

# COUNTRY MANOR DESIGN CONSIDERATIONS

## DESIGN ASSUMPTIONS

- Friction angle (PHI) for earth pressure calculations of geogrid reinforced walls is evaluated at 26°, 30° and 34° only. For other soil type analysis, refer to Keywall Software program or consult with a qualified engineer.
- Moist weight of three soil types indicated 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% Standard Proctor density.
- The term "vertical" is a wall built to a near vertical alignment having a slight positive setback (1° ±).
- The information provided herein is for preliminary design use only. A qualified engineer should be consulted for design and analysis of structures. Keystone Retaining Wall Systems, Inc. assumes no liability for the improper use of this information.

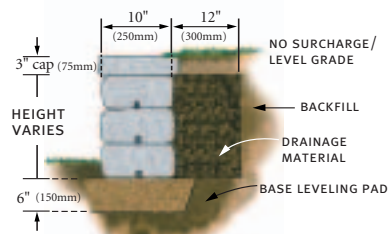
## DESIGN NOTES

For low (non-structural) landscape retaining walls, Country Manor can be constructed as a non-reinforced gravity wall as shown in the chart below. This chart is for retaining walls in the "near vertical" option. Note: use pins and construction adhesive at low border/parapet walls.

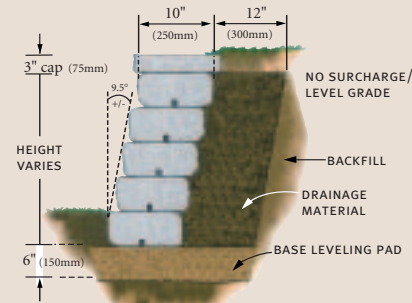
### GRAVITY WALLS (maximum unreinforced wall height)

MAXIMUM HEIGHT	NEAR VERTICAL		9.5° +/- BATTER	
	LEVEL	3H:1V	LEVEL	3H:1V
SAND / GRAVEL PHI = 34°	2'-0" (0.6m)	1'-6" (0.45m)	3'-0" (0.9m)	2'-6" (0.75m)
SILTY SAND PHI = 30°	1'-6" (0.45m)	1'-6" (0.45m)	2'-6" (0.75m)	2'-0" (0.6m)
SILT / LEAN CLAY PHI = 26°	1'-6" (0.45m)	1'-0" (0.3m)	2'-0" (0.6m)	1'-6" (0.45m)

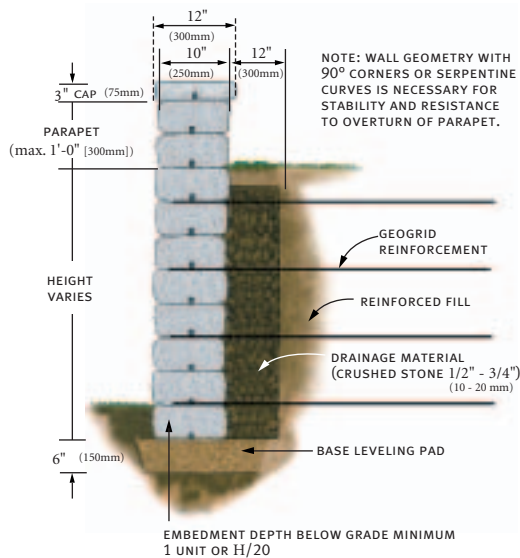
Gravity Wall Near Vertical Detail



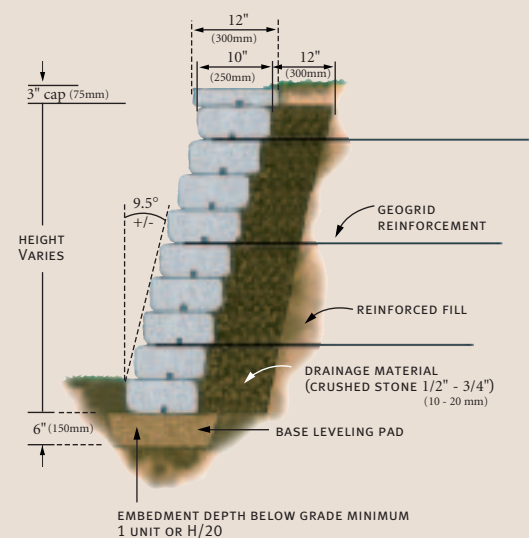
Gravity Wall Setback Detail 9.5°± Batter



Reinforced Wall Near Vertical Detail



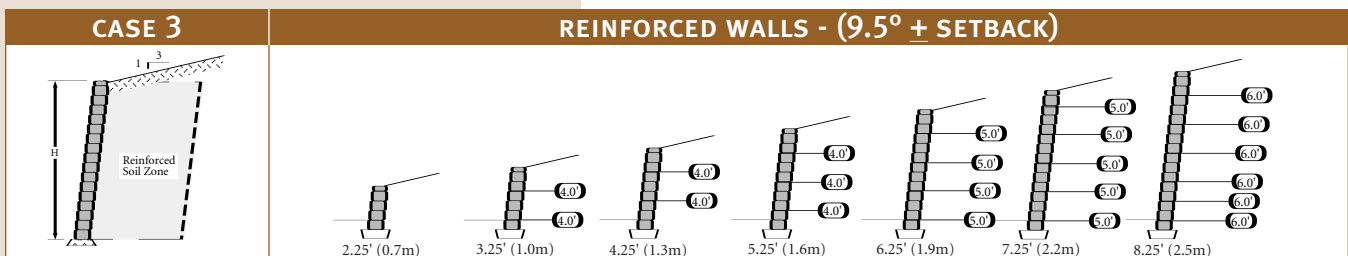
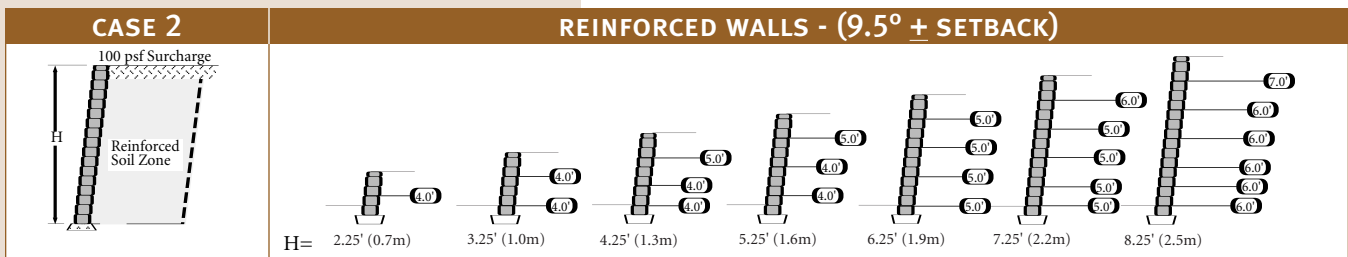
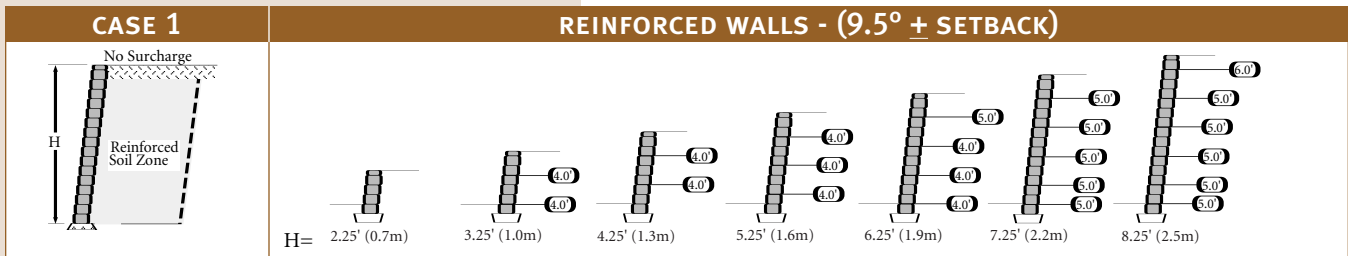
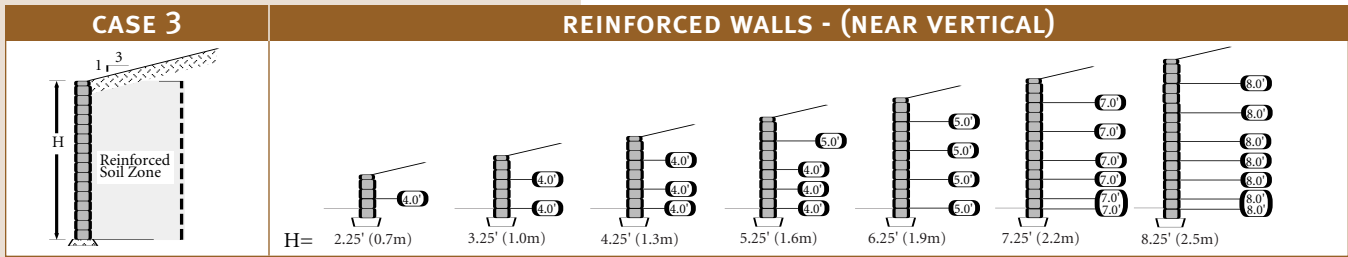
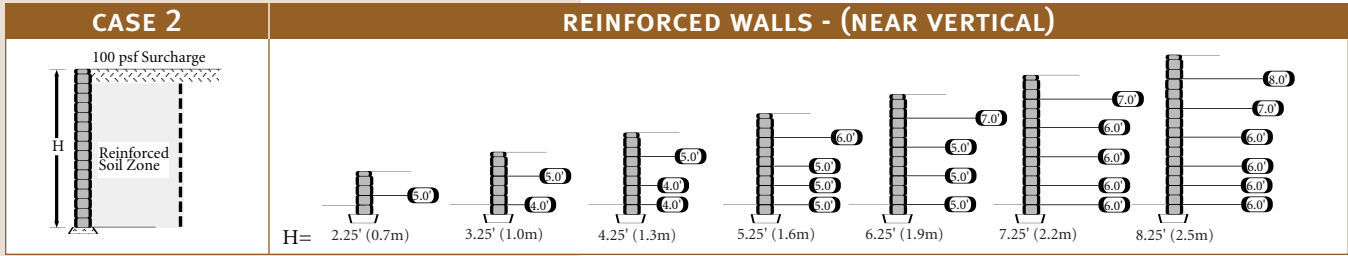
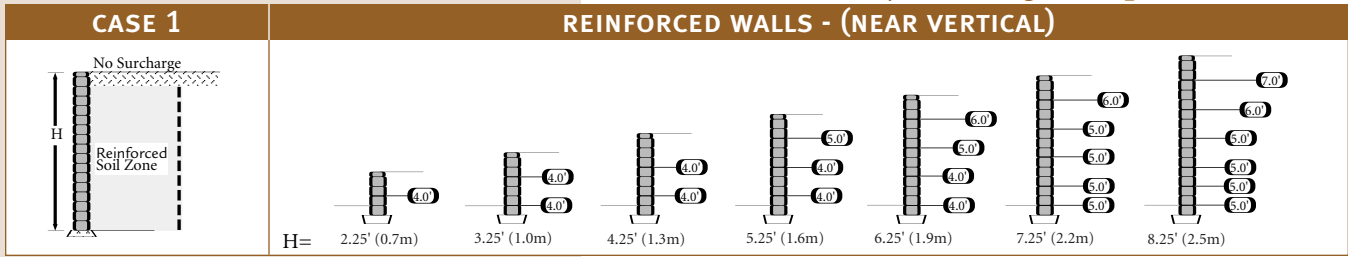
Reinforced Wall Setback Detail 9.5°± Batter



# COUNTRY MANOR DESIGN CHARTS

The following charts assume the use of a coated polyester geogrid with a minimum allowable design strength of:  
LTDS = 750 plf (10.9 kN/m) or Tal = 500 plf (7.3 kN/m)

Silt/Lean Clay:  $f=26^\circ$ ,  $g=120$  pcf (19kN/m<sup>3</sup>)

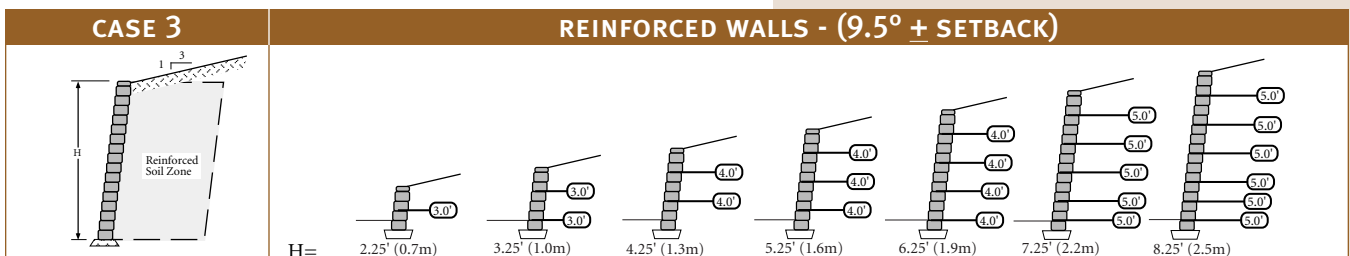
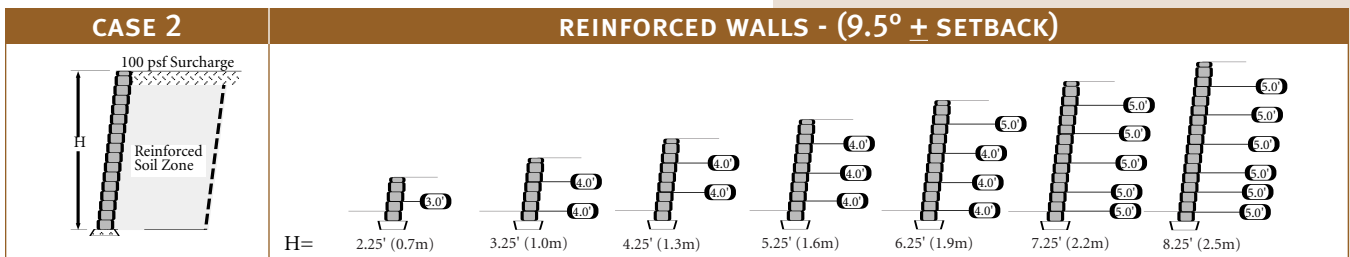
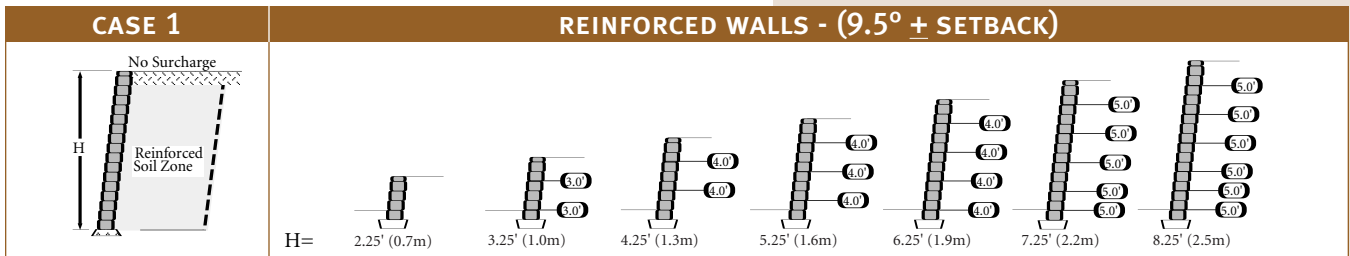
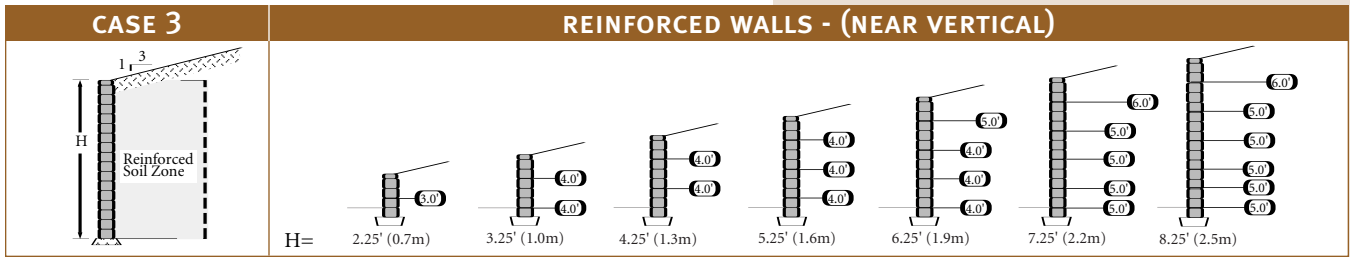
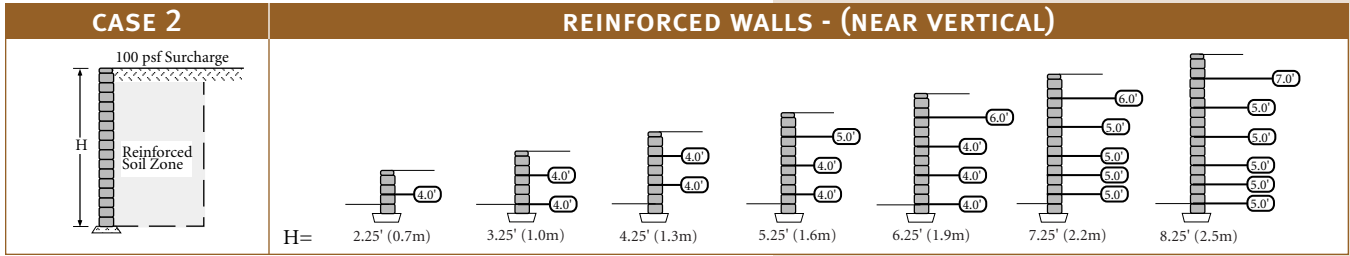
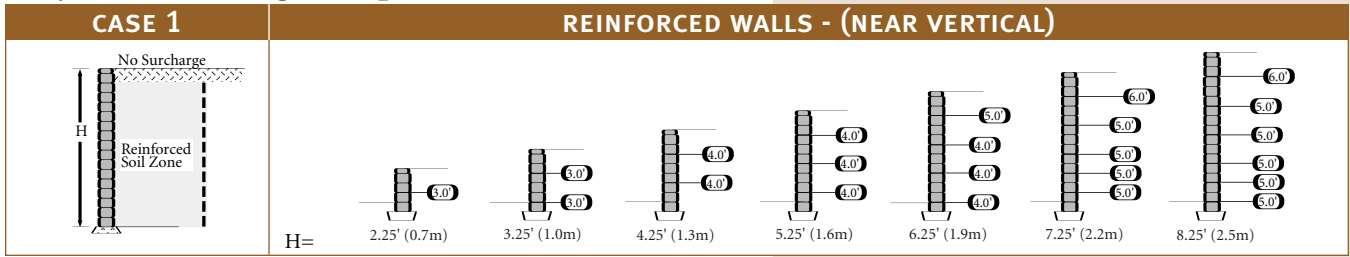


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# COUNTRY MANOR DESIGN CHARTS

Silty Sand:  $f=30^\circ$ ,  $g=120$  pcf ( $19\text{kN/m}^3$ )

The following charts assume the use of a coated polyester geogrid with a minimum allowable design strength of:  
 LTDS = 750 plf (10.9 kN/m) or Tal = 500 plf (7.3 kN/m)

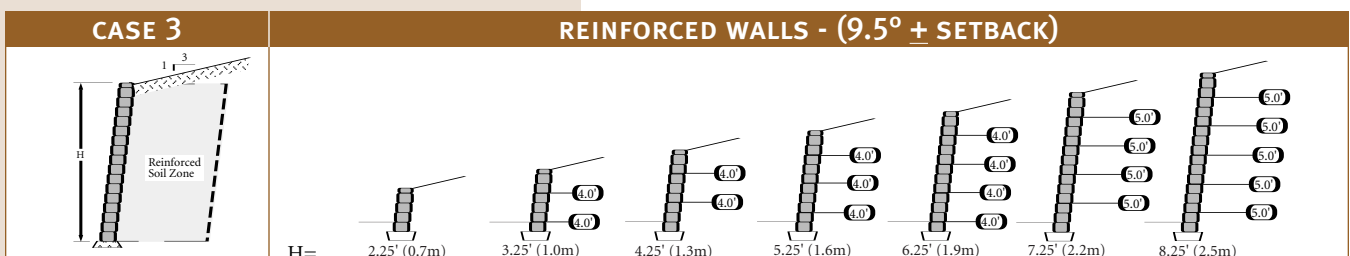
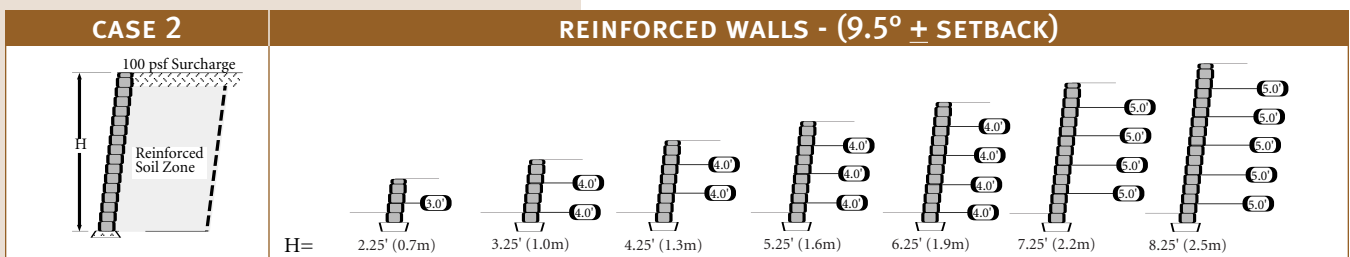
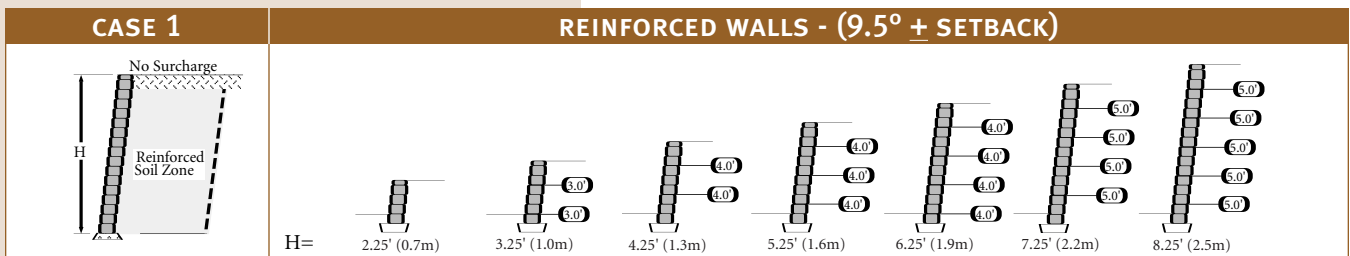
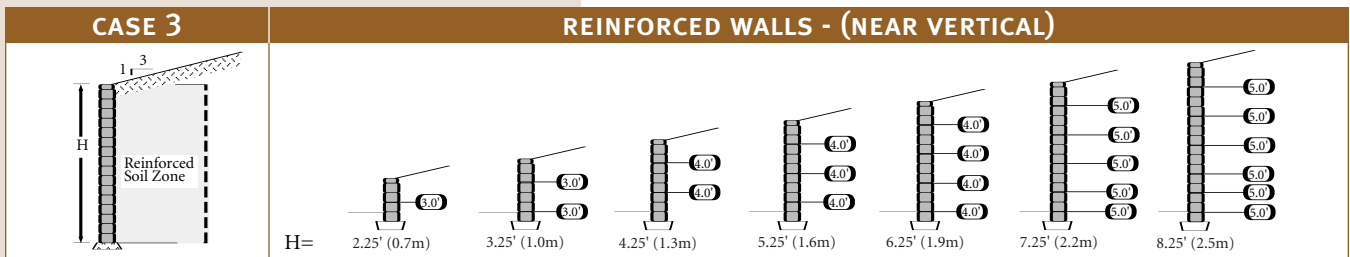
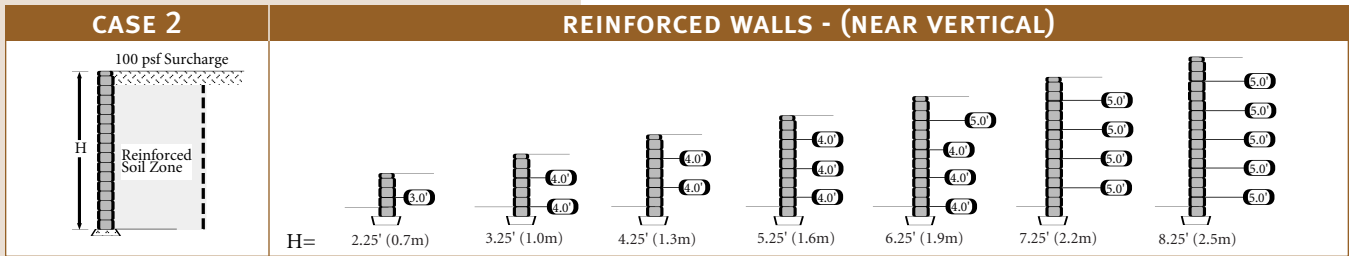
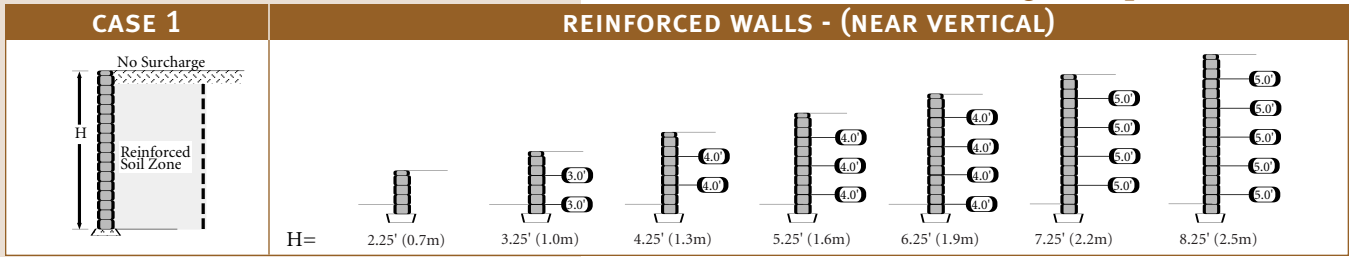


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LTDS = 750 plf (10.9 kN/m) or Tal = 500 plf (7.3 kN/m)

Sand/Gravel:  $f=34^\circ$ ,  $g=120$  pcf (19kN/m<sup>3</sup>)



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