

# paver

## installation guide



Congratulations on purchasing the finest concrete paving system available. Ideal for any landscape setting, barkman pavers have been designed to provide you with years of trouble free service and enjoyment. Handsome and extremely durable, they offer a number of important advantages over conventional concrete or asphalt. These include:

- High resistance to salt corrosion and the weathering effects of the sun, rain and ice.
- The ability to flex during frost heave without becoming damaged.
- Easier installation and repair (thanks to the use of individual pavers).
- Easier removal (when gaining access to underground services).
- Safer because their rough surfaces make them slip and skid resistant.
- Greater design possibilities thanks to the wide variety of styles, shapes and colors available.
- More environmentally friendly because they can be reused and reset.

### **Step-by-Step Installation**

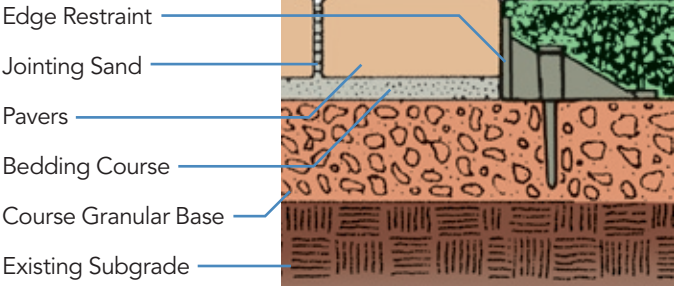
The directions in this guide are for the installation of a typical barkman driveway, patio or sidewalk. Before you start it is important to have your project fully designed on paper. If you require assistance with creating your design, or have any questions regarding installation, please consult your knowledgeable barkman dealer.

### **Equipment Needed**

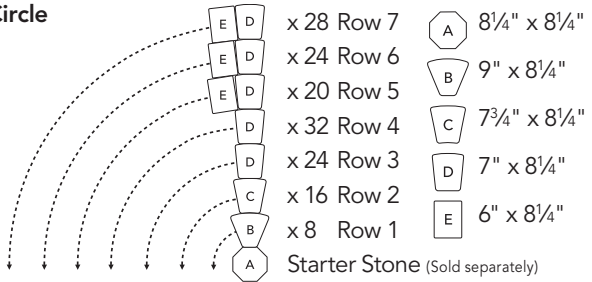
- An 8' to 10' long 2x4 board for screeding
- Two 10' long, 1" diameter sand screeding guides (example: water pipe, electrical conduit, wood strips, etc.)
- Standard carpenter's level, gloves, knee pads, trowel, rake, shovels, wheelbarrow, broom, a 2 to 3 lb. hammer, tape measure and safety glasses
- Wooden stakes or metal pegs
- Plate compactor (3 HP to 5 HP) and hand tamper
- Concrete saw with a diamond blade (available at rental stores)
- Spray paint, string, string level and a carpenter's pencil

# construction details

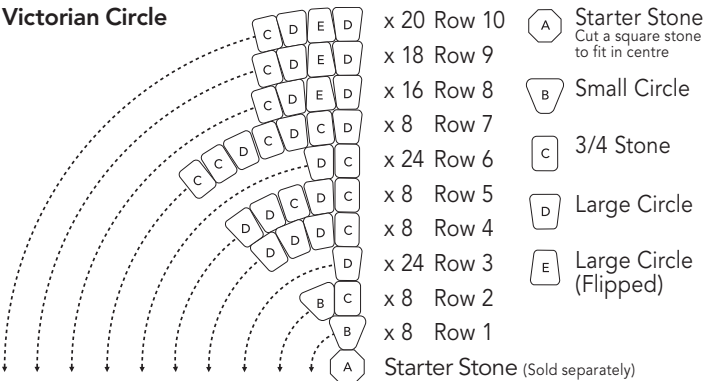
## Typical Cross Section



## Roman Circle



## Victorian Circle



Do not use the Large Rectangle stones until the 17th course to minimize joint sizes. Note: 1 circle bundle will make 3 circles with a diameter of 61 1/2" each. Formula to calculate area of a circle:  $D^2 \times 0.7854$  (Example for a 6' diameter circle:  $6' \times 6' \times 0.7854 = 28.3$  sq. ft.)

## Excavation Depth Estimation

|                         | pedestrian traffic              | light vehicular traffic         |
|-------------------------|---------------------------------|---------------------------------|
| pavers                  | 2 <sup>3</sup> / <sub>8</sub> " | 2 <sup>3</sup> / <sub>8</sub> " |
| sand                    | 1"                              | 1"                              |
| gravel base (compacted) | 4" – 6"                         | 8" – 12"                        |
| total excavation depth  | 7" – 9"                         | 11" – 15"                       |

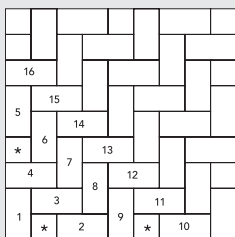
Gravel Base: Use minimum depths in a well drained area or undisturbed soil. Use maximum depths in poorly drained area or disturbed soil. ½" less is required to compensate compacting of pavers. If soil is saturated more than 50% of the time, filter fabric and extra base should be used.

## Base Material Estimation

| granular base            |   |  |                                   |
|--------------------------|---|--|-----------------------------------|
| square footage of pavers | X | $\left( \frac{\text{depth of base}}{12} \right)$ | ÷ 27 = cubic yards of base needed |
| bedding sand             |   |  | 1" depth                          |
| square footage of pavers | X | .0031  | = cubic yards of sand needed      |

## Pattern Layouts

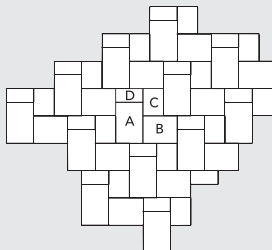
### Holland Stone



4<sup>1</sup>/<sub>8</sub>" x 8<sup>1</sup>/<sub>4</sub>"

\*Cut Paver

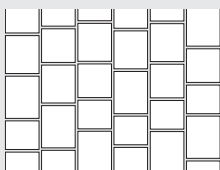
### Roman Stone



12" x 8" = 38%     6" x 8" = 19%

10" x 8" = 31%     4" x 8" = 12%

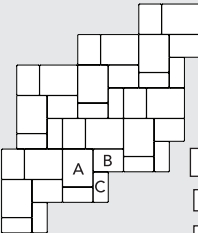
### Tuscan and Madrid



5<sup>7</sup>/<sub>8</sub>" x 7<sup>3</sup>/<sub>8</sub>"     5<sup>7</sup>/<sub>8</sub>" x 5<sup>7</sup>/<sub>8</sub>"

5<sup>7</sup>/<sub>8</sub>" x 6<sup>5</sup>/<sub>8</sub>"     5<sup>7</sup>/<sub>8</sub>" x 5"

### Random Pattern 1



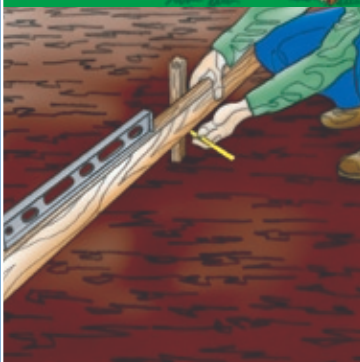
10" x 8" = 50%

6" x 8" = 30%

4" x 8" = 20%

Installed randomly taking from several bundles at a time.

Note: For a complete range of shapes and pattern ideas, ask your dealer for the "Barkman Design Helps".



# 1

## Create Outline

The first step is to take your completed design and transfer it onto the ground where you will be installing your patio. You can use spraypaint to mark the outline, using a garden hose for guidance on the curved areas and long boards for the straight areas.

# 2

## Set Elevations

Next, use a 2x4, stakes and a level to set the slope of your patio (a slope of approximately 1" to every 8 ft. is usually ideal). Now, set your stakes and string lines to mark the top of finished patio. Please refer to the Depth Estimation Chart.

# 3

## Excavate

Using your grid work of stakes and guide strings, excavate material below the string lines to the depth needed. To determine depth, refer to the chart below. Note: Before any digging, contact your local utility companies for the location and depth of pipes, cables and conduits.

# 4

## Spread Granular Base

You are now ready to spread and compact the coarse granular base. Please refer to the Base Material Estimation Chart to estimate the base material you will require.



# 5

## Compact Base

The granular base should be leveled and compacted (use a plate compactor) in layers of not more than 4". Wet, but do not soak the gravel base while compacting. Level the base to approximately 3" below the desired surface level. Make sure the base is level and conforms to the shape and elevation of the finished job by measuring down from the string lines you have established on the stakes.



# 6

## Install Edge Restraint

To prevent lateral movement of the pavers, edge restraints should be installed on compacted base along all edges which would otherwise be unrestrained. If possible install edging only on one or two sides of the paving area. After pavers have been placed, install remainder of edging so as to avoid unnecessary cutting.



# 7

## Spread Bedding Sand

Begin screeding (spreading) a 1" layer of large grained sand (such as concrete sand). Lay your screed guides (1" pipe, electrical conduit or wood strips) onto compacted base. Set the proper height of these guides by pulling a string across the area to be paved at the finished grade level. The top of screed guides should be 1/2" down from the string. Pack sand around the guides to set them in place. Fill with sand and slide the 8' to 10' screed board along the guides to smooth and level. Once complete, pull out the screed guides and fill any voids with sand using a trowel or small board. Do not walk on or work from the screeded sand.



# 8

## Lay Pavers

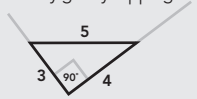
After screeding the sand begin laying your pavers, using the area's straightest edge as your starting point. Pick a starting point where you can make the pavers fit against the longest straight edge or the longest combination of straight edges as long as they are at right angles to each other.



## 9

### Keep Pavers Square

To keep the pavers straight and square as you work, use a string line running in both directions as your guide. This is easily done by measuring out lines in multiples of 3, 4 and 5 with the line marked "three" remaining stationary during the squaring process. (See diagram below.) Line "four" should be moved until "four" and "five" intersect, causing a right angle in the "three-four" corner. If your pavers start to get off square, you can get them into proper position by gently tapping them towards the string line.



## 10

### Cut to Fit

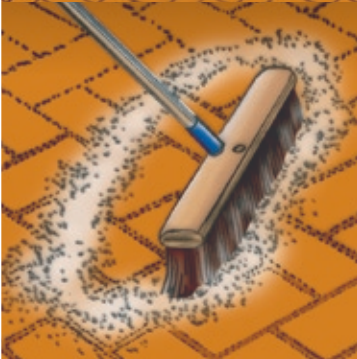
Many of the pavers that butt into the soldier course (strip of pavers all facing in the same direction) will need to be cut to fit properly. Using a concrete saw or guillotine splitter, cut each paver separately – marking it, removing it, cutting it and placing it – before proceeding to the next one. Always wear safety glasses when cutting pavers. Install the soldier course as you go along.



## 11

### Compact

Sweep off the surface completely and use the plate compactor to tamp the pavers to a uniform level. Run the compactor in a parallel direction across the pavers, overlapping on each pass. Make a second series of passes in a perpendicular direction.



## 12

### Spread Sand

Sweep concrete sand or polymeric sand (do not use masonry or fine sand) into all spaces between the finished pavers, repeating the process until all joints between the pavers are filled. Repeat this process with more dry sand in a few days.

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Caution: Before any digging, always consult your local utility companies for the location and depth of pipes, cables and conduits. Dry sawing or grinding of concrete products may result in the release of respirable crystalline quartz. Prolonged exposure to respirable crystalline quartz may cause delayed (chronic) lung injury (silicosis). The use of a NIOSH-approved respirator and tight fitting goggles is recommended when sawing or grinding operations are in progress.

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