

## EXERCISE

# 2

# Using Equipment and Working with Scale

### Objective

To provide hands-on practice in the use of equipment and materials for landscape drafting.

### Skills

After studying this unit, you should be able to:

- demonstrate a knowledge of scale by completing a basic scale drawing.
- convert a drawing on a 1:20 scale to 1:10, or convert a drawing on a 1:16 scale to 1:8.
- utilize various drafting instruments to complete the assignment.

### Materials Needed

Drawing board  
T-square  
Triangles  
Drawing pencil (HB, F, H, or 2H)  
Vinyl eraser  
Eraser shield  
Engineer's scale or architect's scale  
French curves  
Compass  
Protractor  
Drafting paper (with or without grids)  
Drafting tape (not masking tape!)

*Note: This exercise can be completed without a T-square and drawing board if paper with a fade-out grid is used.*

## Introduction

A landscape plan must be accurate—just like the design of a building or any other design that utilizes space. In order to be accurate, it must be drawn to a chosen scale. Simply stated, scale is a miniature representation of the real thing. A landscape plan should indicate the exact number of plants needed, while giving a visual reference of the space needed in comparison to lawn areas or man-made features.

Before one can draw a landscape plan that will be accurate and usable, it is essential that one have experience with the correct use of appropriate tools. As you complete this exercise, it is essential that you be perfectly honest. If you feel you do not understand the proper use of a tool, ask your instructor for additional help or practice.

As you work with drafting tools, you will come to realize that scale is the basis of all such tools. One must understand scale first and foremost. All other tools exist to help you draft plans to scale with ease and accuracy.

The word "scale" is also used to describe the measuring instrument used in drawing. On the design level, one should refrain from using the word "ruler" in favor of the more descriptive word—"scale." There are two such scales used in landscape design: the engineer's scale (see Figure 2-1) and the architect's scale (see Figure 2-2). Such scales are usually triangular, allowing for six different scales on the engineer's instrument, and eleven on the architect's.

The engineer's scale is very popular with landscape designers. For most residential properties, a scale of 1:10 will allow the property and building(s) to be placed on a standard sheet of vellum drafting paper (17" × 22", 24" × 36", 30" × 42", or 36" × 48"). On larger residential properties, a scale of 1:20 may be used;

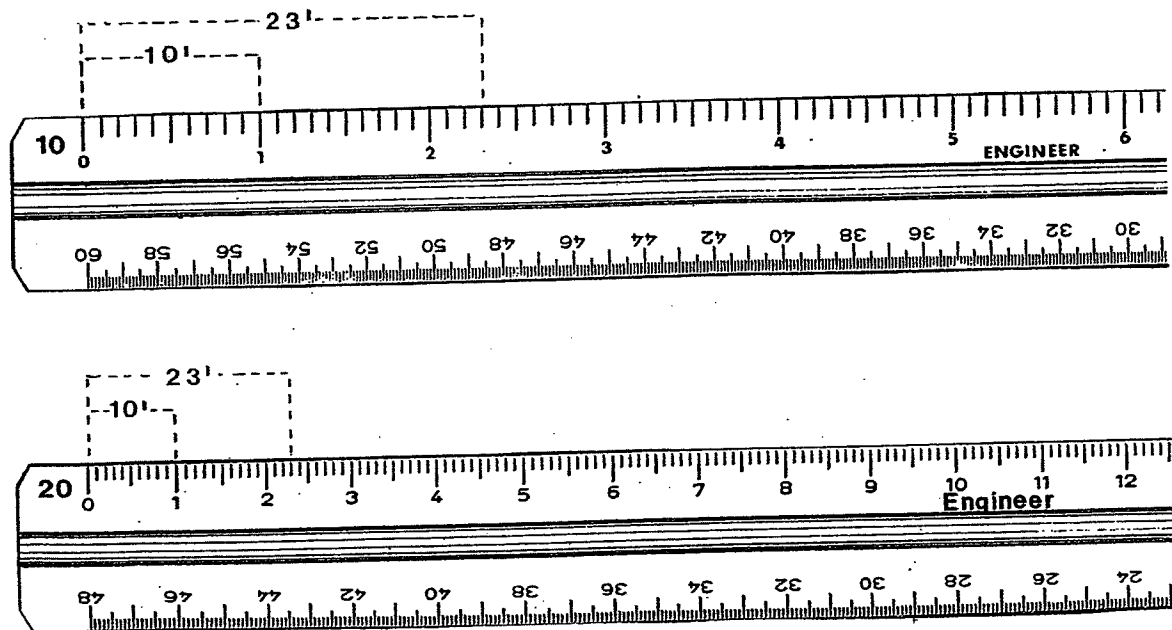


Figure 2-1 Engineer's scale

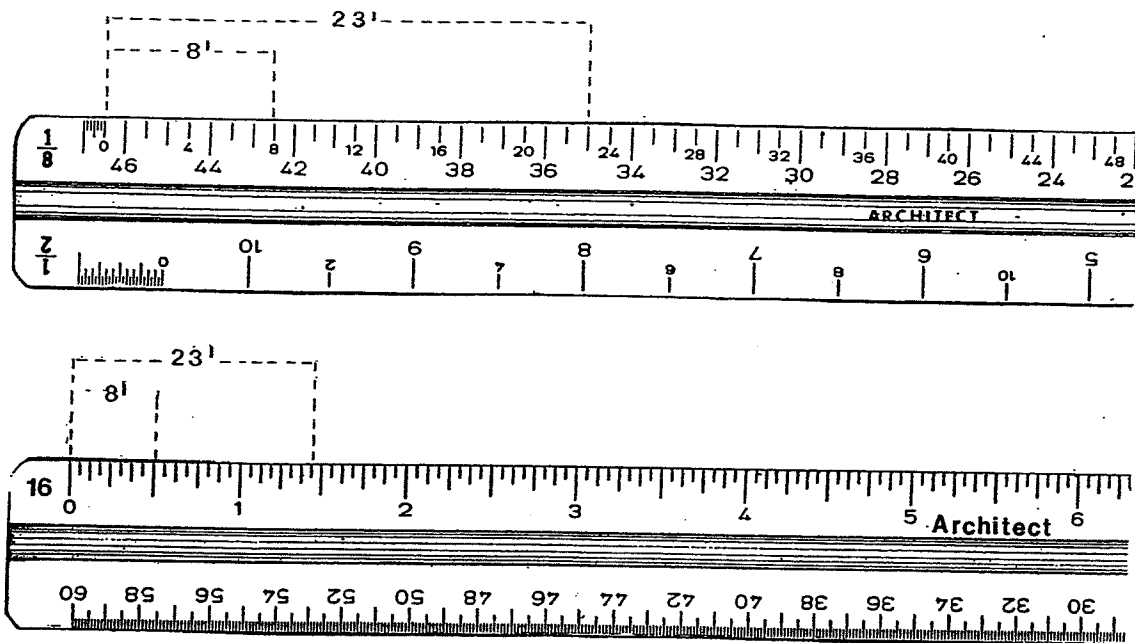


Figure 2-2 Architect's scale

however, some symbols become very small at this scale. A better choice would be to divide the property into two or more areas and use a 1:10 scale to draft the plan on two or more sheets of vellum.

A 1:10 scale means that 1" is equal to 10'. Another way of looking at this is to say that  $\frac{1}{10}$ " is equal to 1'. In either case, every mark on the scale represents one foot. On the 1:20 scale 1" is equal to 20'. A drawing on this scale is exactly one-half the size of the same drawing on a 1:10 scale (see Figure 2-1).

You will note that for every 10', a longer mark exists on the scale, and a number is present. Just add 0 (zero) to the number on the scale. For example, on the 1:20 scale, 1" means 10' and 2" represents 20'.

Some designers prefer the architect's scale. The most popular architect's scale for landscape designers is the 1:8 where 1" = 8' or  $\frac{1}{8}$ " = 1'. For larger properties, the 1:16 scale can be used, and on tiny properties a 1:4 scale is often appropriate.

As you study the architect's scale, you will note that the  $\frac{1}{8}$ " scale and the  $\frac{1}{4}$ " scale are located on the same edge. The  $\frac{1}{8}$ " scale reads left to right, whereas the  $\frac{1}{4}$ " scale reads right to left. This makes the  $\frac{1}{8}$ " scale somewhat more confusing at first, but with practice you will learn to use one while ignoring the other (see Figure 2-2).

Everything you draw, except for "thumbnail sketches" in Exercise 13, should be drawn to scale. This is indicated on the drawing as Scale: 1" = 10', Scale: 1" = 4', and so on. This is usually indicated just outside the property line on a completed drawing, as shown in Figure 12-1 (Exercise 12) or near the bottom of the drawing as shown on both Evaluation sheets for this exercise.

In addition to writing the scale being used, a very useful symbol is the scale indicator bar (see Figure 2-3). A scale indicator bar is simple to draft and should be included on any final drawings, as shown in Figure 12-1. You should begin including the indicator bar with the Exercise 2 Evaluation Sheet. With a minimum

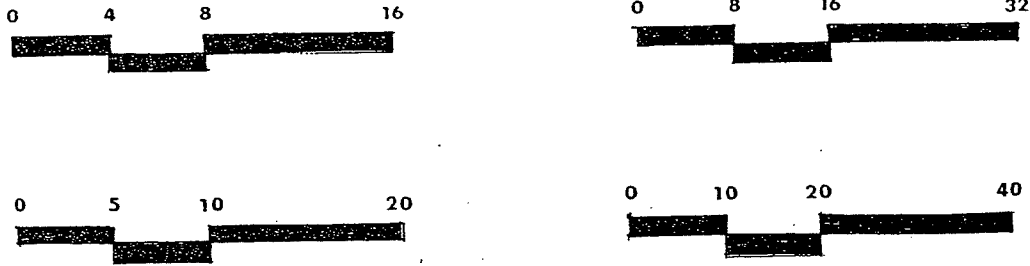


Figure 2-3 Sample scale indicator bars

of practice, you will be able to draw the bar very quickly. The purpose of the scale indicator bar is to show the scale as a length of space. In copying a drawing, scale is sometimes slightly altered. In addition, you may desire to enlarge or reduce the drawing, and the scale bar can be used to determine the size of a feature, because everything will be reduced or enlarged proportionately.

Study Figures 2-1, 2-2, and 2-3. Be sure that you understand the scale you will use before you begin the Assignment.

## Assignment

This assignment will enable you to practice scale and use some of the tools you studied in Exercise 1. The assignment is as follows:

1. Secure an 8½" × 11" sheet of drafting paper (standard vellum is fine if you have a drawing board and T-square). Tape all four corners to your drawing surface with the 11" side horizontal. If you are using 10 × 10 or 8 × 8 grid and a T-square, you must align the grid lines with the T-square.
2. The drawings included with this exercise are drawn on 1:20 and 1:16 scales. Draw the same residence on a 1:10 or a 1:8 scale. *Note: Measure each line with the scale indicated, and then draw each line using the related scale as shown on the Exercise 2 assignment sheet.*
3. Write the scale you are using and draw a scale indicator bar on the same line.
4. Once your drawing has been evaluated as acceptable, save it. It will be used in Exercise 3.

## Notes