

Retaining Walls: ‘Rules of Thumb’

You may have an old retaining wall that is in need of repair, or you may want to create a new retaining wall. Either way, retaining walls serve as important focal points in your landscape that can add beauty and curb appeal to your home. They create the vertical edges that help define your landscape and create level areas for attractive plantings.



They also play an important role in reducing soil erosion. Just remember that the main job of a retaining wall is to hold back the earth. And to help accomplish that, here are **6 simple Rules of Thumb** that you should know.

1. **Materials:** There are numerous choices of retaining wall materials available. Materials can range from loose-laid natural stone to poured concrete, wood timbers to mortared bricks, even to manufactured interlocking concrete units. Whatever you choose, the materials should be relatively easy to work with and **always complement the architectural style of your house.**



Loose laid stone



Manufactured concrete units



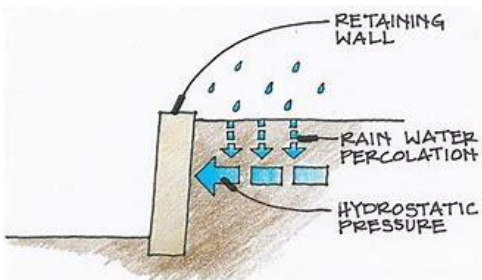
Mortared Brick

2. **Check with Authorities:** Make sure you know the location of underground facilities near your proposed digging area. Call **800-362-2764** or **8-1-1** or visit **e-dig**. And check with the City for any required permits, drawings or design approvals. It could save problems later on: <https://www.columbus.gov/bzs/primary/Building-and-Zoning-Services-Documents-Library/> under *“Typical Residential Projects”*.
3. **Height:** Anything over 3 ft. *may* require professional engineering. Tiered retaining walls get a little more complicated. Each wall holds back the earth and also the potential water build-up. All those forces, plus the retaining wall material, combine to put pressure on each tier below. Now by the time you get to the lowest tier – you guessed it – every tier above combines with the lowest level of earth, and all these forces push against the lowest retaining wall. The design of tiered retaining walls is complex and really requires the help of a professional to get the best and most long-lasting results.

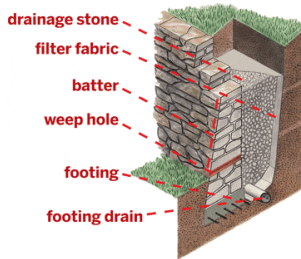


Taller tiered walls in a variety of materials. Retaining walls over 4 ft. require stamped drawings and a building permit.

- Drainage:** – Water accumulates behind retaining walls due to rain water and surface runoff. This water builds up pressure – *hydrostatic pressure* – and it can literally move retaining walls! For the best results, provide **weep holes** – small openings in the wall approximately every 6 ft., near the bottom of the wall, to allow for drainage. It's also recommended to add gravel and a perforated drain tile behind the retaining wall before backfilling.



Hydrostatic Pressure



Perforated Drain Tile



Weep Holes

- Foundation:** The base beneath the first course of the retaining wall sets the stage for the rest of the wall. First, a trench filled with at least three inches of crushed rock will help keep the wall from shifting and settling. The depth of the trench will depend on the height of the retaining wall. Second, and just as important, make sure the base is **level**. If it isn't, the rows that follow won't be level either, and you'll end up with a retaining wall that's off-balance and not too attractive.
- Slope:** Stack retaining wall materials at a slightly backward slope, leaning into the earth.



Slightly angled retaining walls will help resist the outward forces from the soil and the hydrostatic pressure, more so than a perfectly vertical retaining wall.

Further questions? Call or email the Columbus Landmarks Home Preservation Program: 614-221-4508. Email: skeenvy@columbuslandmarks.org