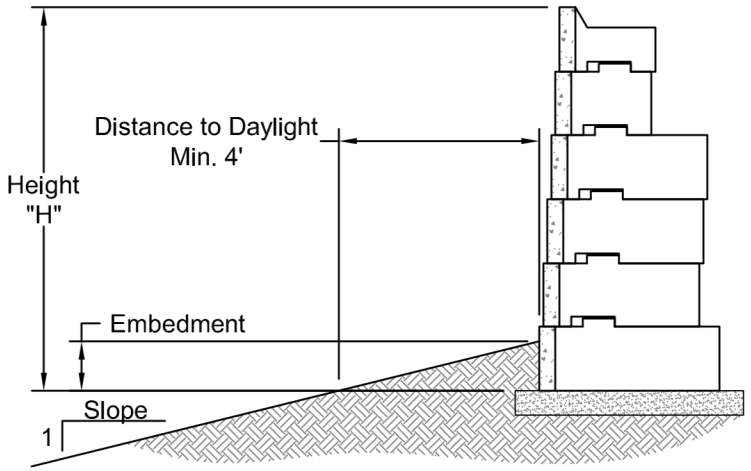
It is important that the base block of a retaining wall be installed at a specified depth below grade during construction. This specified depth is referred to as embedment. The embedment of a retaining wall is critical to its performance as it serves to provide adequate erosion protection, foundation bearing capacity, and overall global stability when toe slopes are involved.

ReCon recommends that retaining walls be embedded to a minimum of 6" or H/20 (5% of wall height) when there is no slope at the toe of the wall. When walls are installed with a sloping toe condition, additional embedment will likely be required to satisfy stability requirements.

ReCon's wall embedment recommendation table, as shown, is intended to provide general guidance on minimum embedment depths when walls have a toe slope condition. These recommendations however, do not replace a full and complete global stability analysis. It is recommended that global stability calculations be completed by a Registered Professional Engineer for all walls that have a toe slope condition as this may control in the design and the determination of the final required embedment depth.

The table provides two minimum embedment recommendations based upon the toe slope condition. The first is 'Standard Embedment', which is based upon the height of the wall, and the second is 'Embedment Required to Achieve Distance to Daylight'. The of concept of 'Distance to Daylight'can be seen in the figure shown and is measured from the toe of the base block. Both NCMA and AASHTO recommend that retaining walls be constructed with a minimum distance to daylight of 4'. Depending on the height of the wall and the toe slope, the designer should use the greater of the two recommended values shown in the table as a starting point for determining wall embedment.

As previously stated, it is critical that global stability calculations be completed for walls with a toe slope condition. Increasing wall embedment is just one way that an engineer may modify their design to satisfy global stability requirements. Using deeper base blocks or lengthening geogrids will also help to increase global stability factors of safety. ReCon recommends using a combination of these two methods for solving global stability issues as it will generally provide the most economical design approach.



ReCon's Recommended Wall Embedment		
Toe Slope Condition	Standard Embedment	Embedment Required to Achieve Distance to Daylight
Level	6" or H/20	0
> Level up to 4H:1V	H/10	1'
> 4H:1V up to 3H:1V	H/10	1.33'
> 3H:1V up to 2H:1V	H/7	2'

ReCon™ Retaining Walls

DRAWING TS1

RECON'S EMBEDMENT RECOMMENDATIONS

RECON WALL SYSTEMS, INC.
7600 W. 27th STREET, #229
ST. LOUIS PARK, MN 55426
952-922-0027
www.reconwalls.com