



This document provides general installation guidelines for GEOTEX[®] Geotextiles used in reinforced soil slopes. GEOTEX Geotextiles have shown no degradation in pH situations as high as 12 and can be used in both dry and wet-cast environments.

SITE PREPARATION

- Subgrade shall be excavated to proper lines and grades based on construction plans.
- Any over-excavated areas should be filled with backfill material and any depressions should be filled so that there are no depressions that exceed 6 in (15 cm) in depth.
- The subgrade shall be fairly smooth and free of sharp objects and debris that may damage the geotextile.
- The soils should be proof rolled prior to geotextile and backfill placement.
- The soils should be compacted to 95 percent of the relative density based on the Geotechnical Engineer's recommendations.
- For each layer of the slope, repeat these preparation steps before laying the geotextile.

GEOTEXTILE INSTALLATION

- Before unrolling the geotextile, verify the roll for size, damage, and installation orientation according to construction plans and the Engineer.
- Geotextile should be placed in correct orientation as shown on the construction plans and approved by the Engineer. The Contractor should verify the orientation. The orientation of the geotextile should be such that it is rolled in the direction of the slope – not perpendicular to it.
- The Geotextile should be cut to length based on construction plans using an Engineer approved cutting tool.
- Each sheet of Geotextile should be pulled taut by hand to get rid of any wrinkles.
- Adjacent sheets should be overlapped based on the soil properties. Refer to Table 1 for suggested grid overlap lengths.

Table 1 – Recommended Geosynthetic Overlaps

Subgrade CBR Value	Subgrade R-Value (California)	Subgrade Shear Strength (lb/in ²)	Field Estimation of CBR	Recommended Minimum Overlap
< 0.5	-	< 2	-	Sewn seam required
> 0.5 to 1	-	> 2 to 4.5	A person can easily walk on the site	3 ft.
> 1 to 2	> 0 to 10	> 4.5 to 8.5	A low ground pressure bulldozer can access the site without significant rutting	2.5 ft.
> 2	> 10	> 8.5	A D4 bulldozer can access the site without significant rutting	1.5 ft.

- The preceding steps should be repeated for additional sheets.

- Each sheet may be secured in place using staples, pins, sandbags, backfill, or by other Engineer approved methods to help prevent disruption during the installation of adjacent sheets on the same elevation.
- Do not piece together separate sheets in the primary strength direction through any mechanical connection unless directed by Engineer. Each sheet should be installed as one continuous piece, extending the full length of the area. (Figure 1)

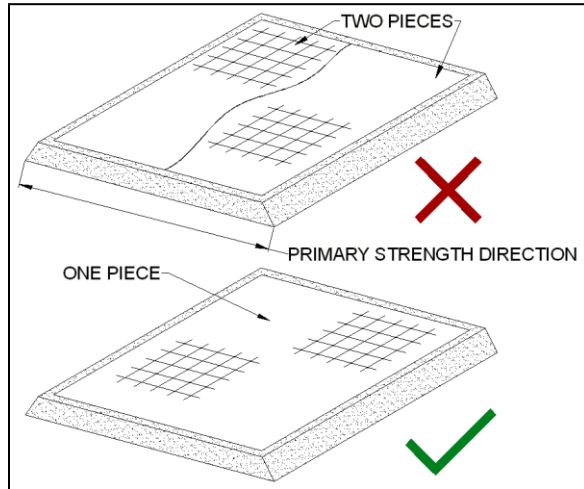


Figure 1

exposure of the Geotextile to the elements.

- After each layer of Geotextile has been placed, prepare, place, and compact the overlying layer of soil according to the construction plans and the Engineer. (Figure 2)
- After the soil layer has been completed, the next layer of Geotextile can be installed by following all preceding steps.
- Repeat all steps for each additional level according to the construction plans, until all levels are installed.

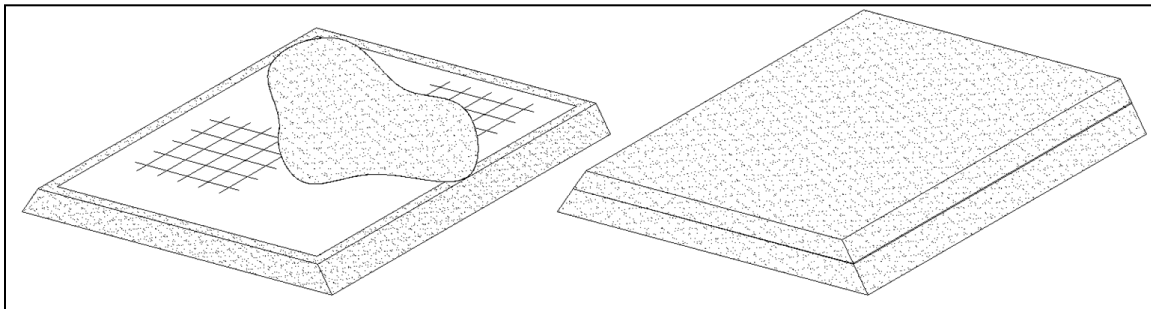


Figure 2

Notes on Backfill

- It is recommended that the soil fill be compacted to 95 percent of the relative density as determined by the Geotechnical Engineer.
- Cohesive soils should be placed in lifts of 6 to 8 in (15 to 20 cm) and granular soils should be placed in lifts of 9 to 12 in (23 to 30 cm) compacted thickness. Each layer of compacted fill should be, at a minimum, 6 in (15 cm). (Figure 3)

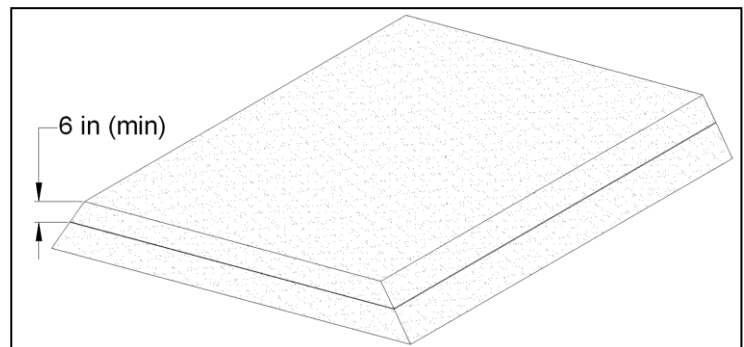


Figure 3

- Care should be taken when placing fill soil as to not disturb the geotextile.

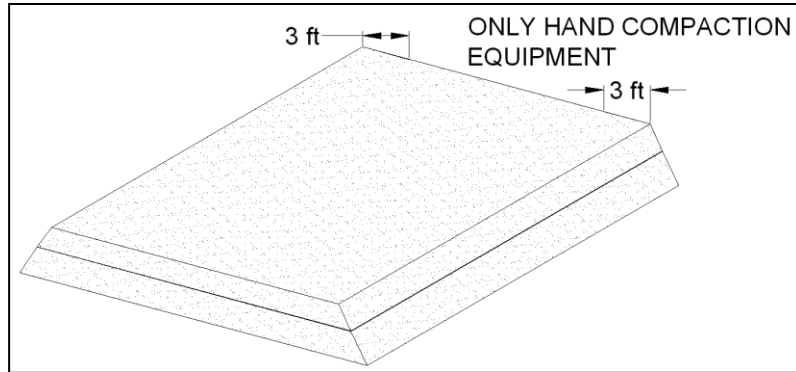


Figure 4

- A minimum fill thickness of 6 in (15 cm) is required before operation of tracked vehicles over the geotextile. Sudden stops and turning should be minimized to prevent damage.

Protection

- If the slope has not been designed with extra reinforcement to handle reduced soil strengths in a saturated soil situation, a drainage system should be installed according to the Engineer to prevent saturation of soil fill.
- The slope face should be vegetated with an appropriate rolled erosion control product (RECP), in accordance with the Design Engineer, to properly mitigate soil erosion. (Figure 5)
- Please Contact Engineering Services at (423)553-2450 for additional technical support regarding this Installation Guide or for suggestions on mitigating soil erosion through the use of Landlok[®] RECP.

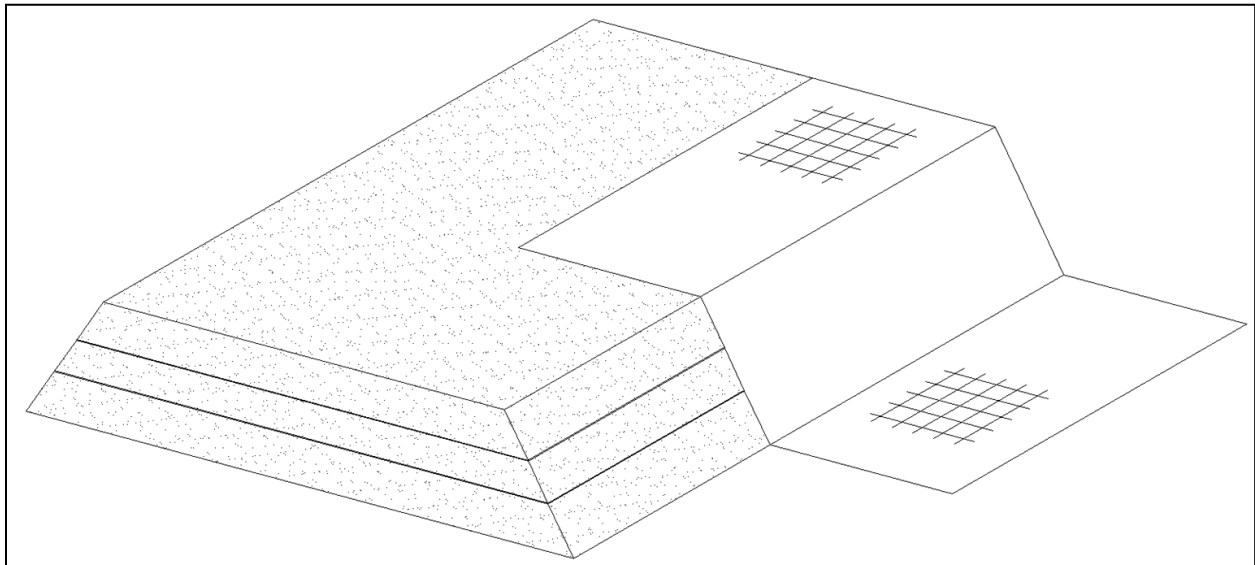


Figure 5