How to Build a Stone Retaining Wall

Building a Stone Retaining Wall

Building a stone retaining wall is a useful method to control soil erosion and provide a refined look for your landscape. Check local codes before you begin because you may need a permit to build a retaining wall. Often you will not be bothered if you keep the structure 3 feet high or less. Also phone the Call Before You Dig number well before starting the project.

In the planning stages, you will be working out all of the logistics, taking all of the measurements, gathering materials, etc. If your slope is too large for a 3-foot-high structure. You could terrace the slope by building retaining walls in two or more places, rather than trying to do the whole job with just one structure. Walls greater than 3 feet in height are trickier to construct, and the mortar-less method in this tutorial is not intended for such projects.

In addition to stones, the following supplies ahead of time:

1. Line level and string / garden hose.
2. Shovel
3. Mason's hammer.
4. Stakes
5. Carpenter's level.
6. Wheel barrow or dolly hand truck. (Moving heavy stones)
7. Back brace, work gloves, goggles.

Planning

The good thing about building a stone retaining wall that is mortar-less is that your "drainage system" comes built-in. Water will usually seep through the cracks between the stones. When damage from water pressure does occur, it can be repaired easily enough. Another advantage in building terraces of this sort is that you do not have to sink a "footing" beneath the frost line, as you do when using concrete or a mortared wall. The stones will endure the frost, suffering no damage in the process.

If you are using stones gathered from the land, select stones that have at least two sides that are flat. If you will be buying your supplies at a stone yard, flat pieces are usually what you are going to find. The heavier the stones, the more stable it is, but also the harder the work to work with. Most stone yards will deliver to for a fee.

Plot out where the retaining wall will sit at the bottom of the slope. Using stakes and string for a straight terrace, a garden hose for a curved one. The advantage of a straight terrace is that you can attach a line level to the string to make sure the courses of your structure are level. Dig a trench about 8 inches – 10 inches deep, so that the first course of stone will be fully or mostly submerged. This will help your retaining wall withstand the pressure exerted on it by the slope it is holding back.

Trenches

To calculate the necessary width of the trench, just remember the base of the structure should be half the wall's height. Angle the trench so that it inclines back slightly into the slope. 2 inches for every 1 foot of terrace height. This will provide greater stability. When you have almost penetrated down to the required depth, use a skimming motion to remove the remaining soil, so that you do not end up with a base of loose soil. Keeping the base as solid as possible will reduce the chances of shifting as the structure settles.

Terraces of natural stone are laid in "courses," that is, one horizontal row at a time. The first course of stones will consist of your largest, widest, longest, flattest stones, but save some stones, "cap-stones" for the final part of the retaining wall. They have to be the most stable stones. Patiently fit them as closely together as possible. Building terraces with natural stone is like fitting the pieces of a puzzle together.

Uniformity and Aligning: Building a Stone Retaining Wall

In terms of the height of the first course of stones and the following courses, you have two choices.

Uniform and Symmetrical: choose stones of the same height when laying a particular course.
Arbitrary and random stone placement. The other option is a more random look, in which you play each course by ear. Using filler stones wherever necessary to make up for a difference in heights. Sometimes you are forced into the latter option, because the stones you have to work with simply are not uniform enough.
Be sure that the stones run level left to right because you have built a slight backwards slope into the trench's base, your stones will slope down slightly from front to back. After completing the foundation, back-fill with some of your excavated soil and any stones too small to use.

In laying the next course of stones and those that follow, avoid lining up the joints over the joints of the course underneath. Again, back-fill and tamp down after completing the course. Also, tuck soil into the spaces between the stones wherever the fit is not especially tight. As you place each stone, check that there is as little wobble as possible. To counteract any wobbling, you may have to use small, flat rocks as "shims." Use a mason's hammer to chip off stone fragments to achieve a better fit where necessary.

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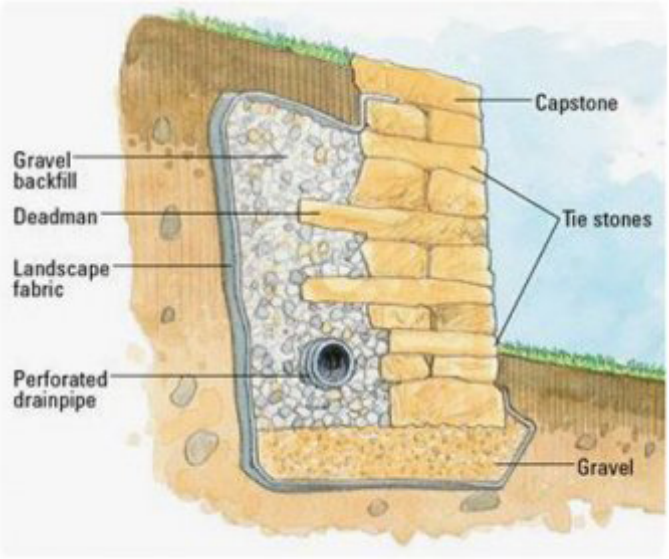
Terraces



Continue with the third course and succeeding courses. By the time your terrace is half its planned height, you should start incorporating what are known as “deadmen.” The term refers to long stones laid perpendicularly across the wall. Rather than parallel to all of the other stones. The idea behind deadmen stones is to tie the structure into the slope in back of it for greater stability.

A hole is first dug into the slope to incorporate a deadman. Then one end of the deadman is set on the terrace (as part of whatever course you happen to be laying), and the other end placed into the hole you have just created in the slope. The longer the stones you can find to serve as your deadmen, the better. A good rule of thumb is to provide at least one deadman per 16 square feet of exposed wall face. When you have almost reached the desired height for your terrace, it is time to place the capstones on top.

When you are finished building your retaining wall, you can root plants into this soil and bring life to the structure. Utilizing cascading plants, such as creeping thyme, perennial yellow alyssum, and annual white alyssum are recommended. Spilling down the sides of stone retaining walls.

Building a solid retaining wall is worth the time and investment. Professional landscaping from JCs Landscaping can offer top quality landscaping design and landscape building for your home or business. Call now for a free estimate.

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