



## TRENCHLESS CURVED SILT FENCE

**DEFINITION:** A temporary barrier of curved geotextile (filter fabric) with sand tubes attached to supporting t-posts to remove sediment from runoff below disturbed areas.

**PURPOSE:** Controls sheet flow runoff from small disturbed areas where the discharge is to a stable area.

**LIMITATIONS:**

- Do not use trenchless curved silt fence in areas of concentrated flow (e.g. channels, swales, erosion gullies, across pipe outfalls, or as inlet protection, etc.).
- Heavy vegetation should be removed prior to installing the trenchless curved silt fence. It can be used on rocky slopes if enough preparation is made to ensure good contact of the sand tube with the underlying soil along its entire length.
- Trenchless curved silt fence should not be installed on uncompacted fills or in extremely loose soils (e.g. sandy loam) since this will likely result in undermining of the fence.
- Traffic shall not be permitted to cross the sand tubes.
- Trenchless curve silt barrier fence should be at least 8 feet from the toe of fill slopes.

**APPLICATION:**

- Install downslope of all disturbances in existing ground and parallel to existing contours. Install silt fence on level grade.

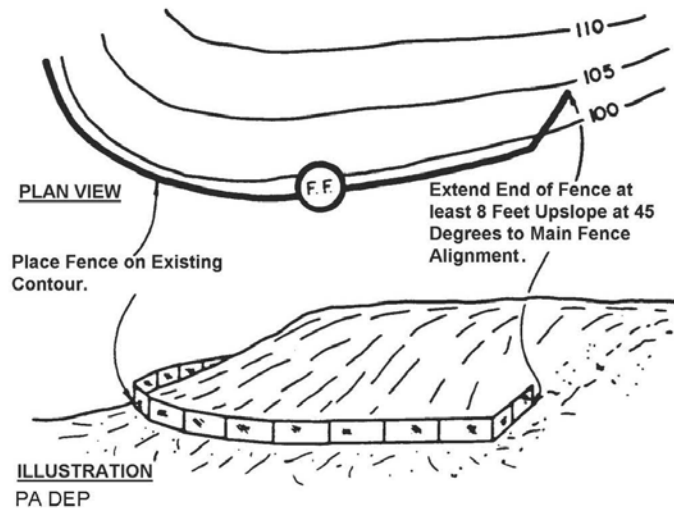
Slope Percent	Maximum Slope Length (ft) Above Fence	
	8-Foot T-Post Spacing	4-Foot T-Post Spacing
2 (or less)	500 ft	1000 ft
5	250 ft	550 ft
10	150 ft	325 ft
15	100 ft	215 ft
20	70 ft	175 ft
25	55 ft	135 ft
30	45 ft	100 ft
35	40 ft	85 ft
40	35 ft	75 ft
45	30 ft	60 ft
50	25 ft	50 ft

- Both ends should extend at least 8 feet upslope at 45 degrees to the main fence alignment (Figure 1).



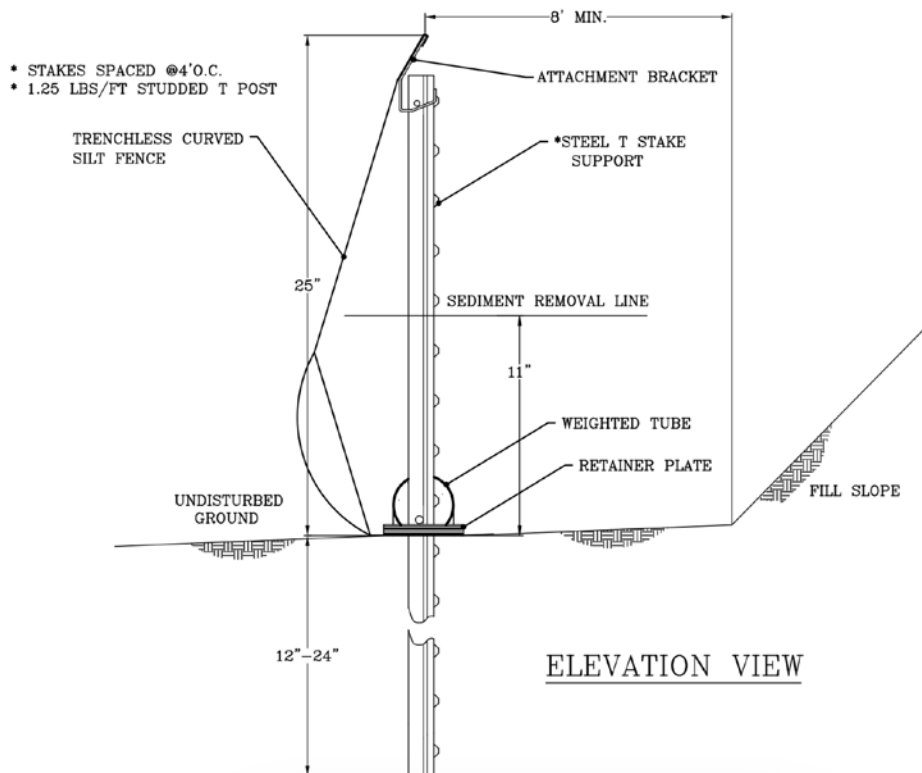
### Figure 1

#### Sediment Barrier Alignment



- Please note that the t-posts are on the fill slope side. (Figure 2).

### Figure 2



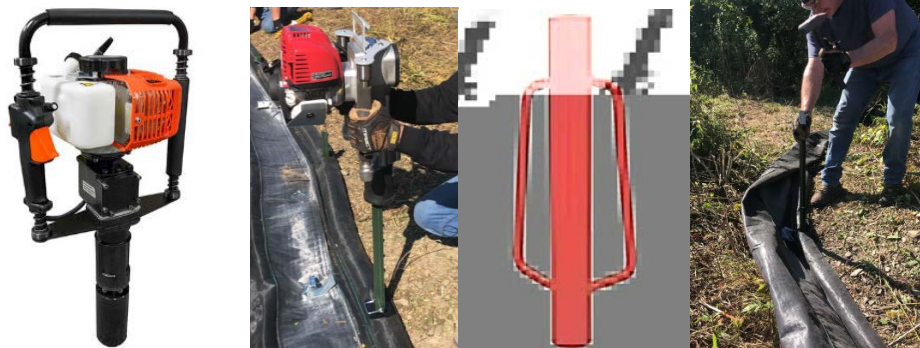


## INSTALLATION:

- Unroll the silt fence fabric on the ground with the gray stabilizer panel facing up. The 5" sand tube pocket should be toward the fill slope.
- Insert the sand tubes into the tube pockets between the post holes in the fabric.



- Start the studded t-post steel stakes into the post holes between the sand tubes with the studded side facing the fill slope. There are two drilled holes in the t-post: one near the edge for the top bracket and one near the middle for the bottom plate. Place the end without the drilled hole into the ground. The t-posts can be driven in by a driver, pounder or sledgehammer.



- After starting the t-posts into ground, drop the bottom plate over the end of the t-post and then the retainer clip on top. Fasten the loop on the clip. Finish driving the t-post into the ground until the bottom plate is tight and flush with the ground. The bottom plate will seal the tube pockets to the ground.







- Any crooked t-posts can be removed and driven in again.



- If the t-post spacing is 4-feet apart, drive a t-post into every post hole. If the t-post spacing is 8-feet apart, drive t-posts into the ends of the silt fence and then alternative every 4 feet with ground stakes and t-posts. The ground stakes are 6" long with 4" wide stainless-steel washers.

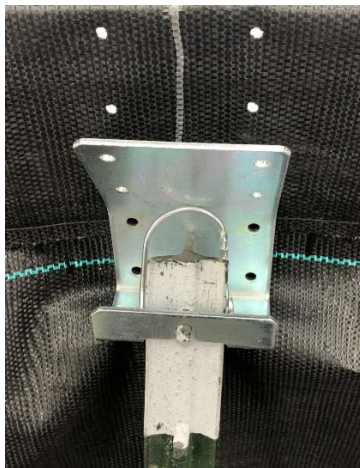




- Place angled top bracket on the top of the t-posts and pin into place. The open side will face the fill slope.



- Overlap the top edge of the fabric to align the four holes in the fabric with the top two holes in the angled bracket. Attach two 50# zip ties through the fabric into the bracket and back through the fabric. The fabric will not be tight horizontally or vertically to allow for the self-supporting curve.

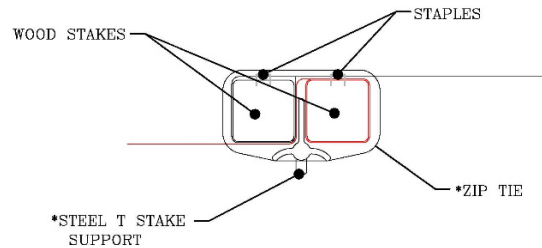


- Overlap the fabric ends of each section to reach the desired final length. The fabric ends contain wooden stakes. The wooden stakes overlap with the studded t-post (Figure 3) and secure with three 50# zip ties along the length of the t-post. After securing the wooden stakes to the t-post, place the angled top bracket and attach both layers of fabrics to it.



**Figure 3**

- 3 ZIP TIES TO JOIN SECTIONS
- 1.25 LBS/FT STUDDED T POST



### JOINING FENCE SECTIONS

#### MAINTENANCE:

- Accumulated sediment shall be removed when it reaches 11" high on t-posts. There are sediment removal lines on the studded t-post stakes for easy identification.
- The trenchless curved silt fence shall be inspected weekly and after each runoff event. Damaged sections shall be repaired or replaced within 24 hours of inspection.
- Perform all preventive and remedial maintenance work, including clean-out, repair, and replacement immediately following inspection.
- Maintenance and inspection of the trenchless curved silt fence must be continued until the site is permanently stabilized.
- If the trenchless curved silt fence fails to perform as expected, the situation must be addressed immediately with replacement or modification.
- Upon stabilization of the area tributary, the fabric, sand tubes, t-posts, stakes, bottom plates, angled top brackets and pins shall be removed. Fabric shall be properly disposed. Sand tubes, t-posts, stakes, bottom plates, angled top brackets and pins in good working condition can be reused on future installations.
- Adhere to the manufacturer's recommendations (6 months depending on site conditions) relative to required geotextile replacement due to weathering.
- Replace undercut and overtopped sections of the fence with a Rock Filter Outlet. Rock Filter Outlet should be installed along the silt barrier fence at points of frequent failures.