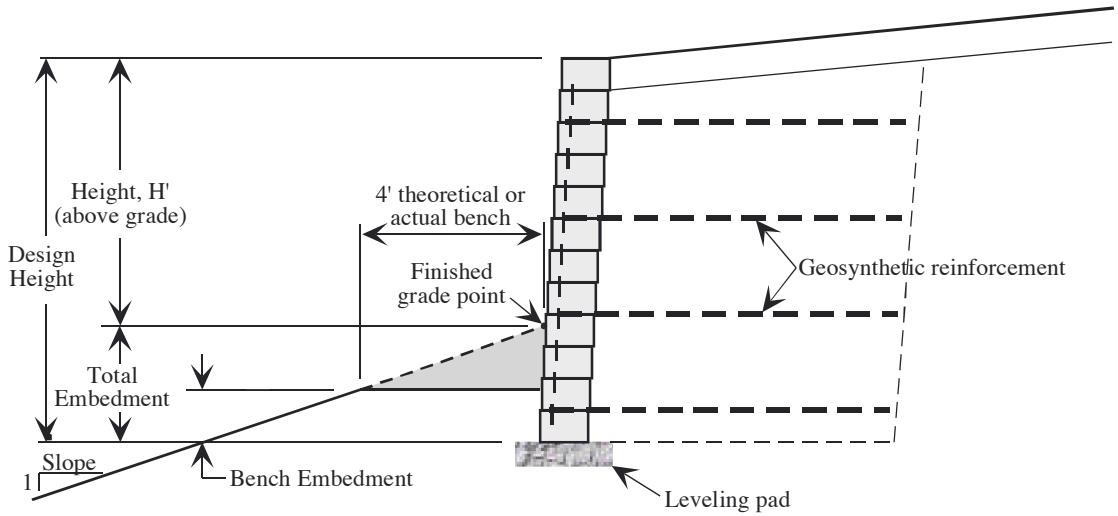
Wall Embedment

The foundations of all retaining wall systems are placed a specified distance below finished grade to provide adequate erosion protection, frost protection, foundation bearing capacity, and overall global stability when slopes are involved. The design of flexible modular retaining wall systems is not as concerned with frost related issues as with rigid structures but erosion protection, local bearing capacity, and global stability issues must be evaluated for each design situation encountered.

The minimum practical embedment for any small wall structure with a level toe slope is 6" or one block unit below finished grade. As a wall gets taller or is placed in less stable sloping toe conditions, the embedment must be increased to satisfy stability requirements. It is easiest to understand minimum wall embedment criteria when a typical cross section is evaluated.

Typically, a theoretical finished grade point is established where the ground in front of the wall intersects the wall face alignment. It is best to construct an imaginary 4' bench in front of the wall if one is not indicated in the grading plans and establish the minimum embedment from that point as shown below.



Typical Wall Embedment Section

The recommendations in the table are general in nature and do not replace a comprehensive stability analysis in those areas with erosion or scour, poor soil conditions, or steep toe slopes. Special consideration should always be given to man-made fill slopes which can exhibit poor structural performance.

Recommended Wall Embedment

Toeslope Condition	Bench Embedment	Total Embedment
Level	10% H'	10% H'
4H:1V	10% H'	1' +10% H'
3H:1V	10% H'	1.33' + 10% H'
2H:1V	10% H'	2' + 10% H'

(Note: 10% of exposed wall height is good rule of thumb, however, it is possible to reduce embedment to 5% under certain conditions for taller walls where foundation elevations and conditions are clearly established)