

Mini Silt Fence Installation & Collection

Materials:

60 cm x 60 cm piece of steel mesh (30 mesh, opening size 0.54 mm)
60in lengths of 1/2in diameter rebar (2 pieces per silt fence)
Pocket knife
Flat blade spade or shovel
3lb sledge hammer
3 x 3ft sheet of thick plastic tarp or lining
Metric measuring tape
Wire cutters
Numbered metal tags
18 gauge wire (~8cm)
Medium sized paint brush
Gloves
GPS
Silt Fence datasheet

Silt Fence Field Location:

1. For even numbered transects, go to the "0" meter end of the transect and pace 5m in the upslope direction of the transect. Find the most prominent water flow path in the area. Water flow paths must be less than 1m in width.

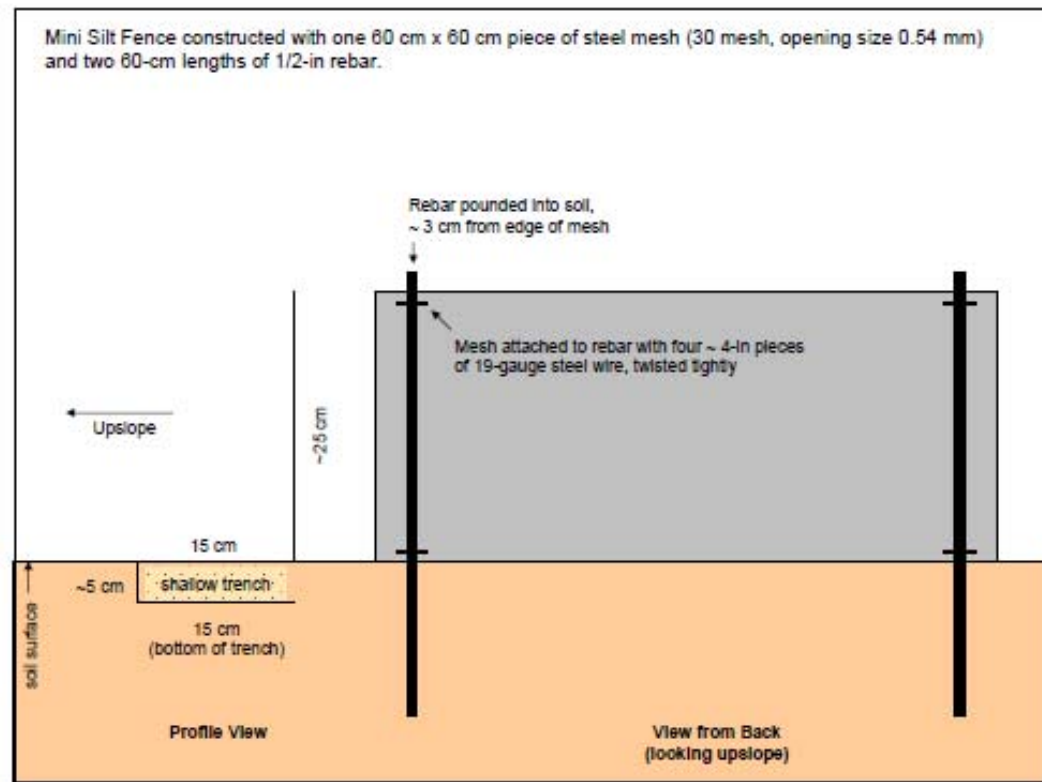
Silt Fence Installation:

1. Dig shallow trench ~ 18cm x ~65cm, placing soil on plastic sheet located on downslope side of trench. Ensure that trench is oriented perpendicular to downslope flowpaths.
2. Bend mesh to form 15-cm flap and place so that flap sits on bottom of trench, with remaining mesh on upslope side.
3. Refill trench and tamp down soil.
4. Bend mesh downslope over soil surface.
5. Bend mesh to form 15-cm 'floor' for silt fence. Remaining mesh should form ~ 25-cm tall fence.
6. Pound rebar vertically into soil directly adjacent to silt fence wall on downslope side, placing rebar ~ 3-cm from outside edges of mesh. Try to get rebar to go into soil at least 20 cm.
7. Cut four 4-in pieces of wire, bend into loops, and use loops to attach mesh to rebar (see diagram).
8. Use ground staple to punch 4 sets of holes into steel mesh, pushing mesh against rebar from upslope side of fence (not illustrated in photos). Insert wire loops / fasteners through holes from upslope side of fence, and twist tightly on downslope side of rebar to form strong attachment.
9. Fold in the 3-cm edges of the fence so they are at ~ 45 deg angle relative to fence.
10. Attach metal numbered tag to silt fence.
11. Mark silt fence with GPS. GPS point ID should match metal tag number.
12. Record information on data sheet.
13. Move on to next fence -- zoom zoom.

Sediment Collection:

1. Approach silt fences from the non-collecting side, as to not disturb water flow paths.

2. Using the small paint brush, corner trowel, and scoopula, collect all material that in the silt fence. Only collect material on the footprint of the silt fence, this is especially important if there is a lot of sediment covering the bottom of the fence.
3. For sample mass > than 1 kg go to steps 7- 10 otherwise proceed to step 4 if sample mass is < 1 kg.
4. Gently sweep material onto the trowel and empty into a ziplock bag. Try not to push material through the wire mesh in this process. Any litter should be collected in addition to sediment.
5. If there is snow in the silt fence, collect this in addition to sediment. Doubling the ziplock bags may be necessary if there is a leak or a sample has a lot of water in it.
6. Label bag with the Site ID and Date in the following way (SF-SITE-Siltfence ID, mm/dd/yyyy):
example: SF-SM-124 12/4/2009
7. Gently sweep material onto the trowel and place the contents on a plastic sheet on the ground.
8. Once all the silt fence material has been collected on the plastic sheet homogenize the sample using a large spoon.
9. Once the sample is homogenized, collect approximately 1 kg of soil and place this subsample in a Ziploc bag.
10. Label bag with the Site ID and Date in the following way (SF-SITE-Siltfence ID, mm/dd/yyyy):
example: SF-SM-124 12/4/2009











STEP 7



STEP 8



