How to Install Reclaimed Materials

Kushequa Street Brick with spacing lugs

When working with reclaimed brick and stone pavers or curbing, one thing is for sure: There is no one right way to install these historic materials. Over my time in the industry, masons have consistently surprised me with new methods that work well for them—and who can argue with success? In this article, we will discuss the materials' unique attributes and installation idiosyncrasies you should know to help make your project a success. (Basic knowledge of paver installation is assumed.)

This is the second installment of a three-part series on reclaimed hardscape materials. In the last issue, we shared the history of reclaimed materials, and next time we'll showcase creative uses of these versatile materials.

Cobblestone Pavers

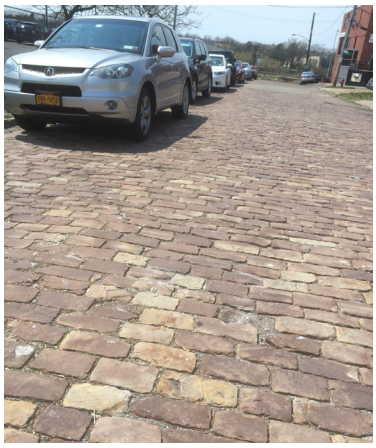
First things first: Which side is up? You can install cobblestones in a variety of ways to achieve any look your customer prefers: with the worn top side facing up, the rouge split sides up or a combination. In addition to providing multiple design options, there are pros and cons to each side. For example, the worn tops can be slippery when wet, but offer the authenticity of worn stone. With a quick brush blast—after the stone is set, but before the joints are filled—you can roughen up the surface enough to improve slip resistance without losing the worn face. You can increase the coverage area of most jumbo cobblestones by laying the stones on their side because they are taller than they are wide.

The bedding for cobblestones needs to support their often-uneven bottom face. Wet-set cobbles should be tapped into an overfilled bed to ensure complete contact. Meanwhile, the bedding for sand-set cobblestones benefits greatly from adding 3/8" broken stone to give the bedding more structure and increase its load-carrying capacity. Always use cement sand (crushed stone fines) because the more angular particles in cement sand will "lock up" when compacted and are less likely to flow under loading. Do not use mason or beach sand; which is rounded pieces of stone that act like tiny marbles—not a material that will produce a solid foundation for your work. A time-honored trick to provide even more bedding stability is to add a small amount of Portland cement (1:10-13) in a bone-dry mix. This will further solidify the bedding, while still allowing the pavement to be flexible and permeable.

Wet setting Cobblestones

by Scott Smith, Experienced Brick & Stone

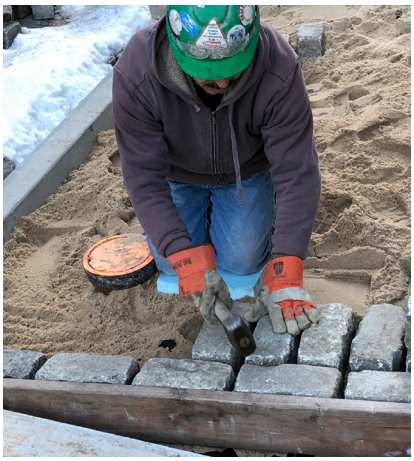
Joint width is always a matter of debate. Wider joints can provide 5 to 15 percent greater coverage with the same stone. On the other hand, the tighter the joint, the more the stones lock up with each other to prevent movement. Though tighter joints are harder to fill, especially with mortar, original cobblestone roads I've seen were always installed with the stones tight for strength. The joints were filled with crushed stone fines and likely refilled as the fines settled over the first months of service—and these roads are still in service 100 years later.



100+ year old Medina Cobblestone street with sand joints

Cobblestone is generally 5-8 inches tall and cannot be restrained properly by a typical staked-edge restraint that's 2-3 inches tall. Instead, use a solid-edge restraint to counteract the lateral forces produced by vehicles and freeze-thaw cycles, and stop the stones from "walking" away from the center of the paved area. To accomplish this, you can either set stone curbing as in roads, or install buried concrete curb, a solid pour with embedded rebar that extends below the bottom of the cobblestone 4-5 inches. The top of the concrete slopes away from the cobblestone and reaches within 2 inches of the top of the cobblestone to allow for drainage and turf growth.

Experienced stonemasons cut cobbles with a hammer and chisel. A saw works as well, but requires more time and effort.



Dry setting Granite Cobblestones

Street Paver Brick

Historic brick pavers were manufactured during a 50-year period, and over that time, they became easier to install, lighter to transport and more durable. Most bricks had some sort of spacer lug on one side, ranging from simple pips to extruded lugs. Some lugs were a "wave" cut in the brick's face by the wire that sliced it from the extruded log of shale clay. Typically, the lugs are only on one side, requiring the installer to ensure the lugs face a flat side of the adjacent brick to maintain straight courses.

As with cobbles, you can install reclaimed pavers with any side up to create your preferred aesthetic. For instance, if you prefer a more rustic appearance, consider facing the bricks side up, as the sides often have some mortar or tar residue that can add to the mix of colors in your finished project. In addition, the sides often have the manufacturer's name stamped onto them, which will also add some historic character to your installation. As a bonus, since most bricks are slightly taller than they are wide, laying them on their side will increase coverage.

Meanwhile, the original top side is often worn smooth enough that it can be slippery when wet but not excessively so, while the bottom usually has small protrusions that help the brick lock into the bedding material to better resist movement.

Curb cutting

You can mix the installation method if the height and width of the brick is consistent; in other words, don't lay some on their side and some standing up if the height is different than the width. The "shorter" pavers will eventually settle below taller ones, and your project will become uneven.

Historic brick pavers have been field-tested in streets for more than a century, so no sealing is required as the pavers are vitrified clay and solid color all the way through. You can use standard bedding and joint materials for installation. And, though bricks are harder than concrete pavers, you can cut them with a typical saw.

Granite Curbing

Curbing can be used as large paver slabs, steps or wall caps by laying it on its side. The easiest way to cut curb to the length required is to score it and strike it with a sledge, a 30-second process that will produce a straight but rustic surface that complements the material. Saw cutting also works, but requires more effort because the material then needs to be dressed. Curbing usually comes with stains from asphalt and being buried; if you're looking for a more consistent color, you can stain the granite with India ink.