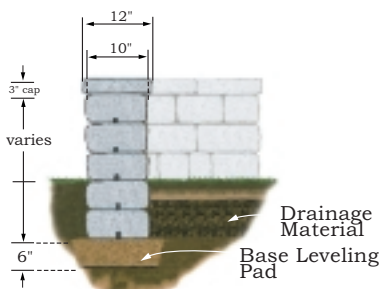




## Country Manor® Installation Guidelines

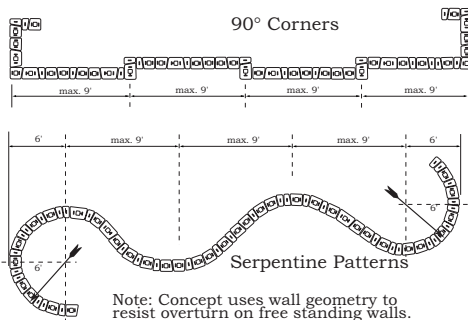
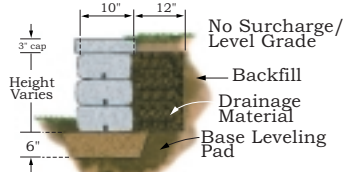


### FREE STANDING BORDER WALL

Note: Wall geometry with 90° corners or serpentine curves is necessary for stability and resistance to overturn (see plan view example). Units are glued and pinned for a mechanical bond.

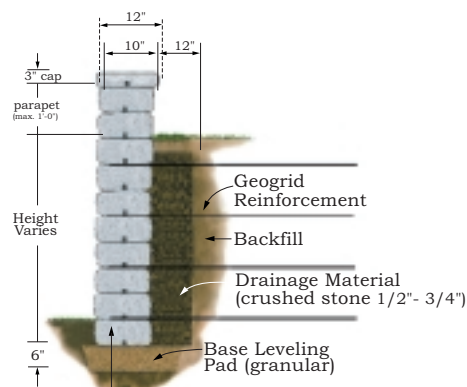
OPTIONS: If increased height of free standing wall is required, utilize the center core of the “large” and “medium” units to receive rebar and grout. The unit cores can be aligned vertically and horizontally. Under this option, use a reinforced concrete footing for connection of rebar from vertical wall. Consult with a qualified engineer for all reinforced designs.

### Gravity Wall - Vertical



Note: Concept uses wall geometry to resist overturn on free standing walls.

### Reinforced Wall - Vertical With Parapet



Embedment depth below grade (1:10 ratio) Example: 6" for each 60" of wall height.

Note: Wall geometry with 90° corners or serpentine curves is necessary for stability and resistance to overturn.

**Note Regarding Leveling Pads:** Base trench should be excavated to an additional depth ratio of 1:10 (example: 6" of depth for 60" of wall height). See option note at “Free Standing Wall” for use of concrete footing.



### PREPARE THE BASE LEVELING PAD

Remove all surface vegetation and debris. Do not use this material as backfill. After selecting the location and length of the wall, excavate the base trench to the designed width and depth. Start the leveling pad at the lowest elevation along wall alignment. Step up in 6" lifts with the base as required. Level the prepared base with 6" of well-compacted granular fill (gravel, road base, or 1/2" to 3/4" crushed stone). Compact to 95% Standard Proctor or greater.



### INSTALL THE BASE COURSE

Place the first course of Country Manor units end to end (with sides touching) on the prepared base. The long groove on the unit should be placed down and the three pin holes should face up, as shown. Make sure each unit is level - side to side and front to back. Leveling the first course is critical for accurate and acceptable results. For alignment of straight walls, use a string line aligning on the unit pin holes for accuracy.



### INSERT THE FIBERGLASS PINS

Place the fiberglass pins into the holes of the Country Manor Units (note: place one pin only per each grouping of 3 holes). The pins create an automatic setback for additional courses. According to wall requirements and design, place pins in the middle hole for near vertical alignment or the holes nearest the embankment for a 9.5° +/- setback per course. The front pin hole (towards the face of the wall) can be used randomly to allow forward projection of a specific unit for accent and variation in the wall appearance.

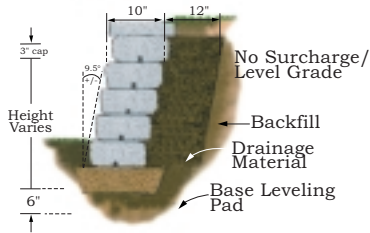


### INSTALL DRAINAGE FILL BACKFILL, AND COMPACTION

Once the pins have been installed, provide 1/2" - 3/4" crushed stone core fill behind the units to a minimum depth of 12". Fill open spaces between units and open cores. Proceed to place backfill in maximum 6" lifts with the required compaction.



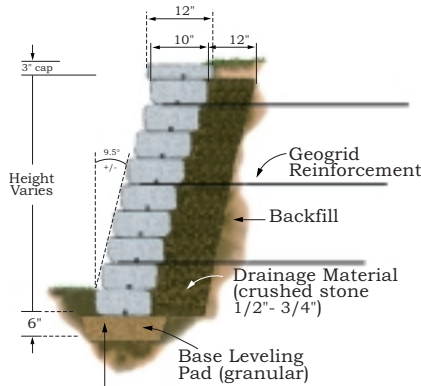
### Gravity Wall - Battered



### INSTALL ADDITIONAL COURSES

Place the next course of Country Manor units over the fiberglass pins, fitting the pins into the long groove recess of the units above. Pull the Country Manor units toward the face of the wall until it makes full contact with the pins.

### Reinforced Wall - Battered



Embedment depth below grade (1:10 ratio) Example: 6" for each 60" of wall height.

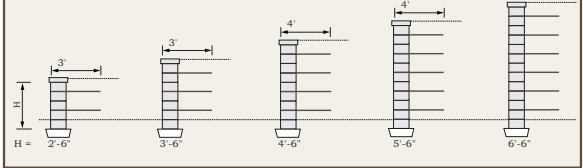


### CAPPING THE WALL

Clean off the last course of Country Manor in preparation for the cap or coping to finalize the wall. Using construction adhesive or mortar for a mechanical bond, install the Country Manor 3" capping unit, architectural precast, cut stone as by design. At parapet walls where both front and back faces of Country Manor are exposed, make sure that the capping element is wide enough to create an overhang appearance.

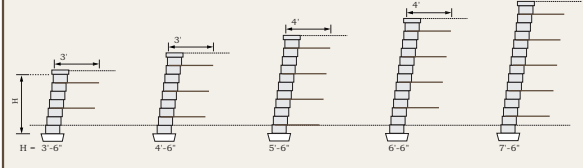
### REINFORCED WALLS - VERTICAL

GEOGRID: StrataGrid #200 (or equal)



### REINFORCED WALLS - BATTERED (9.5° +/- setback)

GEOGRID: StrataGrid #200 (or equal)



### GRAVITY WALLS (maximum unreinforced wall height)

MAXIMUM HEIGHT	NEAR VERTICAL		9.5° +/- BATTER	
	Level	3H:1V	Level	3H:1V
SAND/GRAVEL	2'-0"	1'-6"	3'-0"	2'-6"
SILTY SAND	1'-6"	1'-6"	2'-6"	2'-0"
SILT/LEAN CLAY	1'-6"	1'-0"	2'-0"	1'-6"

### Design Notes:

- Friction angle (PHI) for earth pressure calculations is (min. 28° - max. 32°).
- Moist weight of all soil types is 120 lb./ft.<sup>3</sup> (19kN/m<sup>2</sup>).
- Sliding calculations use 6" (150mm) crushed stone leveling pad as compacted foundation material.
- All backfill materials are compacted to 95% maximum density.
- The term "vertical" is a wall built to a near vertical alignment with a slight positive setback.
- The information provided herein is for preliminary design use only. A qualified engineer should be consulted for design and analysis of structures. Anchor Concrete Products, Inc. and Keystone Retaining Wall Systems, Inc. assumes no liability for the improper use of these tables.

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