on their own layer. We suggest using

the layer name L-DIM in line with a published standard.

Every dimension assumes the current dimension style, which controls characteristics such as arrowhead style, text location, units format, etc. With dimension styles, you can make subtle modifications to a base dimension style for different types of dimensions. The figure below shows a timber screen in plan view with a dimension applied indicating that the screen is to be 2 meters long.

Examples of the use of dimension styles in landscape drawing

This movie shows how to use dimensioning styles to achieve a desired end result.

This movie shows how to use a special gCADPlus tool to stamp a value for a lawned area. We then use the linear dimensioning tool to apply dimensions some steps. The design is for a site in the metric environment where the base unit is millimeterst. The dimension style used automatically expresses the final value in an appropriate number of decimal places.

This movie shows how to the dimension leader to add quite a detailed note to a typical landscape design.

We discuss the properties of individual leaders in a design - changing the justification and landing length of leaders

Simple techniques for labeling symbols in a landscape plan. We start by using single line text and placing text in the middle of a symbol. Then we show the value of using a leader to annotate a landscape design, changing the type of end symbol in the leader. Then we show the use of the smartlabel command