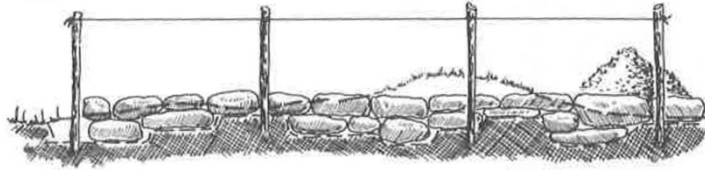


Building Drystone Walls

*A low wall can be built right on the ground, but over time, the lowest stones may start to sink. It is best to dig down and remove the surface of the ground so that the lowest course, or layer of stones, rests on the subsoil or hardpan. This is usually less than a foot deep. If your soil is not solid, then a layer of gravel may be necessary to build upon.

A plumb line helps you get started with even courses when building on uneven ground.

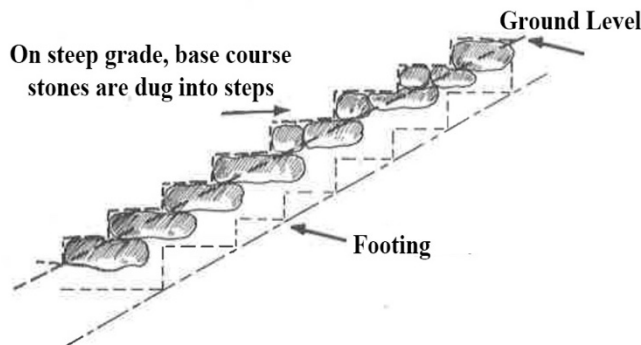
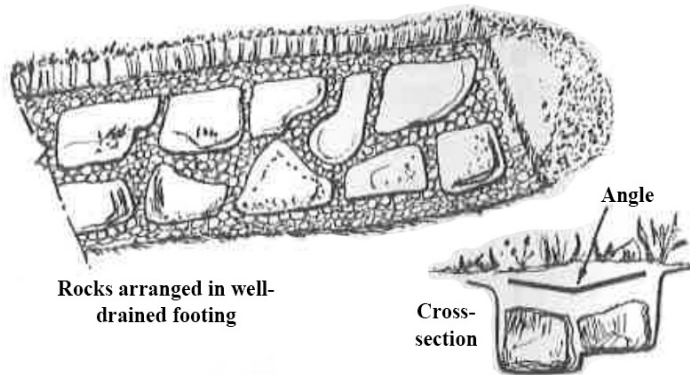


*Drive your stakes to mark the corners of your wall, adding a stake about every 6' for longer walls. Leave several inches above the desired height of your wall so that you can tie a string where you want the top of the wall to be, and make sure the line is level.

Dash Line: Ground Level



*The footing course should be laid to be a bit lower in the center, and higher on the outer edges. This slight "V" angle is often maintained throughout so that the outer walls of the structure lean in against themselves- gravity helps to keep the wall standing by pulling the stones down as well as in toward the center. The objective in the lowest course is to give the wall a good level base to rest on. In all below-grade work, keep stones several inches apart, filling all open spaces with smaller rocks-this permits water to drain through easily.



*When working on a slope, remember that gravity pulls straight down, so you will either need to level out the ground, or use a step-by-step footing to ensure your wall does not slide downhill.

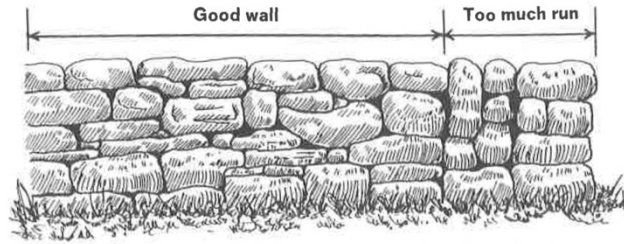
*Begin laying the rest of your courses, keeping the best flat face of the narrow dimensions facing out. Be sure each stone

is bedded solidly on the stones below it. If it wobbles, it is best to chip off the wobble knob or make a joint below rather than shim it up; smaller stones are most likely to work loose over time, so these should be used in the interior to fill gaps in the larger stones.

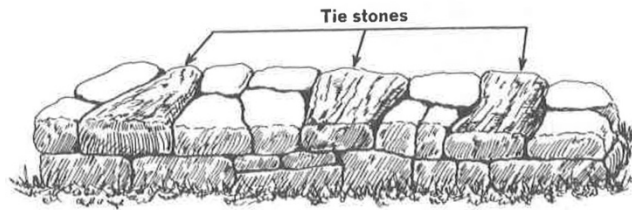
*You should never have a vertical fissure, or joint, in the wall that extends up from one course to the next. Rule of thumb: one-over-two, two-over-one. In other words, each stone should rest

Building Drystone Walls

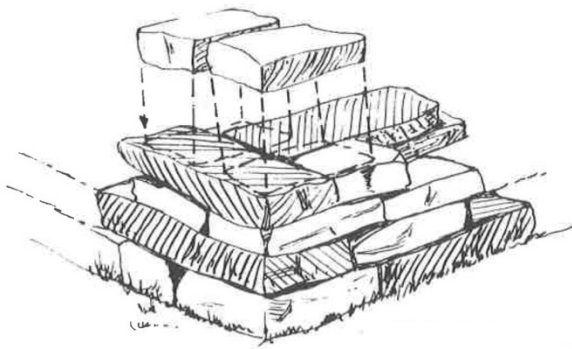
on at least two others in the course below, and joints between stones should never match up to the courses above or below it. Too many such adjacent joints are called “run”, and it greatly decreases your wall’s stability. Dry-laid, or mortarless walls, continuously move and settle over time. With too much run, the stress will concentrate on the weakest point where joints overlap, and in time, the wall will try to fold there and can fall out.



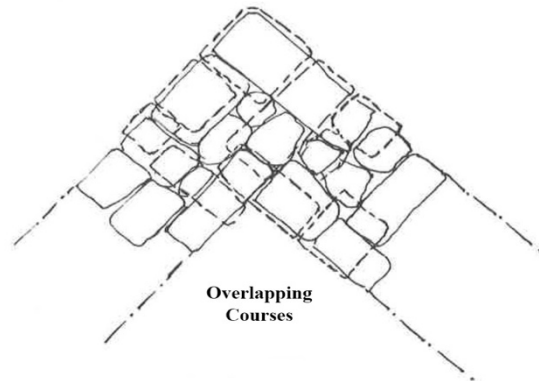
*“Tying” the wall keeps the wall from consisting of two unattached outer layers; the tie stones literally tie one face to the other. Place a long stone with its longest axis facing into, rather than along, the wall face.



*Use your best stones on the ends and corners (the ones most rectangular and of even thickness). It is particularly important to have your ends well tied. Corners are most complicated and will need to be tied into both lengths of the wall (an extra-long stone extending into both the north/south and the east/west length of the wall is recommended). Do not let any edge of any stone line up with any joint in the course above or below.

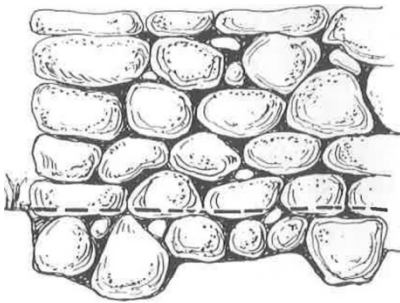
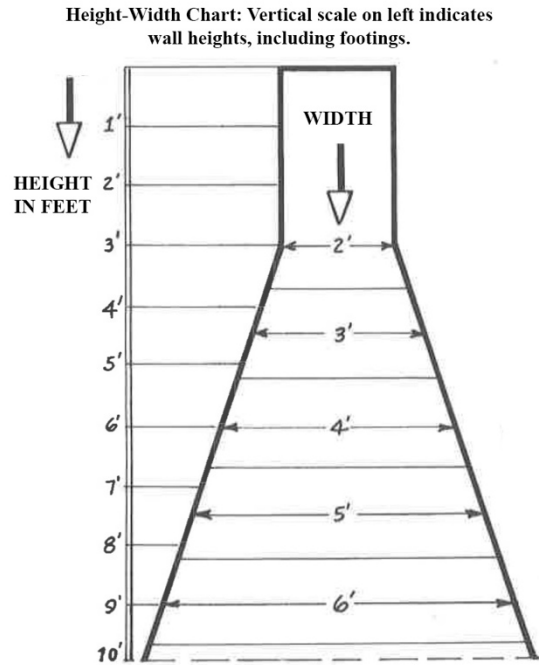


Tie stones are especially important at corners (shown shaded).



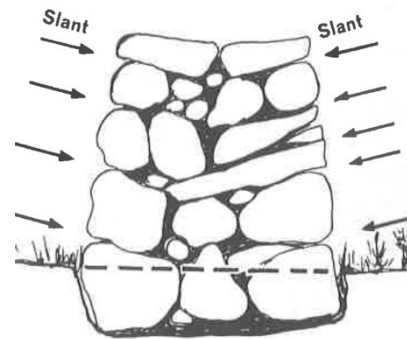
*Larger walls have a few exceptions. If you’re going over 3 feet in height, you should increase the base, or overall width, by approximately 8 inches for every added foot of height. The height/width chart gives you an easy way to figure out the width needed (see photo below). The higher the wall, the deeper the footings should be. The International Residential Code regulates the construction of walls more than 4 feet tall. You should always check with your local building department to find out if you need a permit and engineer’s approval to build a retaining wall.

Building Drystone Walls



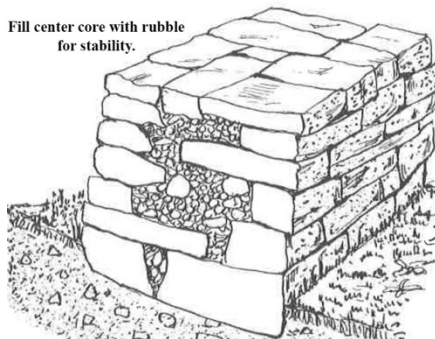
Round Stone and Rubble Walls:

To this point, we've assumed you will be using mostly flat and square/rectangular shaped stones. You can alternatively build a rubble-filled wall



contained on both sides and top. Essentials of construction are the same with all walls. The layout, footings, height/width relationship and tying-in are all necessary and equally important.

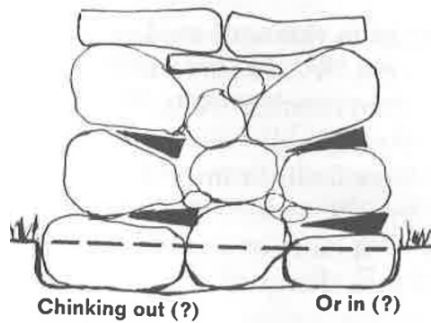
The principal of down-and-in, or "V" shape, is carried even further in this type of wall.



*Lay a linear course of stone on each side of the footprint of your intended wall. Fill the center between the two courses with rubble, gravel, or smaller stones, taking care to fit and fill the gap entirely and snugly to the top of the course. This method is also used for flatter stones when you may not wish to use as many stones, or do not have enough. For the second course, some "Tetris" and figuring out which side of each cobble or round stone fits most snugly to the stones around it is important. "Tie" your

Building Drystone Walls

wall often with longer stones that protrude inward toward the center, making sure they sit firmly on and are tightly packed with the center fill so that they do not move or jiggle.



*Use wedge-shaped rocks to shim up and fill openings. Chinking wedges “out” is using the widest end of the wedge snugly in the core with the thinnest point inward so that your rocks do not move. Chinking “in”, you hammer the wedge into the face of your wall between gaps in the stones, trying to aim down so that it does not work free over time.

Information and photos derived from the “Building Stone Walls” book by John Vivian, and years of experience from our amazing owners, staff, customers, landscapers, and masons of Marenakos Rock Center.

Citation: Vivian, John. *Building Stone Walls*. Storey Publishing, LLC, 1976.