

Erosion Control Specifications

General Purpose

The purpose of these specifications is to provide soil erosion and sediment control best management practices (BMPs) for the Riley County Storm Water Management Program.

Scope

These specifications are intended to cover procedures and materials utilized for soil erosion and sediment control within the urbanized area of Riley County. Equipment and methods utilized shall conform to manufacturer/supplier recommendations to protect materials during moving, storage, or installation. Damaged materials shall be rejected. Upon completion of the work, the contractor shall leave the entire area within the limits of the contract in a clean and tidy condition.

Stormwater Pollution Prevention Plan (SWPPP)

Upon the request of Riley County, the contractor or owner shall provide a SWPPP and an approved Notice of Intent (NOI) from the Kansas Department of Health & Environment (KDHE) if required.

To determine if a site will require a NOI, please refer to <http://www.kdheks.gov/muni/ms4.htm> for guidance.

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1.0 Temporary Construction Entrance:

1. Description:

A temporary construction entrance is a stabilized layer of 2" to 3" aggregate located anywhere traffic enters or leaves a construction site and moves directly onto a road or paved area.

2. Purpose:

A temporary construction entrance acts as a buffer between construction sites and roads. It serves as a location where construction vehicles can be cleaned to avoid tracking soil and sediment off of the construction site.

3. Design and Installation Standards:

- a. Location: If possible, locate where permanent roads will eventually be constructed, avoid steep slopes or curves in roads.
- b. Installation: Remove all vegetation and loose unstable material from foundation area. Grade to create positive drainage. Where necessary, place geotextile fabric for improved stability.
 - i. Length: Minimum of 50 feet
 - ii. Width: Minimum of 12 feet wide with 20-foot radii at the existing road
 - iii. Material: 2"-3" coarse aggregate at a minimum of 6" thick
 - iv. Install a pipe under the construction entrance to maintain drainage along public roads where necessary. Divert all drainage to a sediment control device.

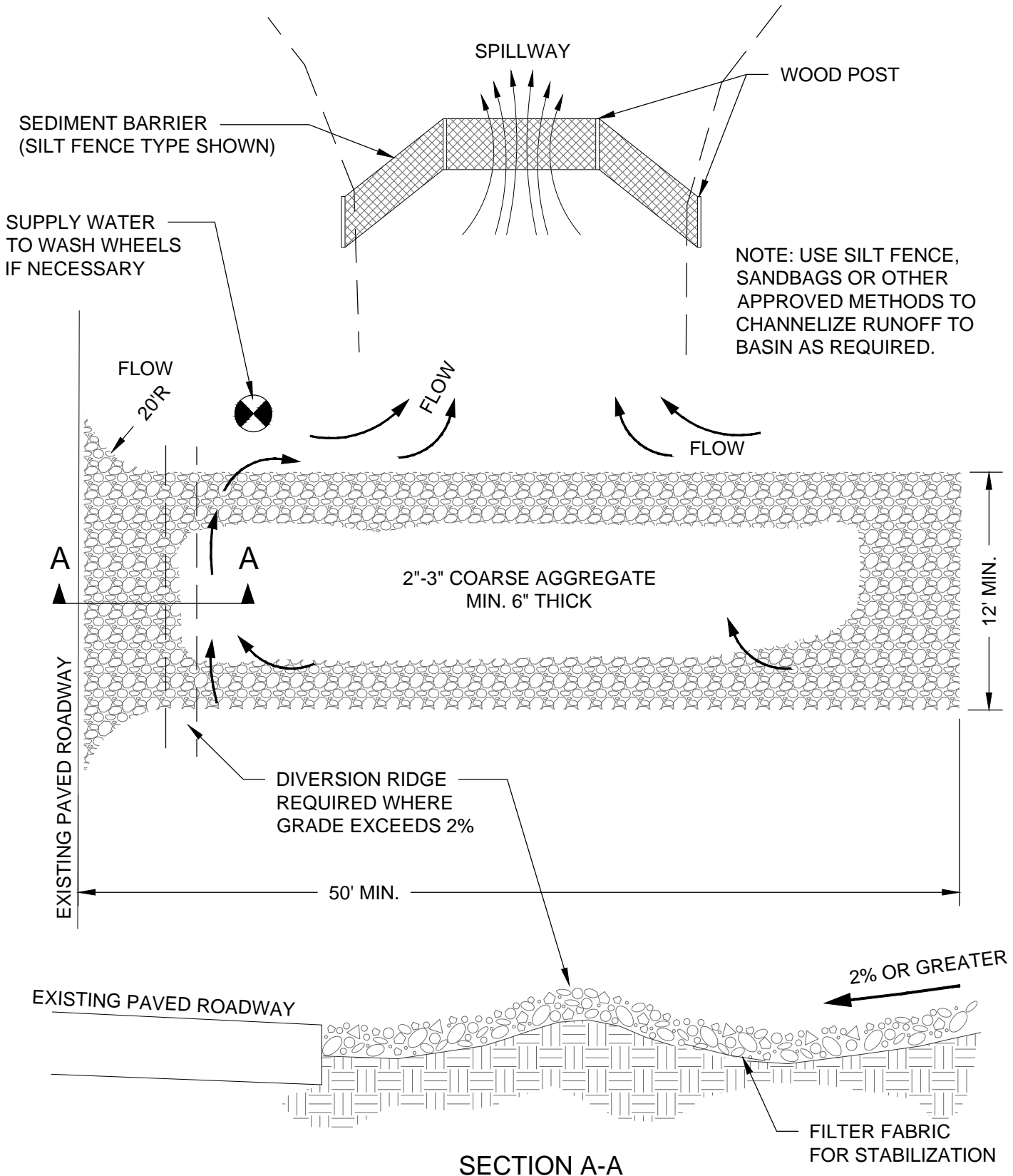
4. Maintenance:

The temporary construction entrance shall be inspected weekly and after ½" rainfall or greater. Also, reshape the coarse aggregate and top dress with clean aggregate as needed.

5. Removal:

When construction has been completed, return the area to its natural or proposed condition using permanent erosion and sediment control BMPs. Permanently stabilize disturbed areas.

TEMPORARY CONSTRUCTION ENTRANCE



2.0 Truck Washout Area

1. Description:

A specified area on the construction site used to wash trucks and remove dirt or sediment from tires and trucks.

2. Purpose:

To maintain/wash equipment in confined areas specifically designed to control runoff.

3. Design and Installation Standards:

- a. Location: Truck washout areas shall be designated by the contractor. The location shall not be subject to runoff and shall be more than 50 feet away from a storm drain, open ditch, or surface water.
- b. Design Standards:
 - The designated area shall be designed for the total collection of washout debris.
 - The area shall be constructed to allow for ease of debris removal.
- c. Wash water shall not be allowed into a sanitary sewer, storm drain, or onto soil or pavement carrying runoff.

4. Maintenance:

The truck washout area shall be inspected weekly and after ½" rainfall or greater. Reshape the coarse aggregate and top dress with clean aggregate as needed.

5. Removal:

When construction has been completed, return the area to its natural or proposed condition using permanent erosion and sediment control BMPs. Permanently stabilize disturbed areas.

3.0 Temporary Seeding:

1. Description:

Temporary seeding is the establishment of fast growing annual vegetation to prevent erosion and sediment runoff.

2. Purpose:

Temporary seeding is used as erosion prevention until permanent seeding is placed.

3. Design and Installation Standards:

a. Seeding:

- a. Temporary seeding shall be installed within 14 days after soil preparation and grading have been temporarily or permanently completed. All seeding areas shall be free of large rocks and other debris. The entire disturbed area except steep rocky slopes, shall be fertilized, seeded, and mulched. Topsoil shall be provided where necessary.
- b. Temporary seeding may be done any time of the year soil can be cultivated.

Fertilizer & Seed Type:	Seeding Rate (lb/1000 sq. ft.):
15-30-15 Fertilizer	3.0 – 4.0
Canada Rye	0.4 - 0.5
Sterile Wheat Grass	0.9 – 1.1
Grain Oats	0.9 – 1.1

b. Mulching:

- a. Mulch shall be spread uniformly over all disturbed areas and punched in the soil, unless otherwise noted on the plans. The suggested rate of application per acre for the mulching materials is 80 to 100 lb./1000 sq. ft., spread uniformly. The Riley County Engineer (Engineer) shall determine if the rate is sufficient for adequate protection of newly seeded areas.
- b. Agricultural products, such as native prairie hay, used for mulching and erosion control practices, shall meet the North American Weed Free Forage Standard. Other vegetative mulches are acceptable only with the Engineer's concurrence. Soil shall be stabilized on slopes greater than 6% using hydromulch, erosion control blanket, or approved equivalent.

4. Maintenance:

Temporary seeding will be monitored for bare spots, washouts, and healthy growth. Smoothing, reseeding, and stabilizing shall be performed where bare spots and/or washouts exist.

4.0 Permanent Seeding/Sodding:

1. Description:

Permanent seeding/sodding is the final surface treatment of all disturbed areas following the completion of construction activities. The final determination regarding areas to be permanently seeded shall be made by the Engineer.

2. Purpose:

Permanent seeding/sodding is used as permanent erosion prevention.

3. Design and Installation Standards:

a. Seeding:

- c. Permanent seeding shall be installed after construction activities are complete. All seeding areas shall be free of large rocks and other debris. The entire disturbed area shall be fertilized, seeded, and mulched. Topsoil shall be provided where necessary.
- d. Permanent seeding shall be done during normal growing seasons.
- e. All seeded areas shall be fertilized to provide one (1) pound of actual nitrogen per 1000 square feet.

The following table indicates the seeding rate for various common grasses:

Seed Type:	Seeding Rate (lb/1000 sq. ft.):
Bluegrass	1-2
Brome	0.3-0.5
K-31 Fescue	8-10
Perennial	4-8

b. Sodding:

- a. Sodded areas shall be graded to account for the thickness of sod. Top of the sod shall be at final grade as shown on the plans.

c. Mulching:

- a. Mulch shall be spread uniformly over all disturbed areas and punched in the soil, unless otherwise noted on the plans. The suggested rate of application per acre for mulching materials is 80 to 100 lb./1000 sq. ft., spread uniformly. The Engineer shall determine if the rate is sufficient for adequate protection of newly seeded areas.
- b. Agricultural products, such as native prairie hay, used for mulching and erosion control practices, shall meet the North American Weed Free Forage Standard. Other vegetative mulches are acceptable only with the Engineer's concurrence. Soil shall be stabilized on slopes greater than 6% using hydromulch, erosion control blanket, or approved equivalent.

3. Maintenance:

Permanent seeding will be inspected for bare spots, washouts, and healthy growth. Smoothing, reseeding, and stabilizing shall be performed where bare spots and/or washouts exist. The construction site is considered adequately stabilized when vegetation is at least 75% established across the entire site. It shall be the contractor's responsibility to ensure establishment.

5.0 Erosion Control Blanket/Mat:

1. Description:

Erosion Control Blankets are installed on steeper slopes and in areas where conventional seeding techniques are prone to washouts. They can be constructed from a variety of materials including, but not limited, to straw, wood, or plant fiber. These materials are attached to some type of synthetic or natural fiber netting.

2. Purpose:

Erosion control blankets promote soil stabilization and aid in control of erosion on steep slopes, ditches, swales, or in areas with highly erodible soils. They promote vegetative growth by absorbing moisture and protecting seeds.

3. Design and Installation Standards:

- a. Shall be used on all slopes greater than 4:1
- b. Prior to placing erosion control blankets, the area shall be final graded to a smooth surface free of debris.
- c. After seeding, Erosion Control Blankets shall be anchored firmly with continuous contact to the soil surface.
- d. Review the manufacturer's product specifications to determine proper placement and installation. At a minimum, the installation shall adhere to the typical placement shown in the figure.
- e. If a tracked machine is utilized, it shall be run up and down the slope rather than side to side.

4. Maintenance:

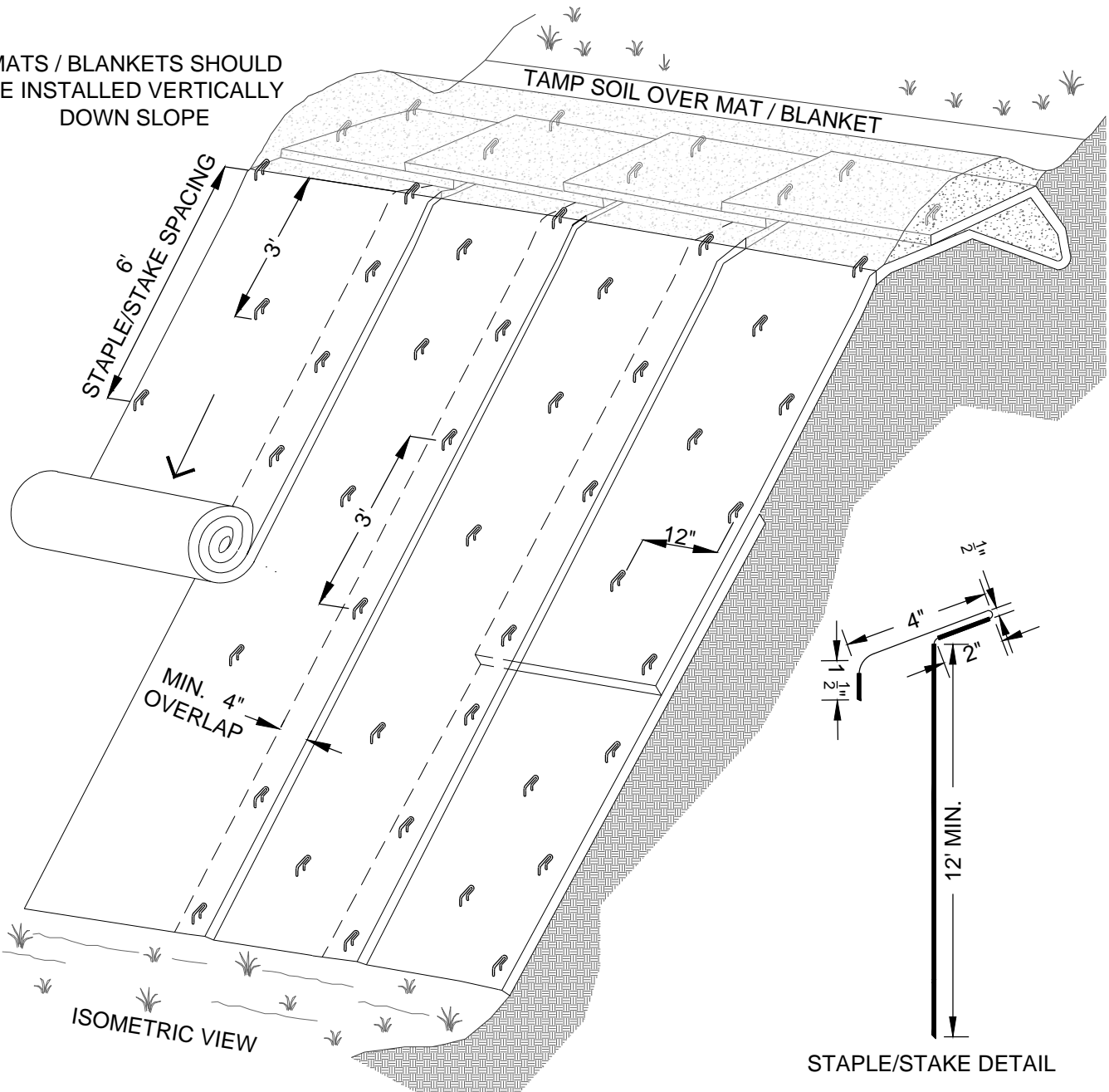
Inspect Erosion Control Blankets weekly and after $\frac{1}{2}$ " rainfall or greater until vegetation is established. If erosion occurs, pull back the Blanket, add soil, reseed, and tamp down before securing the Blanket in place. If the Erosion Control Blanket becomes damaged, the Contractor shall replace immediately.

5. Removal:

After vegetation has been securely established, remove stakes and leave the Erosion Control Blankets in place; they will biodegrade or photodegrade naturally over time. Vegetation is considered established when there is at least 75% coverage.

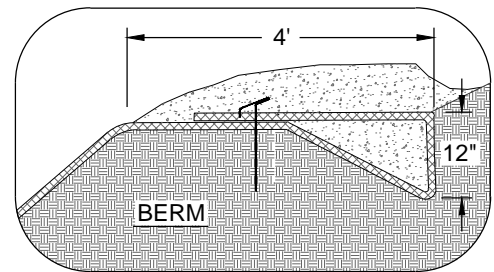
EROSION CONTROL BLANKET / MAT

MATS / BLANKETS SHOULD BE INSTALLED VERTICALLY DOWN SLOPE



TYPICAL SLOPE
SOIL STABILIZATION

STAPLE/STAKE DETAIL



TRENCH & BERM DETAIL

NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
4. INSTALL BLANKET ACCORDING TO MANUFACTURERS SPECIFICATIONS.

6.0 Silt Fence Erosion Protection:

1. Description:

Silt Fence is a temporary sediment control device used on construction sites to protect water quality in nearby streams, rivers, and lakes.

2. Purpose:

Silt fences are typically used in combination with sediment basins and sediment traps to retain sediment in places where soil is disturbed by construction processes.

3. Design and Installation Standards:

a. Silt Fence Barrier:

- i. Silt Fence shall conform to the AASHTO M288 96 Silt Fence specification.
- ii. Posts: Hard wood at least 2" square (nominal) by 4' long.
- iii. Silt Fence fabric shall be attached to posts with staples, wire, zip ties, or nails.
- iv. Location: Bottom of a slope where a ditch does not exist. The barrier shall be placed on level ground 5-10 feet from the bottom of a slope. The barriers shall be placed to prevent sediment from leaving the construction site.
- v. Prior to installation, excavate a trench the length of the area to be controlled 8" deep and 8" wide.
- vi. Roll out a continuous segment of silt fence fabric on the downslope side of the trench; line all three sides of the trench with fabric.
- vii. Backfill over the fabric in the trench and compact; 24" to 36" of silt fence fabric should remain exposed.
- viii. On the downstream side of the trench, drive posts into the ground to a minimum depth of at least 18", no more than 4' apart. Attach the silt fence to the posts.
- ix. For long slopes, silt fence shall be placed at the frequency/spacing recommended.

b. Silt Fence Barriers for Area Inlets:

- i. Silt Fence shall conform to the AASHTO M288 96 Silt Fence specification. Wire or mesh backing shall be used to support the silt fence fabric.
- ii. Posts: Hard wood at least 2" square (nominal) by 4' long.
- iii. The material used to frame the tops of the posts shall be 1" by 4" boards.
- iv. Silt Fence fabric and support backing shall be attached to the posts with staples, wire, zip ties, or nails.
- v. Prior to installation, excavate a trench around the perimeter of the area inlet a minimum of 8" deep by 8" wide.
- vi. Drive posts into the ground at a minimum depth of 18" with the posts being no more than 4' apart.
- vii. Connect the tops of all of the posts with a wooden frame made of 1" by 4" boards, using nails or screws for fastening.
- viii. Attach the wire or polymeric mesh backing to the outside of the post/frame structure.
- ix. Roll out a continuous segment of silt fence fabric long enough to extend around the area inlet plus the length of one side for overlapping the fabric joint. Line all three sides of the trench with fabric.
- x. Backfill over the fabric in the trench and compact; 24" to 36" of silt fence fabric shall remain exposed.

- xi. Attach the silt fence to the outside of the post/frame structure. The joint shall be overlapped to the next post.
- xii. When a Silt Fence Barrier for an Inlet is placed in a shallow ditch, make sure the top of the barrier is lower than the road

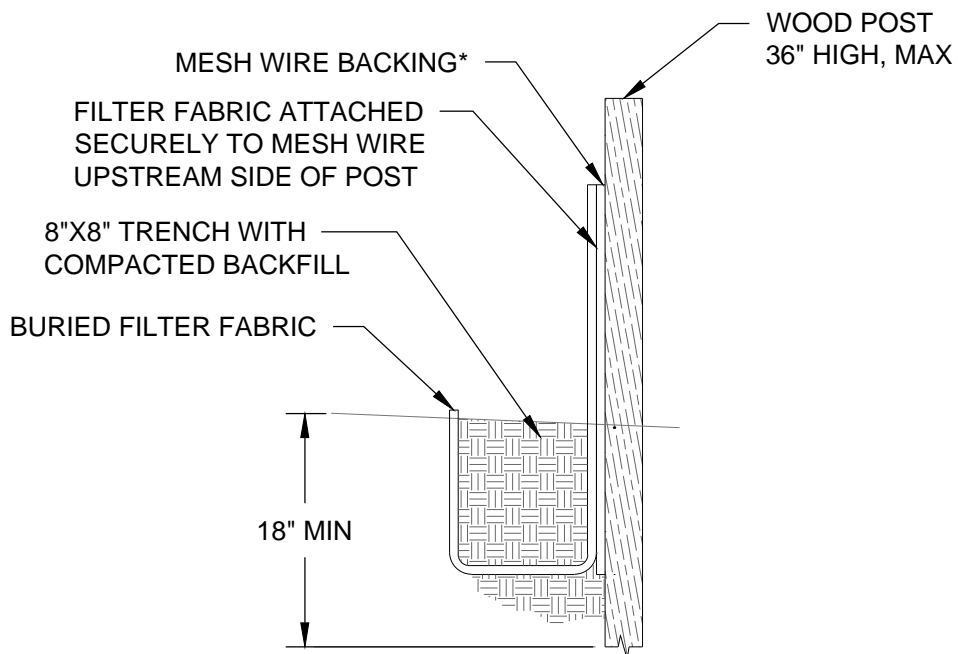
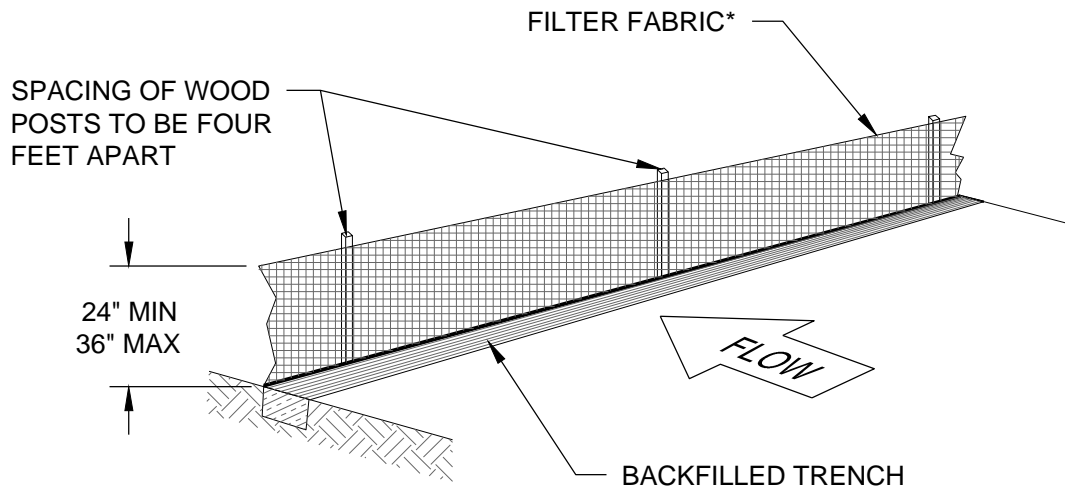
4. Maintenance:

Silt Fence barriers shall be inspected weekly and after $\frac{1}{2}$ " rainfall or greater. The inspector shall check for the following things: make sure water isn't flowing under the silt fence; the silt fence isn't sagging; the silt fence is still attached to the posts and is in good condition; and water isn't flowing around the silt fence. The Contractor shall remove sediment deposits when they exceed $\frac{1}{3}$ the height of the exposed silt fence. If the Silt Fence becomes damaged, the Contractor shall replace immediately.

5. Removal:

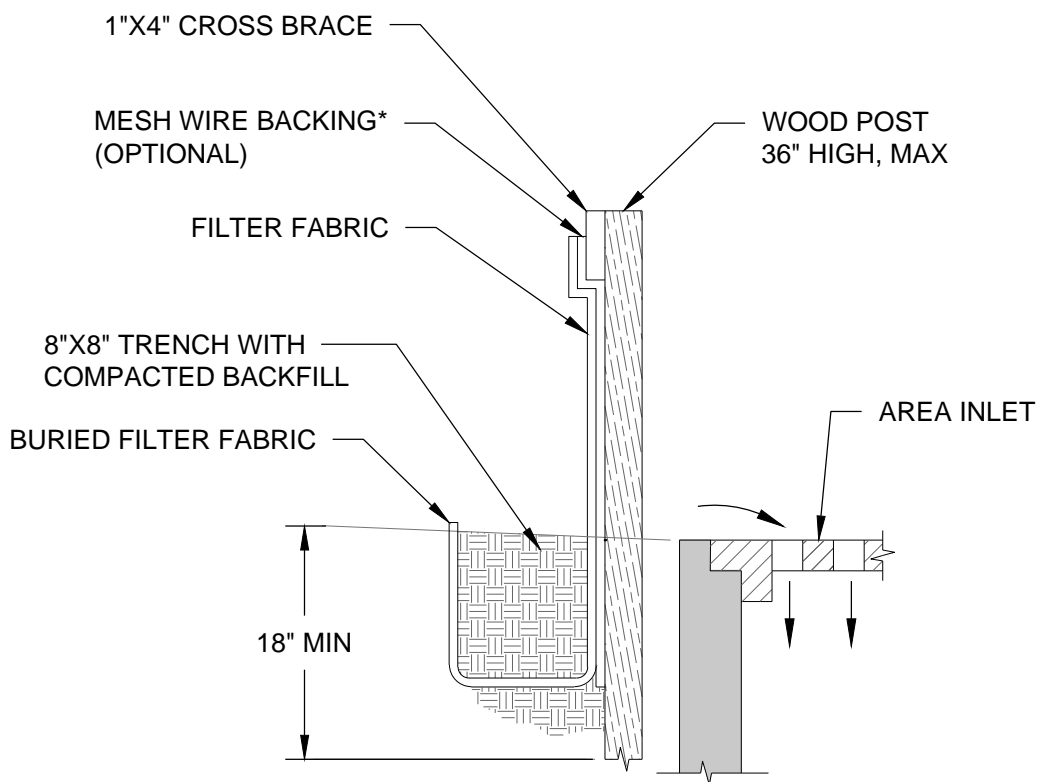
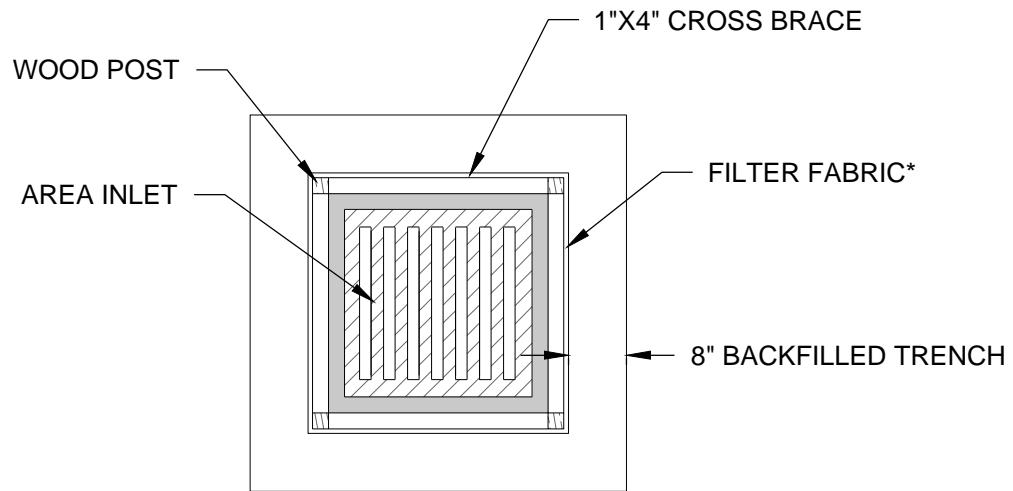
Silt Fence barriers shall be removed after they have served their useful purpose and after the disturbed areas have been permanently stabilized.

SILT FENCE BARRIER



*FOR ADDITIONAL STRENGTH, FILTER FABRIC MATERIAL CAN BE ATTACHED TO A 6" (MAX) MESH WIRE SCREEN WHICH HAS BEEN FASTENED TO THE POSTS

SILT FENCE BARRIER FOR AREA INLETS



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7.0 Biodegradable Logs, Wattles, & Filter Socks:

1. Description:

A three-dimensional filter (barrier) made up of biodegradable materials.

2. Purpose:

Logs, Wattles, & Filter Socks are typically used in combination with sediment basins and sediment traps to retain sediment in place where soil is being disturbed by construction processes.

3. Design and Installation Standards:

These sediment control products are effective on slopes, in channels, at inlets, and along perimeters. The appropriate product for a given application will be determined by the specific site conditions and environmental regulations.

The following table indicates typical barrier spacing and diameters:

Slope	Slope Length (feet)	Diameter (inches)
< 50:1	250	12
50:1 – 10-:1	125	12
10:1 – 5:1	100	12
3:1 – 2:1	50	18
>2:1	25	18

- a. Before installing barriers, heavy vegetation shall be cut down and uneven surfaces shall be leveled for optimum performance.
- b. Anchor barriers to the slope by driving stakes (hard wood at least 2" square (nominal)) through the center at 10-ft intervals and at bends. Stakes can also be placed on the downstream side.
- c. The ends of the barrier shall be directed upslope.

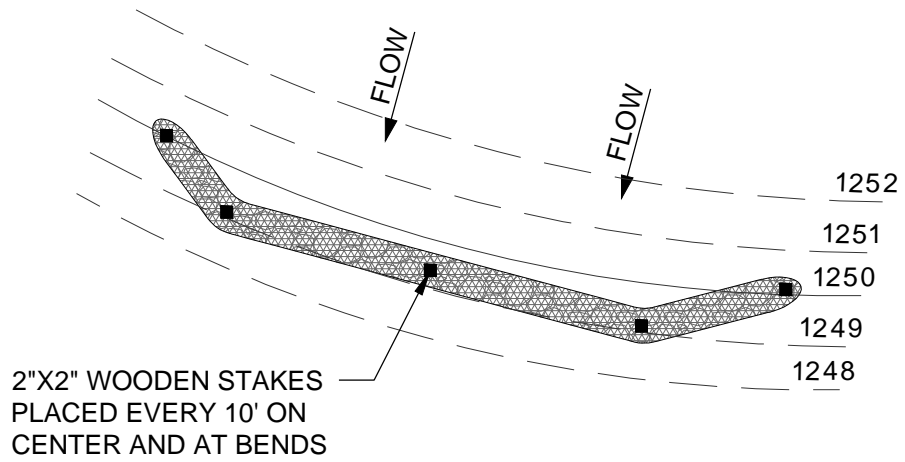
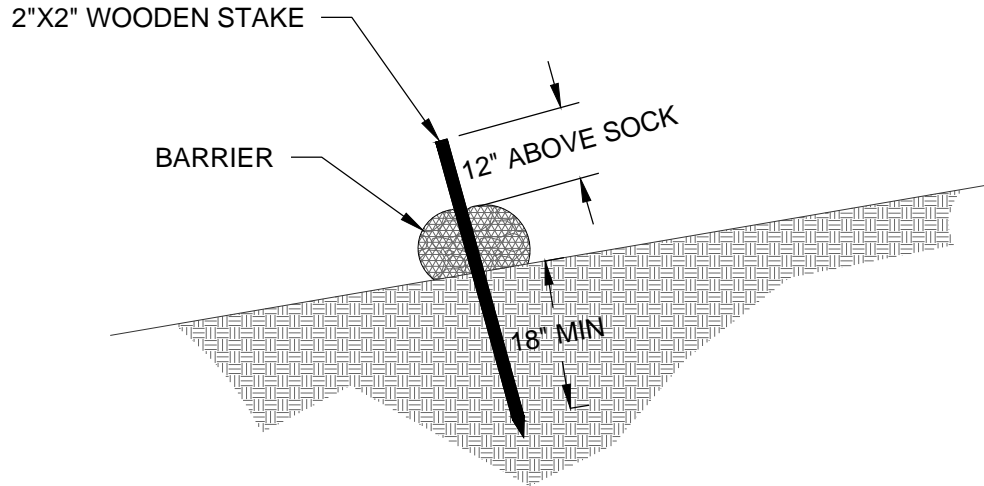
4. Maintenance:

Biodegradable barriers shall be inspected weekly and after ½" rainfall or greater. An additional barrier shall be added on top of or in front of the existing barrier if the barrier is sagging, ripped, if there is pooling behind the barrier, or accumulated sediment reaches the top of the barrier.

5. Removal:

There is no need to remove biodegradable barriers. Vegetation will either grow through them, or when they break open, the compost will become part of the soil.

BIODEGRADABLE LOGS, WATTLES, AND FILTER SOCKS



8.0 Limestone Riprap:

1. Description:

An erosion resistant ground cover consisting of dense durable stone, clean and free from dirt, cracks, seams, shale, or organic material.

2. Purpose:

Riprap is used to stabilize slopes, streambanks, channels, and areas subject to erosion due to concentrated runoff. Riprap is commonly used where the velocity of flow exceeds the capacity of the downstream area to resist erosion.

3. Design and Installation:

- a. The placement area shall be free of all vegetation and debris.
- b. Placement shall be on filter material of sand, gravel, or fabric.
- c. Excavate deep enough for both the filter and the riprap to be even and conform to the lines and grades of the plans.
- d. Riprap shall be graded as necessary to form a dense blanket.
- e. Size classifications and size requirements shall conform with those listed in the current edition of KDOT Standards Specifications for State Road and Bridge Construction.

4. Maintenance:

Riprap areas shall be inspected annually and corrective action shall be taken as necessary, including, but not limited to, debris removal, material replacement, and redistribution of material. All voids shall be filled appropriately. The subgrade liner shall not be visible when the work is completed.

5. Removal:

Limestone Riprap is a permanent form of erosion control and removal is not necessary.

9.0 Ditch Checks:

1. Description:

A Ditch Check is a small barrier constructed perpendicularly to drainage ditches or swales to reduce the velocity of flowing water in a channel.

2. Purpose:

Ditch Checks are used as a sediment control technique and an erosion prevention measure.

3. Design and Installation Standards:

Ditch Checks can be constructed out of straw bales, rock, silt fence, or approved material.

Ditch Check Spacing	
Ditch Grade (%)	Check Spacing (ft.)
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

a. Bale Ditch Checks:

- i. Materials: Small square bales of wheat straw, prairie hay, or brome grass free of noxious weeds.
- ii. Stakes: Hardwood material at least 2” square by 4’ long.
- iii. Biodegradable Sisal twine shall be used to bind the bales.
- iv. Placement: perpendicular to the flow line.
- v. Bale Ditch Checks shall be used for ditches with low flows and slopes less than 6%.
- vi. The ground level at the ends of the bale ditch check shall be higher than the top of the lowest center bale.
- vii. Excavate a trench perpendicular to the ditch flow line 6” deep and as wide as the bale. Extend the trench in a straight line the entire length of the proposed ditch check.
- viii. Place the bales in the trench, butted tightly together.
- ix. Drive two stakes in each bale along the centerline approximately 6”- 8” in from the bale ends. The stakes shall be a minimum 18” into the ground.
- x. Place and compact the excavated soil against the upstream side. The compacted soil shall be no more than 4” deep and extend no more than 2’ upstream.

b. Bale Ditch Check Maintenance:

Bale ditch checks shall be inspected weekly and after ½” rainfall or greater. The inspector shall check for the following: make sure water isn’t flowing around or under the ditch check or between bales; all bales are in their original locations; and all bales are in good condition. If necessary, the Contractor shall extend the length of the check, compact the soil around the bale check, secure loose bales, and replace damaged ones. The Contractor shall remove sediment from behind the ditch check when it reaches ½ of the original exposed height of the bales.

c. Limestone Ditch Checks:

- i. Materials: Stone shall comply with Section 1114 of the current KDOT Standard Specifications for State Road and Bridge Construction.
- ii. Placement: perpendicular to the flow line.
- iii. The ditch check shall extend far enough so the ground level at the ends of the check are higher than the low point on the crest of the check.
- iv. Excavate a trench 6 inches deep the entire width and length of the ditch check. Place rock 18"-24" high with side slopes no steeper than 1:1

d. Limestone Ditch Check Maintenance:

Ditch checks shall be inspected weekly and after ½" rainfall or greater. The inspector shall ensure: water isn't flowing around the ditch check, and no rocks have been displaced. The length of the ditch check shall be increased if water is flowing around it. If rocks are missing or displaced, replace immediately. Sediment shall be removed from behind the ditch check when it reaches ½ of the original exposed height.

e. Silt Fence Ditch Checks:

- i. Silt Fence shall conform to the AASHTO M288 96 Silt Fence specification.
- ii. Posts: Hard wood material at least 2" square (nominal) by 4' long.
- iii. Silt Fence fabric shall be attached to the posts with staples, wire, zip ties, or nails.
- iv. Silt Fence shall be placed in ditches with slopes of 6% or less where it is unlikely to be overtopped;
- v. Placement shall be perpendicular to the flowline.

Ditch Check Spacing for a Given Ditch Grade:

Ditch Grade (%)	Spacing (Feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

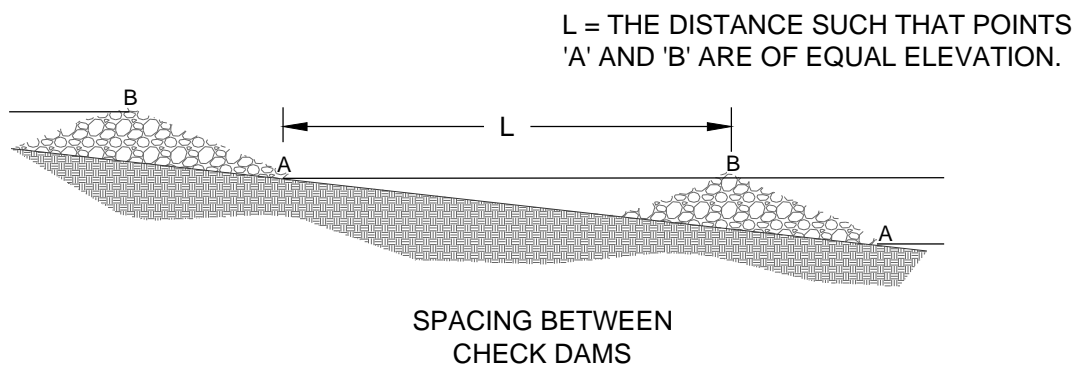
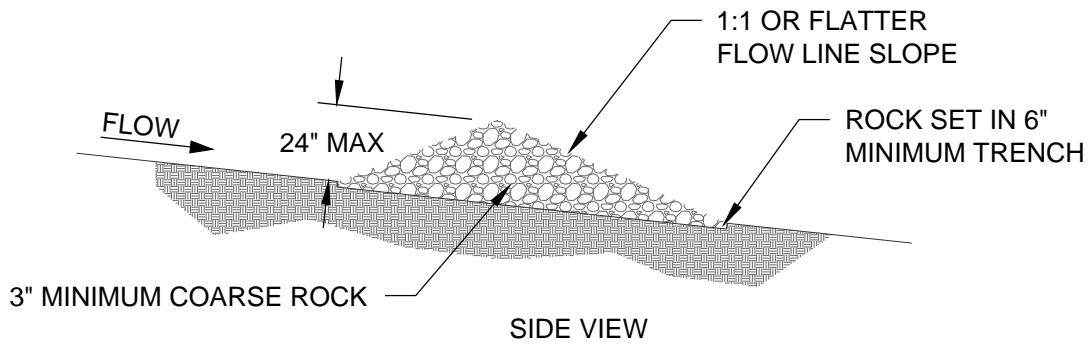
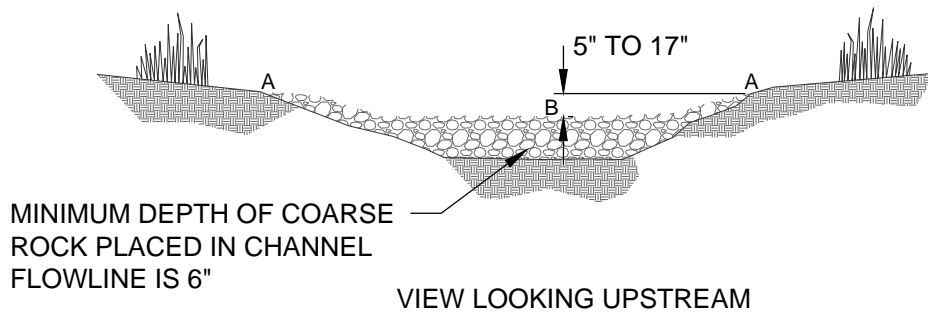
- vi. Excavate a trench perpendicular to the ditch flowline along the entire length of the proposed ditch check a minimum of 8" deep and 8" wide.
- vii. Roll out a continuous segment of silt fence fabric on the downstream side of the trench placing the edge of the fabric in the trench. Backfill over the fabric in the trench with the excavated soil and compact; 24" to 36" of silt fence fabric should remain exposed.
- viii. Just downstream of the trench, drive posts into the ground to a depth of at least 24"; place posts no more than 4' apart.
- ix. Attach the silt fence to the anchored posts.

f. Silt Fence Ditch Check Maintenance:

Silt Fence ditch checks shall be inspected weekly and after ½" rainfall or greater. The inspector shall check for the following: make sure water isn't flowing around or under the silt fence, the silt fence isn't sagging, the silt fence is still attached to the posts and is in good condition. The Contractor shall remove sediment deposits when they exceed 1/3 the height of the exposed silt fence.

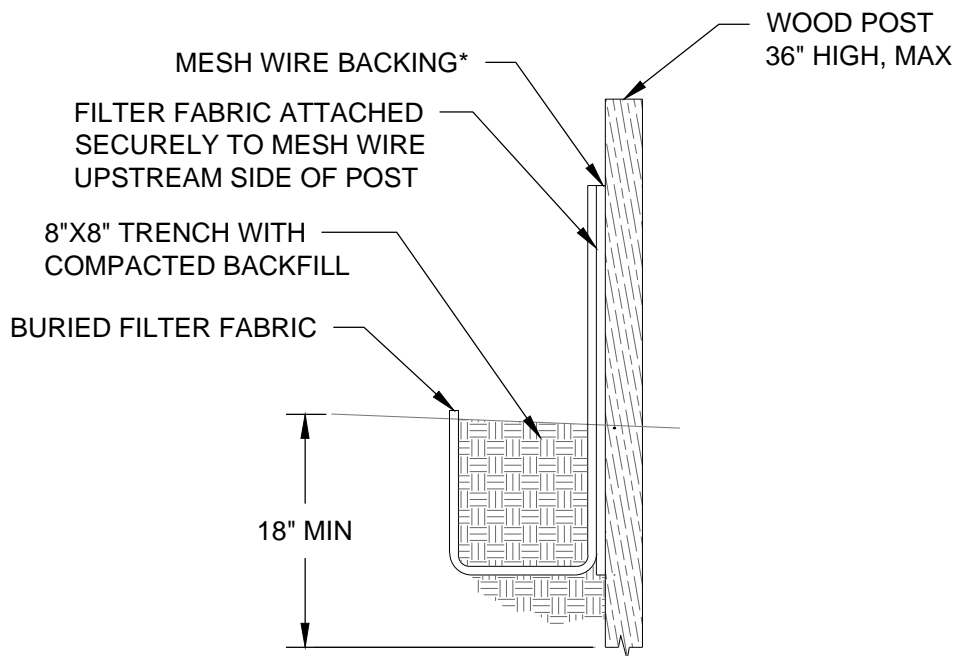
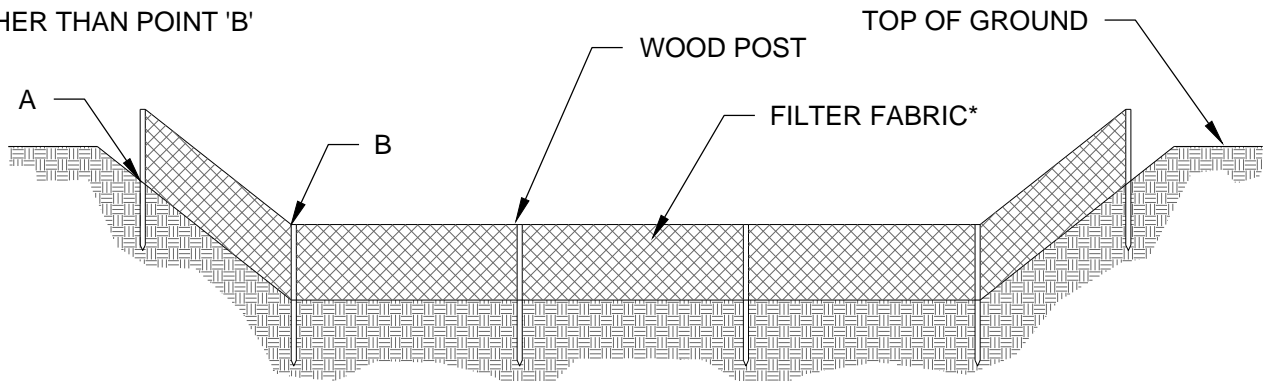
LIMESTONE DITCH CHECKS

NOTE: END POINTS 'A' MUST BE HIGHER THAN FLOW LINE POINT 'B'



SILT FENCE DITCH CHECK

NOTE: POINT 'A' MUST BE HIGHER THAN POINT 'B'



*FOR ADDITIONAL STRENGTH, FILTER FABRIC MATERIAL CAN BE ATTACHED TO A 6" (MAX) MESH WIRE SCREEN WHICH HAS BEEN FASTENED TO THE POSTS

10.0 Sediment Basin:

1. Description:

A sediment basin is a barrier or dam with a controlled storm water release structure.

2. Purpose:

A sediment basin is used to detain sediment laden runoff long enough for the majority of the sediment to settle out. It is most effective when used in conjunction with erosion control practices and other sediment control devices.

3. Design and Installation:

- a. All sediment basins shall be designed by a licensed engineer.
- b. Location: The sediment basin shall be located as close to the sediment source as possible.
- c. Dam foundation area shall be clear of all wood, vegetation, rocks, and other debris.
- d. Consult with the Engineer if seepage is encountered.
- e. Sediment basins must be enclosed with construction fencing and have warning signs posted.
- f. Divert sediment laden water to the upper end of the sediment pool to improve trap effectiveness at a low velocity (channel slope less than 1%).
- g. Design Specifications:
 - i. Dam Height: 10' or less
 - ii. Contributing Drainage Area: 50 acres or less
 - iii. Structure Life: 10 years or less
 - iv. Detention: Minimum of 25 hours
 - v. Sediment Storage: Minimum of 3600 ft³ per disturbed acre
 - vi. Trap Efficiency: Length to width ratio of the basin shall be 2:1 or greater; 5:1 is optimal.
- h. Dam Specifications:
 - i. Top Width: 6' minimum.
 - ii. Side slopes: 3:1 or flatter
 - iii. Settlement: Provide for a 10% minimum.
 - iv. Fill material: Stable moist soil compacted in lifts less than 8".
- i. Emergency Spillway:
 - i. Cross Section: Trapezoidal shaped with side slopes of 3:1 or flatter.
 - ii. Control Section: Straight and level; minimum of 20' long. Minimum width of 10'.
 - iii. Construct the spillway in an undisturbed area around one end of the embankment, located so any flow will return to the receiving channel without damaging the embankment.
 - iv. Stabilize the spillway as soon as grading is complete with vegetation or erosion control blankets.
- j. Principle Spillway:
 - i. Situate the spillway barrel and build dam
 - ii. Place a 4" lift of workable soil around and over the barrel. Compact until it is the density of the foundation soil.
 - iii. Install riprap a minimum of 5' wide and 10' long at the pipe outlet.

i. Erosion Control:

- i. Vegetate and stabilize all disturbed areas (except the lower ½ of the sediment basin) immediately after construction.

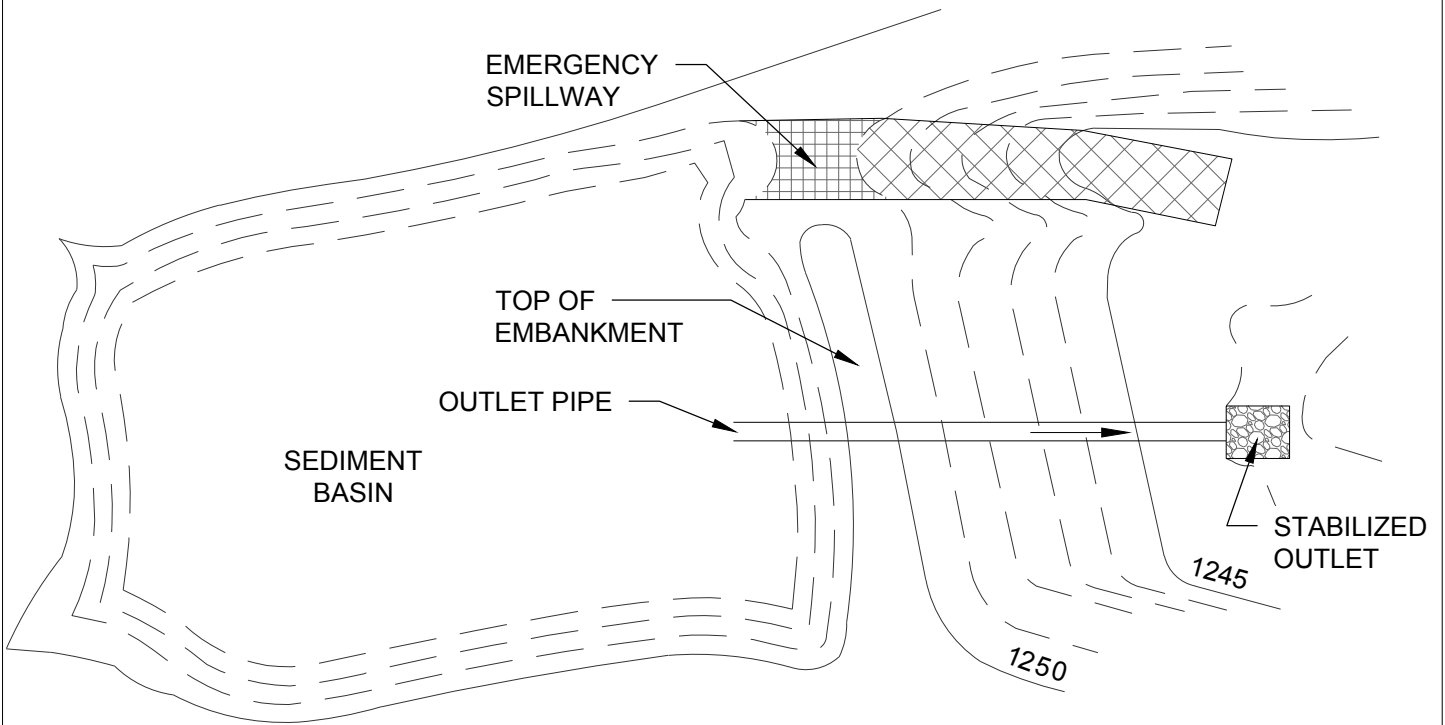
4. Maintenance:

Sediment basins shall be inspected after each storm event. The inspector shall check the embankment, emergency spillway, and outlet for erosion, piping, settling, seepage, or slumping around the barrel; if found, repair immediately. The Contractor shall remove trash and other debris from the outlet pipe, emergency spillway, and pool area. The Contractor shall remove sediment deposits when storage has been reduced by 20% of the original design storage volume.

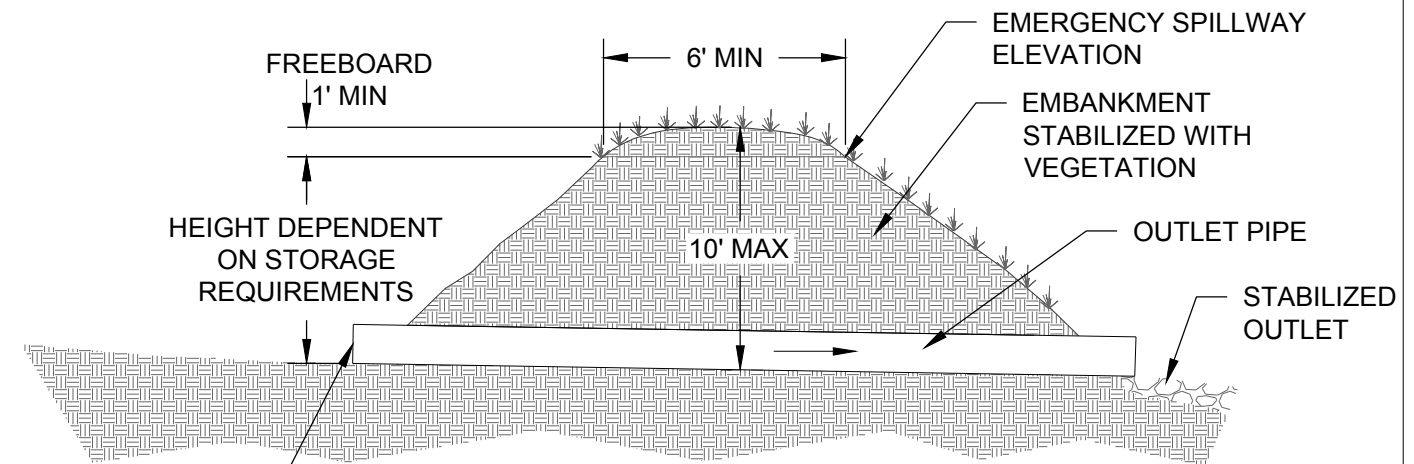
5. Removal:

- a. Remove the basin after the drainage area has been permanently stabilized, inspected, and approved.
- b. Drain water, remove sediment, and smooth the site to blend with the surrounding area.

SEDIMENT BASIN



PLAN



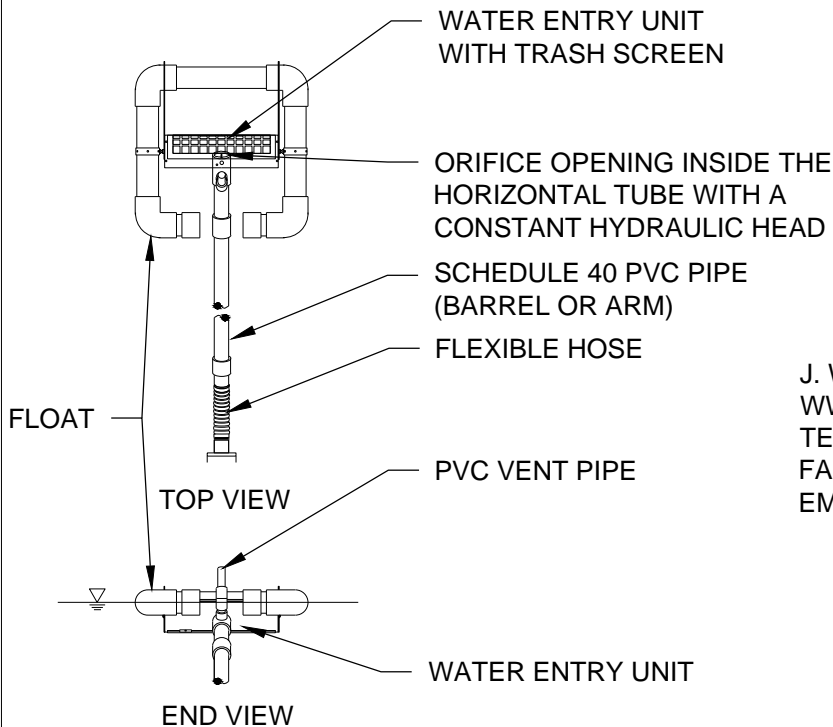
SECTION

NOTES:

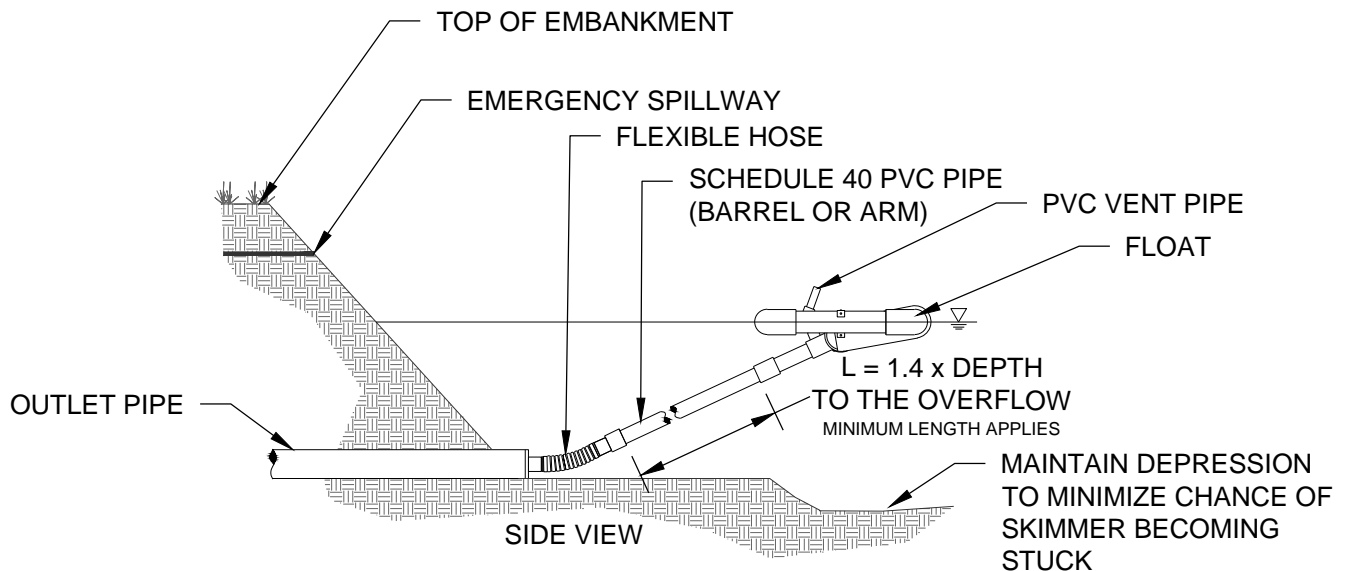
1. THE TEMPORARY SEDIMENT BASIN, DESIGNED BY A QUALIFIED PROFESSIONAL, IS REQUIRED FOR DISTURBED AREAS GREATER THAN 10 ACRES WITHIN A DRAINAGE AREA LESS THAN 50 ACRES.
2. THE SEDIMENT BASIN SHALL BE REMOVED AFTER THE DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, INSPECTED, AND APPROVED.

SEDIMENT BASIN OUTLET PIPE INLET OPTIONS

OPTION 1: FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH EMBANKMENT



J. W. FAIRCLOTH & SON INC.
 WWW.FAIRCLOTHSKIMMER.COM
 TELEPHONE: (919) 732-1244
 FAX: (919) 732-1266
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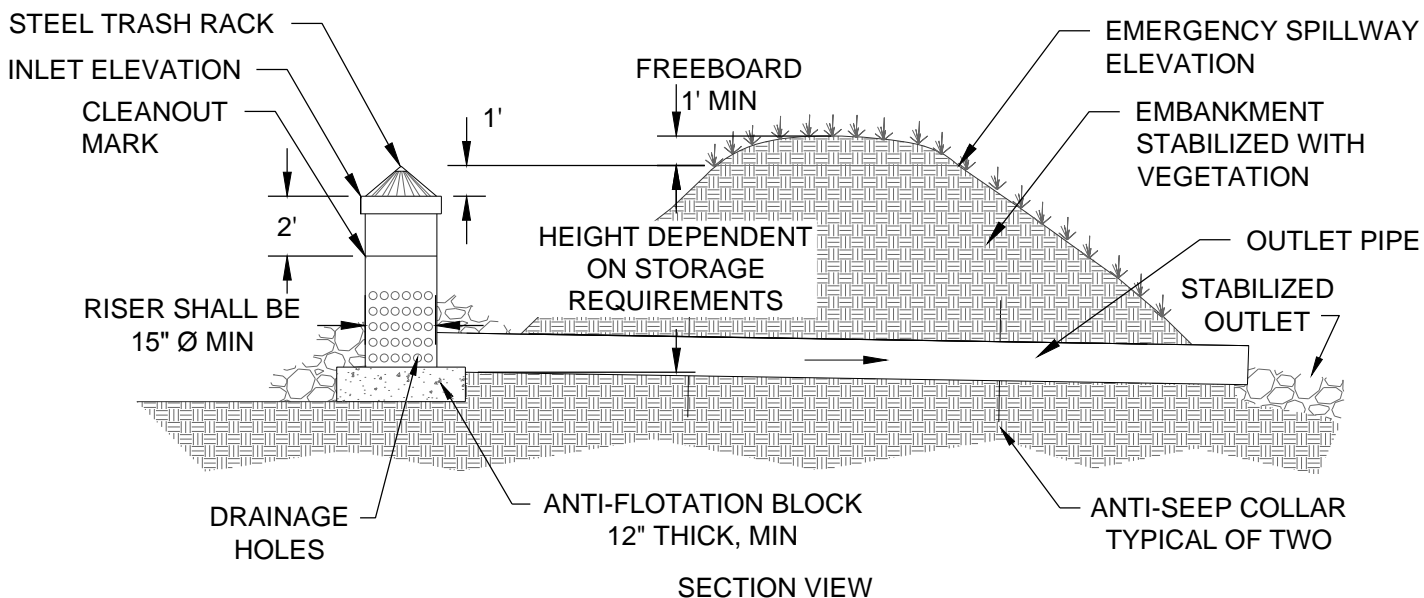


GENERAL NOTES:

1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.

SEDIMENT BASIN OUTLET PIPE INLET OPTIONS

OPTION 2: STAND PIPE WITH TRASH RACK



* PERFORATE THE LOWER HALF OF THE RISER WITH $\frac{1}{2}$ " DIAMETER HOLES SPACED 3" APART.

SEDIMENT BASIN OUTLET PIPE INLET OPTIONS

OPTION 3: STRAW BALES

