



OKALOOSA COUNTY EROSION CONTROL STATEMENT

PERMIT #: _____

JOB SITE LOCATION: _____

I acknowledge and understand the Okaloosa County Erosion Control Requirements for building sites as follows:

All residential, commercial, and industrial projects, including single lot construction, shall incorporate sufficient erosion and sediment control procedures so that untreated, eroded materials or sediments from the project or the area served by the project, do not discharge into stormwater management systems or other surface waters or cause violation of applicable water quality standards. These requirements are to be properly maintained throughout the length of the construction activity. Failure to do so will result in a fine of \$250.00 and further disciplinary actions. Guidance may be found in the latest edition of the FDEP "The Florida Stormwater, Erosion and Sedimentation Control Inspector's Manual."

Signature

Date

STATE OF FLORIDA
COUNTY OF OKALOOSA

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this _____ by _____, who is
(Date) (Name of person acknowledging)

personally known to me or who has produced _____ as identification.
(Type of identification)

NOTARY

3.4.2 Silt Fence

Definition

A temporary sediment barrier consisting of a filter fabric stretched across and attached to supporting posts and entrenched. Some silt fence is wire reinforced for support.



Purpose

The purpose of a silt fence is to slow the velocity of water and retain sediment onsite. It is important to understand that regular black woven silt fencing will not stop turbid or fine silty particles from going through the fencing and into an adjacent waterway, causing turbidity and other surface water quality compliance issues. However, some types of silt fencing are "nonwoven" and "performance based," and work much better at removing turbid or fine silty particles while allowing stormwater to pass through.

Applications

A silt fence should only be installed to capture sediment under sheet flow conditions. It should not be installed for channel flow conditions (i.e., ditches, paved ditches, or swales, or in live streams or waterways). Additionally, it is not preferred around drop inlets unless it is reinforced to prevent collapse from water pressure.

Planning Considerations

Silt fences can trap a much higher percentage of suspended sediments than straw bales and are preferable to straw barriers in many cases. The most effective application is to install two parallel silt fences spaced a minimum of three feet apart. The installation and maintenance methods outlined here can improve performance. Silt fences composed of a wire support fence with attached synthetic filter fabric slow the flow rate significantly and have high filtering efficiency. Both woven and nonwoven synthetic fabrics are commercially available. The woven fabrics are generally stronger than the nonwoven fabrics. When tested under acid and alkaline water conditions, most of the woven fabrics increase in strength. There is a variety of reactions among the nonwoven fabrics. The same is true of testing under extensive ultraviolet radiation.

Permeability rates vary regardless of fabric type. While all of the fabrics demonstrate high filtering efficiencies for sandy sediments, there is considerable variation among both woven and nonwoven fabrics when filtering finer silt and clay particles.

Design Criteria

1. *No formal design is required for many small projects and for minor and incidental applications.*
2. *Silt fences shall have an expected usable life of six months. They must be used*

- around perimeters and stockpiles, and at temporary locations where continuous construction changes the earth contour and runoff characteristics.*
3. *Silt fences are limited in application to situations where only sheet or overland flows are expected. They normally cannot filter the volumes of water generated by channel flows, and many fabrics do not have sufficient structural strength to support the weight of water ponded behind the fence line.*
 4. *Types of silt fences vary based on application and are performance based:*
 - a. *Standard black silt fence FDOT Type 3 is a woven mesh that traps primarily sands and some silt particles but does not control turbidity.*
 - b. *BSRF-based strand reinforced fencing comes in two types (Priority 1 and Priority 2). Both are both nonwoven fabrics that trap smaller particles, including sand and finer particles. Priority 1 works best in sloped environments and has a larger stake than Priority 2. Priority 2 works best in level areas and is also used to prevent impacts to sensitive environmental areas adjacent to waterways and wetlands.*
 - c. *A staked turbidity barrier is an impervious fencing material made like a floating turbidity barrier. It is used in areas where high levels of water may be a problem and the water needs to be diverted to a trap or basin for treatment.*
 - d. *FDOT Type 1 wire-backed silt fence has nonwoven fabric trenched (according to the same specifications as Type 3) and is clamped with hog rings on the back side to the fencing with post spacing every 10 feet. This type of fencing may be used in lieu of BSRF fencing.*

Construction Specifications

Materials

1. *Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester, or polyethylene yarn. It shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0 °F. to 120 °F. (-17 °C. to 49 °C.).*
2. *The stakes for a silt fence shall be 1 x 2 inches (2.5 x 5 cm) wood (preferred), or equivalent metal with a minimum length of 3 feet (90 cm).*
3. *Wire backed reinforcement for silt fences using standard-strength filter cloth shall be a minimum of 36 inches (90 cm) in height, shall be a minimum of 14 gauge, and shall have a maximum mesh spacing of 6 inches (15 cm) (sometimes referred to as FDOT Type 1 fencing).*

Sheet-Flow Application: Silt Fence

This sediment barrier uses standard-strength or extra-strength synthetic filter fabrics. It is designed for situations in which only sheet or overland flows are expected (see **Figures 3.4a** and **3.4b**):

1. *The height of a silt fence shall not exceed 36 inches (90 cm). Higher fences may impound enough water to cause the structure to fail.*
2. *The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are necessary, filter cloth shall be spliced as described in Item 8 below.*
3. *Posts shall be spaced a maximum of 10 feet (3 m) apart at the barrier location and driven securely into the ground a minimum of 12 inches (30 cm). When extra-strength fabric is used without the wire support fence, post spacing shall not exceed 6 feet (1.8 m).*
4. *A trench shall be excavated approximately 4 inches (10 cm) wide and 4 inches (10 cm) deep along the line of posts and upslope from the barrier.*
5. *When standard-strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy-duty wire staples at least 1 inch (25 mm) long, tie wires, or hog rings. The wire shall extend into the trench a minimum of 2 inches (5 cm) and shall not extend more than 36 inches (90 cm) above the original ground surface.*
6. *The standard-strength filter fabric shall be stapled or wired to the fence, and 8 inches (20 cm) of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches (90 cm) above the original ground surface.*
7. *When extra-strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In this case, the filter fabric is stapled or wired directly to the posts with all other provisions of Item 6 applying.*
8. *When attaching 2 silt fences together, place the end post of the second fence inside the end post of the first fence. Rotate both posts at least 180 degrees in a clockwise direction to create a tight seal with the filter fabric. Drive both posts into the ground and bury the flap (see **Figure 3.4b**).*
9. *The trench shall be backfilled and the soil compacted over the filter fabric.*
10. *The most effective application consists of a double row of silt fences spaced a minimum of 3 feet apart, so that if the first row collapses it will not fall on the second row. Wire or synthetic mesh may be used to reinforce the first row (see **Figure 3.4c**).*

11. When used to control sediments from a steep slope, silt fences should be placed away from the toe of the slope for increased holding capacity (see **Figure 3.4d**).
12. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.

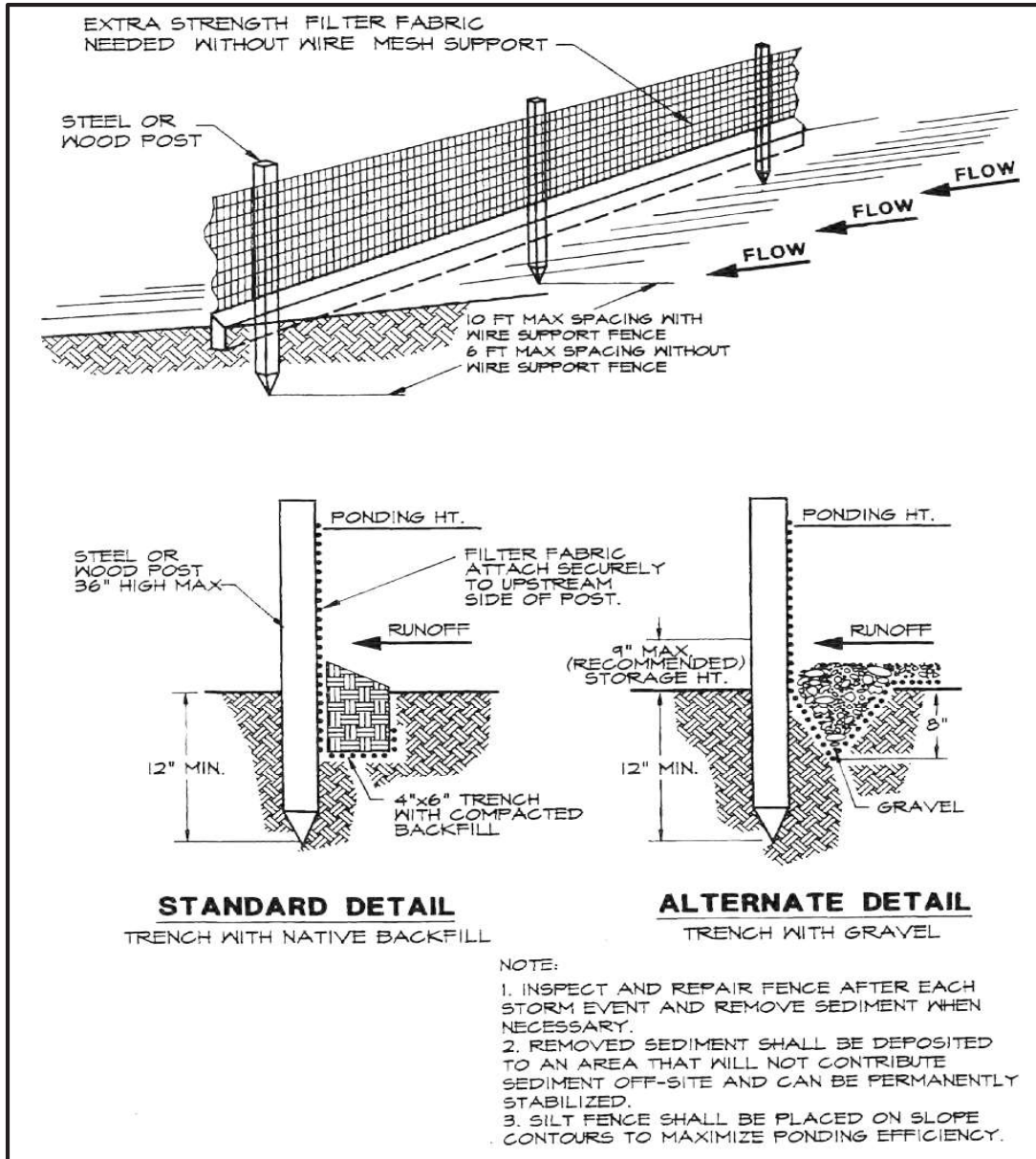


Figure 3.4a. Silt fence

Source: Erosion Draw

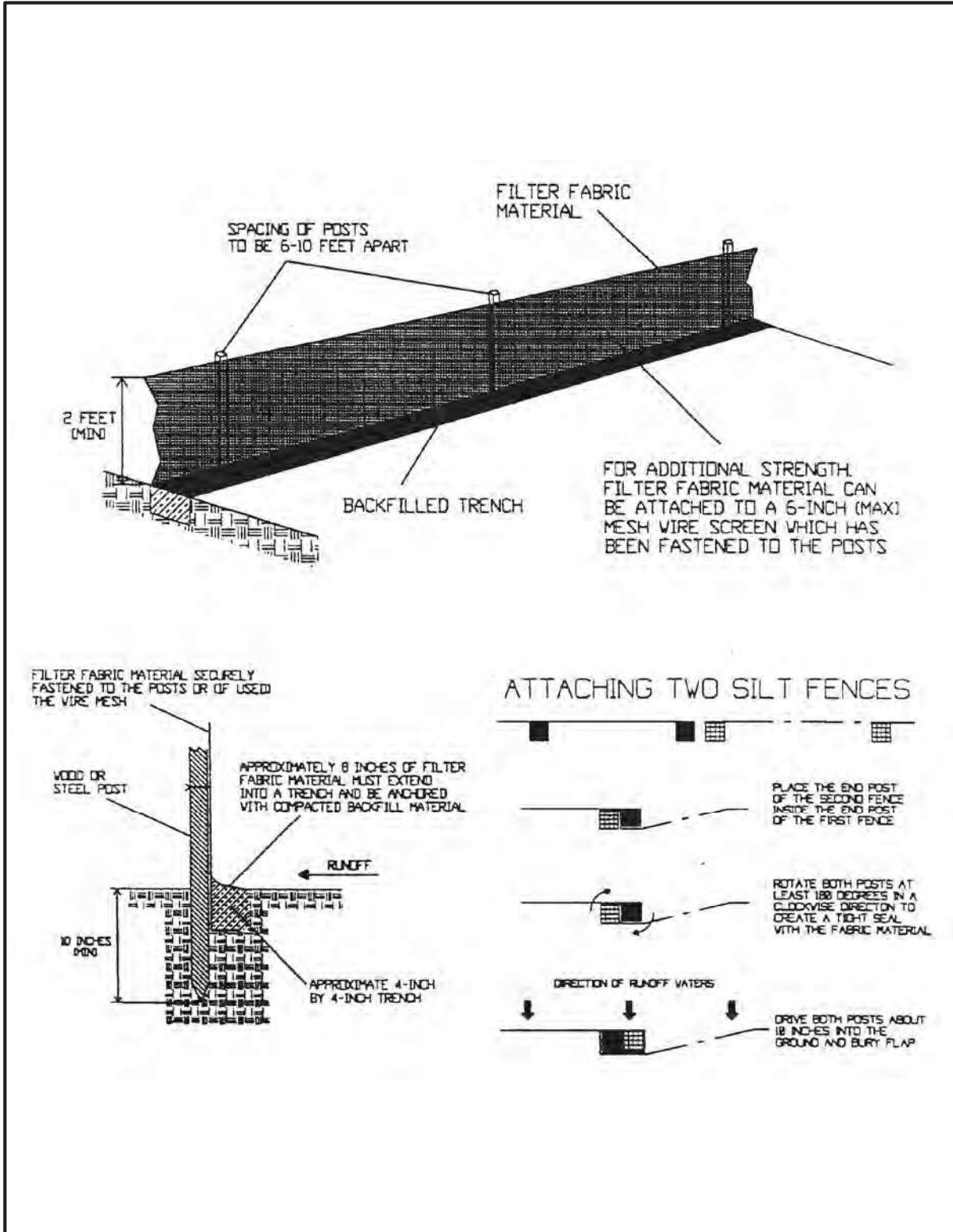


Figure 3.4b. Installing a filter fabric silt fence

Source: HydroDynamics, Inc.

Maintenance

1. Silt fences shall be inspected within 24 hours after each 1/2-inch rainfall event and at least once a week (every 7 calendar days according to the CGP). Any required repairs shall be made immediately.
2. Should the fabric on a silt fence decompose or become ineffective before the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Normal life expectancy of silt fence is 6 months.
3. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier.
4. Any sediment deposits remaining in place after the silt fence is no longer required shall be dressed to conform with the existing grade, prepared, and seeded.

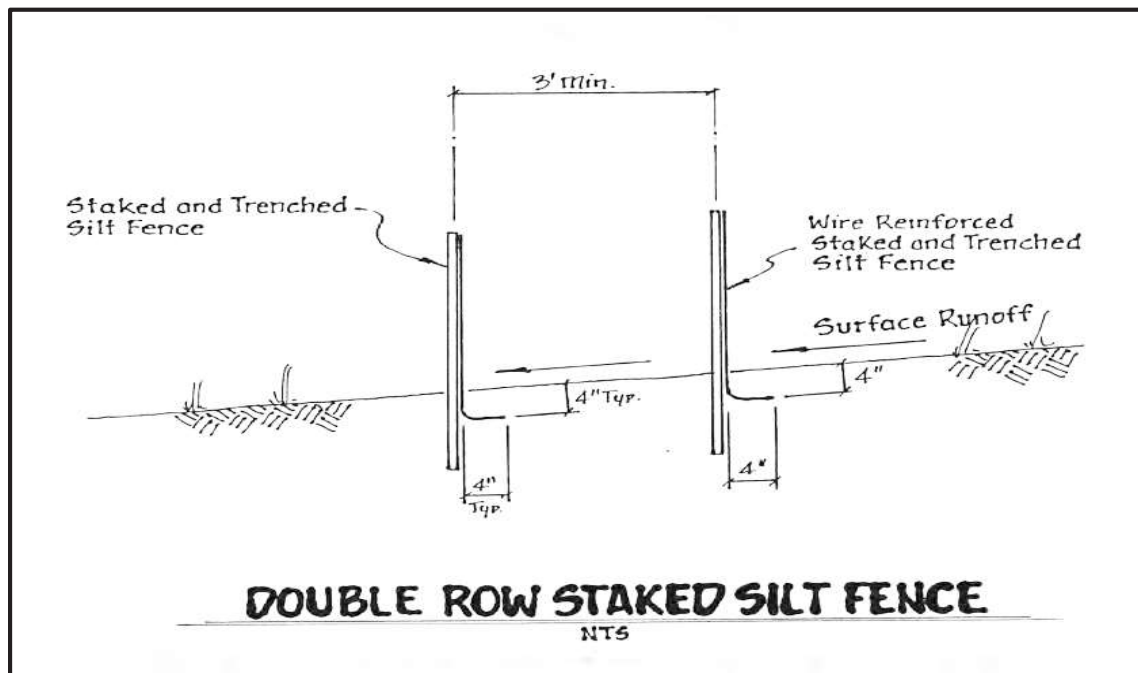


Figure 3.4c. Double row staked silt fence

Source: Reedy Creek Improvement District