

Fr FILTER RING

DEFINITION
A temporary stone barrier constructed at storm drain inlets and pond outlets.



PURPOSE

- Reduce flow velocity.
- Prevent the failure of other sediment control devices.
- Prevent sediment from leaving the site or entering drainage systems.

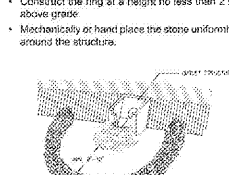
INSTALLATION

- Install according to the approved plan.
- Use in conjunction with other sediment control measures, except where other practices defined in this Manual are not appropriate.
- Surround all sides of the structure receiving runoff from disturbed areas.
- Place the ring a minimum of 4 ft from the structure.
- If the ring is utilized above a retrofit structure, place a minimum of 5-10 ft from the retrofit.
- When utilized at inlets with diameters less than 12", the filter ring shall be constructed of stone no smaller than 3"-5" (15-30 lbs).

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Fr FILTER RING

When utilized at inlets with diameters greater than 12", the filter ring shall be constructed of stone no smaller than 10"-15" (50-100 lbs).



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- When utilized at inlets with diameters less than 12", the filter ring shall be constructed of stone no smaller than 3"-5" (15-30 lbs).

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Rd ROCK FILTER DAM

A temporary stone filter dam installed across drainageways or in conjunction with a temporary sediment trap.



PURPOSE

- Serve as a sediment filtering device.
- Reduce velocity of stormwater flow through a channel.
- Not intended to substantially impound water.

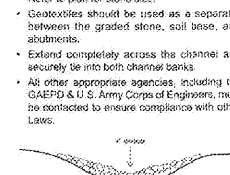
INSTALLATION

- Install according to the approved plan.
- The drainage area shall not exceed 50 acres.
- Must be used in conjunction with other appropriate sediment control measures.
- The dam should be located as close to the source of sediment as possible.
- The dam should not be higher than the channel banks or exceed the elevation of the upstream property line.
- The center of the dam should be at least 9" lower than the outer edges of the dam at the channel banks.

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Rd ROCK FILTER DAM

Side slopes should be 2:1 or flatter. The width across the top should be 6 ft. or greater.



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- Reduce velocity of stormwater flow through a channel.
- Not intended to substantially impound water.

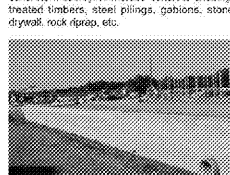
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Re RETAINING WALL

A constructed wall of one or more of the following: concrete masonry, reinforced concrete cribbing, treated timbers, steel piling, gabions, stone drywall, rock riprap, etc.



PURPOSE

- Assist in stabilizing out or fill slopes where slope slopes are not obtainable without the use of a wall.

INSTALLATION

- Retaining walls require a specific design that is within the capabilities of the design professional.
- Many factors must be taken into account during the design process.
- Close supervision is required to ensure proper installation.
- Depending on the Local Issuing Authority's ordinance, a design professional certificate may be required prior to construction.

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Re RETAINING WALL

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PURPOSE

- Assist in stabilizing out or fill slopes where slope slopes are not obtainable without the use of a wall.

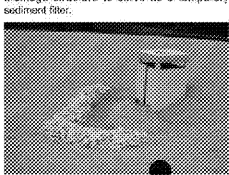
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- Close supervision is required to ensure proper installation.
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101

Rt RETROFIT

A device or structure placed in front of a permanent stormwater detention pond outlet or roadway drainage structure to serve as a temporary sediment filter.



PURPOSE

- Allows a permanent stormwater detention basin structure to function as a temporary sediment retention device.
- Allows temporary drainage structure to be used for sediment storage.

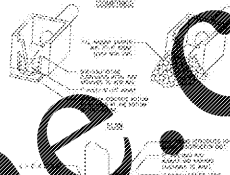
INSTALLATION

- Install according to the approved plan.
- Prohibited in use on live streams.
- The height of the retrofit should be approximately half the height of the structure.
- Perforated Half-Round Pipes with Stone Filter:
 - Drainage area shall not exceed 30 acres.
 - No exposed pipe end or winged head.
 - Diameter of half-round pipe should be 1.5x the diameter of the principal pipe outlet or wider than the greatest width of the concrete weir.

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Rt RETROFIT

Shall be affixed by means to the concrete outlet structure.



PURPOSE

- Allows a permanent stormwater detention basin structure to function as a temporary sediment retention device.
- Allows temporary drainage structure to be used for sediment storage.

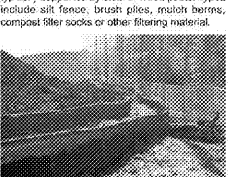
INSTALLATION

- Install according to the approved plan.
- Prohibited in use on live streams.
- The height of the retrofit should be approximately half the height of the structure.
- Perforated Half-Round Pipes with Stone Filter:
 - Drainage area shall not exceed 30 acres.
 - No exposed pipe end or winged head.
 - Diameter of half-round pipe should be 1.5x the diameter of the principal pipe outlet or wider than the greatest width of the concrete weir.

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Sd1 SEDIMENT BARRIER

A temporary structure made up of porous material typically supported by steel or wood posts. Types include silt fence, brush piles, brush barriers, compost filter socks or other filtering material.



PURPOSE

- Minimize and prevent sediment carried by sheet flow from leaving the site.
- Retain the sediment on the disturbed area.
- Filter sediment from runoff.

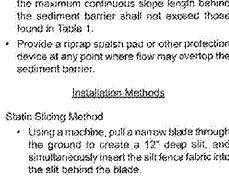
INSTALLATION

- Install according to the approved plan.
- Do not install across streams, ditches, waterways, or other concentrated flow areas.
- The type of sediment barrier depends on whether the area is sensitive or non-sensitive.
- For silt fence, Type C will be classified as sensitive and Type A & B will be classified as non-sensitive.
- Install along the contour.
- Along all side waters and other sensitive areas, 2 rows of Type S shall be used. The 2 rows should be spaced a minimum of 30' apart.

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Sd1 SEDIMENT BARRIER

Overlap barriers 18" when using multiple types of sediment barriers in a single runoff area.



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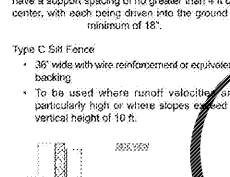
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- For silt fence, Type C will be classified as sensitive and Type A & B will be classified as non-sensitive.
- Install along the contour.
- Along all side waters and other sensitive areas, 2 rows of Type S shall be used. The 2 rows should be spaced a minimum of 30' apart.

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Sd1 SEDIMENT BARRIER

Sediment barriers being used as Type S shall have a support spacing of no greater than 4 ft on center, with each being driven into the ground a minimum of 18".



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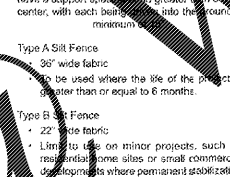
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108

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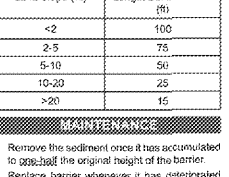
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- Install along the contour.
- Along all side waters and other sensitive areas, 2 rows of Type S shall be used. The 2 rows should be spaced a minimum of 30' apart.

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Sd1 SEDIMENT BARRIER

Remove the sediment once it has accumulated to guard the original height of the barrier.



PURPOSE

- Minimize and prevent sediment carried by sheet flow from leaving the site.
- Retain the sediment on the disturbed area.
- Filter sediment from runoff.

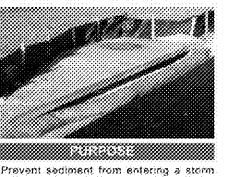
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- For silt fence, Type C will be classified as sensitive and Type A & B will be classified as non-sensitive.
- Install along the contour.
- Along all side waters and other sensitive areas, 2 rows of Type S shall be used. The 2 rows should be spaced a minimum of 30' apart.

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Sd2 INLET SEDIMENT TRAP

A temporary protective device formed at or around an inlet to a storm drain to trap sediment.



PURPOSE

- Prevent sediment from entering a storm drainage system prior to permanent stabilization of the disturbed area draining to the inlet.

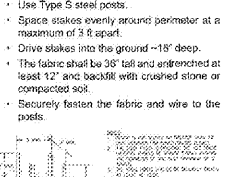
INSTALLATION

- Install according to the approved plan.
- Do not install on paved surfaces where safety is a concern.
- Sediment traps must be self-draining unless otherwise protected.
- Install at or around all storm drain drop areas that receive runoff from disturbed areas.
- Construction on natural ground's surface, excavated surface, or on machine compacted fill.
- Excavated Sediment Traps:
 - An excavation created around the inlet to provide additional sediment storage.
 - Provide a minimum depth of 1.5 ft for sediment storage.
 - The side slopes shall not be steeper than 2:1.
 - The drainage area entering the trap shall be no greater than 1 acre.

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Sd2 INLET SEDIMENT TRAP

Filter fabric with supporting frame



PURPOSE

- Prevent sediment from entering a storm drainage system prior to permanent stabilization of the disturbed area draining to the inlet.

INSTALLATION

- Install according to the approved plan.
- Do not install on paved surfaces where safety is a concern.
- Sediment traps must be self-draining unless otherwise protected.
- Install at or around all storm drain drop areas that receive runoff from disturbed areas.
- Construction on natural ground's surface, excavated surface, or on machine compacted fill.
- Excavated Sediment Traps:
 - An excavation created around the inlet to provide additional sediment storage.
 - Provide a minimum depth of 1.5 ft for sediment storage.
 - The side slopes shall not be steeper than 2:1.
 - The drainage area entering the trap shall be no greater than 1 acre.

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Table 1. Criteria for Sediment Barrier Placement

Land Slope (%)	Maximum Slope Length Behind Fence (ft)
<2	100
2-5	75
5-10	50
10-20	25
>20	15

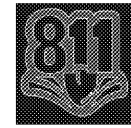
- MAINTENANCE**
- Remove the sediment once it has accumulated to guard the original height of the barrier.
 - Replace barrier whenever it has deteriorated to such an extent that the effectiveness of the product is reduced (~6 months) or the height of the product is not maintaining 80% of its properly installed height.
 - Remove and dispose of all accumulated sediment at the barrier before it is removed.
 - Leave in place until all disturbed areas are permanently stabilized.

Table 2. Post Size

Type	Min. Length	Type of Post	Size of Post
NS	4'	Oak Steel Soft Wood	1.5"x1.5" 1.156ft/ft min 3" or 2"x4"
S	4'	Oak Steel	2"x2" 1.156ft/ft min

Figure 1. Thomas Carpenter, CFESC, Carpenter Erosion Control

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