KANSAS DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION CONTROL MANUAL

SECTION 2 TEMPORARY DEVICES

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SECTION 2 TEMPORARY DEVICES

BIODEGRADABLE LOG AND FILTER SOCK DITCH CHECK AND PERIMETER CONTROLS

Purpose and Operation

Biodegradable logs and filter socks are devices used for ditch checks, slope interruption, or inlet protection. They provide sediment control by reducing the water velocity allowing the soil particles to drop out of the water column.

To view KDOTs Standard Drawings for a biodegradable log ditch check select the following links which show the detailed drawings with relevant design information: <u>Landscape Standard LA 862G</u> and <u>Landscape Standard LA 852E</u>. These links can also be found on KDOTs KART webpage with a free account.

Design

Material Specification

- For low flow, construct logs using compost.
- For high flow, construct the logs using excelsior/wood chips/coconut fiber.
- Do not use straw logs for ditch checks.
- Stakes shall be wood or steel according to KDOTs Standard Specifications <u>Section 2114 Silt Fence</u>. Length of stakes shall be a minimum of 2 times the diameter of the log.
- For further specifications regarding biodegradable logs and filter socks refer to KDOTs
 Standard Specifications <u>Section 902 Temporary Erosion and Sediment Control.</u> See additional Special Provisions for KDOTs Standard Specifications (<u>Division 900</u>).

Placement

- Biodegradable logs and filter socks shall extend up the fore and back slopes 4" vertically above the top of the device in the ditch bottom. See <u>Landscape Standard LA 852G</u>.
- Overlap sections a minimum of 18".
- Each log (except compost filter logs) should be keyed into the ground at a minimum of 25% of its height. Compost filter socks should be placed on smooth prepared ground with no gaps between the log and soil.
- Stakes need to be placed along the log with a maximum width of 4' between them.
- The tables on <u>Landscape Standard LA 852E</u> provide the spacing details for biodegradable logs and filter socks when being used as ditch checks.

Installation

Proper Installation Method

- Excavate a trench along the length of the planned biodegradable log so that the depth of the trench is 25% of the height of the biodegradable log. Verify that the trench is excavated inside of a channelized flow path.
- Install the biodegradable logs perpendicular to flow of water and parallel to the slope contour.
- Optional: A downstream apron is required when directed by the Engineer or Designer.

• Once the biodegradable logs have been installed and anchored, excavated soils should be placed on both sides of the device and compacted to minimize water piping under the device.

List of common placement/installation mistakes to avoid

- Follow the prescribed ditch check spacing guidelines. If spacing guidelines are exceeded erosion will occur between the ditch checks.
- Do not allow water to flow around the ditch check. Verify that the ditch check is long enough so that the ground level at the ends of the check is higher than the top of the center of the log.
- Do not place biodegradable log ditch checks in channels with shallow soils underlain by rock. If the check is not anchored sufficiently, it will wash out.

Inspection and Maintenance

Biodegradable log ditch checks should be inspected at least once within every 7-day inspection monitoring period. The following is a general list of questions that should be addressed during each inspection:

Does water flow around the ditch check?

This is usually caused by insufficient ditch check length. If this occurs, extend the check far enough so that the ground level at the ends of the check is higher than the top of the lowest center log.

Does water flow under the ditch check?

This is usually caused by the log not having full contact with the soil surface and not properly staked. If the problem is insufficient compaction, add more soil directly upstream of the check and recompact. If the problem is improperly trenched logs, the entire check should be removed and a new one installed, using the proper trench depth.

- Are logs degrading due to age and/or water damage?
 Inspect the logs for signs of decomposition or damage and replace as necessary.
 - Is there significant erosion between the ditch checks?

This is because there is too much space in between ditch checks. Install an additional ditch in between and follow the spacing guide for installation.

Is there significant scour on the downstream side of the ditch check?

This is usually caused by too much water flowing into the ditch. Either install the optional apron on the downstream side of the biodegradable log or consult Engineer or Designer for alternative measures.

ROCK DITCH CHECK

Purpose and Operation

Rock ditch checks operate by intercepting and ponding sediment-laden runoff. Ponding the water dissipates the energy of any incoming flow and allows a large portion of the suspended sediment to settle out. Water exits the ditch check by flowing over its crest. Rock ditch checks are ideal for ditches that will eventually have a riprap lining. Upon completion of the project, the rock ditch checks can be spread out to form the riprap channel lining. Only use rock ditch checks where the ditch slope is 5% or greater.

To view KDOTs Standard Drawings for a rock ditch check select the following links which show the detailed drawings with relevant design information: <u>Landscape Standard LA 862G</u> and <u>Landscape Standard LA 852E</u>. These links can also be found on KDOTs KART webpage with a free account.

Design

Material Specification

- Rock ditch checks should be constructed of clean aggregate, D50-6" and aggregate filler.
- Aggregate excavated on site may be used as an alternate to the 6" rock, if approved by the Engineer or Designer.
- Aggregate filler will comply with Filter Course Type 1, see KDOTs Standard Specifications
 <u>Section 1114 Stone for Riprap, Ditch Lining, and Other Miscellaneous Uses</u>. See additional
 Special Provisions for KDOTs Standard Specifications (<u>Division 1100</u>).
- For further specifications regarding a ditch check refer to KDOTs Standard Specifications <u>Section</u> 902 – <u>Temporary Erosion and Sediment Control</u>. See additional Special Provisions for KDOTs Standard Specifications (<u>Division 900</u>).

Placement

- Rock ditch checks should be placed perpendicular to the flow line of the ditch.
- Rock ditches must be designed so that water can flow over them and not around them. The ditch check should extend far enough so that the ground level at the ends of the check are higher than the low point on the crest of the check.
- Rock ditch checks are best located in ditches that will eventually be lined with riprap so that the
 rock won't have to be removed at the completion of construction.
- The Engineer or Designer may approve the use of larger aggregates for the downstream portion of the check when conditions warrant their use.
- When the use of larger rock is approved, D50-6" rock will be placed between the larger aggregate and the aggregate filler.
- Aggregate filler will be placed on the upstream face of the ditch check.
- The table on <u>Landscape Standard LA 852G</u> provides ditch check spacing for a given ditch grade.

Installation

Proper Installation Method

• Using approved aggregate material, construct a rock ditch check perpendicular to the ditch flow line. The ditch check should be 2' high and have side slopes no steeper than 1:1. The rock ditch check must be constructed so that water can flow over the top and not around the ends (i.e., the

- ground level at the ends of the ditch check must be higher than the low point on the crest of the ditch check).
- The ditch area shall be reshaped to fill any eroded areas. Prior to placement of the rock, the ditch shall be excavated to the dimensions of the rock ditch check and to a minimum of 6" depth. After placement of the rock, backfill and compact any over-excavated soil to ditch grade.

List of common placement/installation mistakes to avoid

- Increasing the spacing between ditch checks. If spacing guidelines are exceeded, erosion may occur between the ditch checks.
- Do not allow water to flow around the ditch check. Confirm that the ditch check is long enough so that the ground level at the ends of the ditch check are higher than the low point on the crest of the ditch check.

Inspection and Maintenance

Rock ditch checks should be inspected at least once within every 7-day inspection monitoring period. The following is a general list of questions that should be addressed during each inspection:

Does water flow around the ditch check?

This is usually caused by insufficient ditch check length. If this occurs, extend the check a sufficient length so that the ground level at the ends of the check are higher than the low point on the crest of the check.

Have high-velocity flows displaced any stones from the check?

Sometimes high-velocity flows can carry away portions of a rock ditch check. After a large rainstorm, inspect the rock ditch check for any displaced stones. If a large portion of a rock ditch check has washed away, fill in the void with new stone immediately. If stones from the ditch check are constantly displaced, consult the Engineer or Designer about increasing the diameter of rock used to construct the ditch check or decreasing the distance between ditch checks to further reduce high-velocity-flows.

Does sediment need to be removed from the ditch check?

Sediment accumulated in front of the ditch check should be removed when it reaches one-half of the original exposed height of the rock ditch check. Allowing too much sediment to accumulate in front of a ditch check drastically reduces its effectiveness. One high-intensity rainfall can dislodge enough sediment from surrounding slopes to completely fill the space behind the ditch check. Therefore, it is extremely important to inspect ditch checks within 24 hours of a large rainfall event. The easiest way to remove sediment from in front of a rock ditch check is with a bulldozer or backhoe.

Please refer to the project specific SWP2, Contract Documents, and detailed drawings for additional inspection and maintenance criteria.

TEMPORARY BERM

Purpose and Operation

A temporary berm operates by diverting stormwater runoff to stabilized slopes or a temporary slope drain. The temporary berm is used in conjunction with the slope drain whenever stormwater needs to be carried down fill slopes and cut backslopes. This device can be used on either project fore slopes or backslopes depending on where it is most needed. This device may also be used for storm sewer culvert protection.

To view KDOTs Standard Drawings for the temporary berm with and without the slope drain option, select the following link which shows the detailed drawing with relevant design information: <u>Landscape Standard LA 852B</u>. This file can also be found on KDOTs KART webpage with a free account.

Design

Material Specification

- Compacted fill for berm and surface of berm.
- 6" metal, plastic, or flexible rubber pipe for optional temporary slope drain.
- Rock dissipator or other approved material for optional temporary slope drain.
- For further specifications regarding the temporary berm refer to KDOTs Standard Specifications <u>Section 902 – Temporary Erosion and Sediment Control.</u> See additional Special Provisions for KDOTs Standard Specifications (<u>Division 900</u>).

Placement

- Temporary berms can be placed on either project fore slopes or back slopes. It may also be placed at the inlet of storm sewer culverts.
- The length of a slope drain is determined by the length that is required to contain and direct runoff to the optional slope drain or sediment basin.
- The optional slope drain is placed in conjunction with berms whenever the flow of runoff needs to be discharged into a stabilized ditch or sediment basin without causing erosion.
- The length of the optional slope drain needs to match the height of the slope as earth operations progress.

Installation

Proper Installation Method

- Construct temporary berms with a 2' minimum width. Construct the berm using compacted fill and compact the berms until no further consolidation is observed, using a dozer track, grader wheel or other equipment. The slope of the berm should be a maximum of 2:1.
- If an optional temporary slope drain is being installed construct it as shown in the contract documents. The length of the specified slope drainpipe will depend on the height of the slope. The pipe will outflow at a rock dissipator and will discharge into a stabilized ditch or sediment basin.
- When the project is finished and the berm is no longer needed, remove the berm to blend with the natural ground. Remove any type of temporary slope drain if applicable.

List of common placement/installation mistakes to avoid

- Do not undersize the temporary berm or the flows from the site will overtop the berm and will cause the structure to become ineffective.
- Do not use fill that is uncompacted or it will lead to a breakdown of the temporary berm.

Inspection and Maintenance

A temporary berm should be inspected at least once within every 7-day inspection monitoring period. The following is a general list of questions that should be addressed during each inspection:

Is erosion occurring at the outlet of the temporary berm's slope drain?

If yes, this is due to the outlet of the berm not being stabilized and will require BMP's to be designed and installed to prevent this erosion at the outfall.

Is the structure falling apart after rainfall events?

This is most likely because the berm was not constructed using compacted fill. If this is occurring use a dozer track, grader wheel or other equipment to further compact the fill that is used to construct the berm.

Is the berm experiencing erosion at high rates?

This high rate of erosion may be caused by too steep of a slope to the temporary berm. Confirm that the slope is 2:1 and if it is more restructure it to match this slope requirement.

Please refer to the project specific SWP2, Contract Documents, and detailed drawings for additional inspection and maintenance criteria.

TEMPORARY STREAM CROSSING

Purpose and Operation

A temporary stream crossing minimizes construction traffic from fording a waterway during a construction project. KDOT stream crossings can be surfaced with either articulated concrete blocks or aggregate fill. To view KDOTs Standard Drawings for the two temporary stream crossing options, select the following link which shows the detailed drawing with relevant design information: <u>Landscape Standard LA 852B</u>. This file can also be found on KDOTs KART webpage with a free account.

Design

Material Specification

- Articulated concrete blocks with filter fabric or clean aggregate fill for surface of stream crossing.
- Steel pipes with a minimum pipe size of 12". Note that design flow calculations will determine required number and diameter of pipes after review and approval from Engineer or Designer.
- Clean aggregate fill to cover the pipe(s).
- For further specifications regarding temporary stream crossings refer to KDOTs Standard Specifications <u>Section 902 – Temporary Erosion and Sediment Control.</u> See additional Special Provisions for KDOTs Standard Specifications (<u>Division 900</u>).

Placement

- Place one pipe buried 6" into the stream bottom at the lowest point of the channel.
- Pipes should be placed parallel to the channel flow.
- Additional pipes may need to be placed to avoid overtopping. Engineer or Designer to specify based on conveyance capacity in the stream.
- Depending on the crossing type, place either more aggregate or articulated concrete blocks on top of this aggregate fill to allow for traffic crossings to occur. Engineer or Designer to specify.
- Temporary stream crossings should be constructed in the areas where they will cause the least amount of disturbance to the stream and adjacent vegetation.

Installation

Proper Installation Method

 Prior to construction, record and document existing stream channel elevations and adjacent vegetation types.

- Excavate the foundation in the stream for the stream crossing and divert the stream flow to a bypass channel during installation.
- Place one pipe buried 6" into the stream bottom at the lowest point in the channel to allow the passage of aquatic organisms. Place additional pipes along the remainder of the stream bottom if necessary for conveyance flows.
- Cover these pipes with a minimum of 12" of clean aggregate fill.
- Remove crossing as soon as it is no longer needed. Restore the streambed and bank areas to their preexisting conditions.
- Refer to the Contract Documents for any project specific requirements.

List of common placement/installation mistakes to avoid

- Avoid steep slopes on the embankment of the channel which can create safety hazards.
- Do not place the pipes in a direction that will alter/inhibit stream flow.
- Stream crossings should not have a pipe that is set above the low point of the stream channel.
- Use of "dirty" or repurposed aggregate fill material in the construction of temporary stream
 crossings can increase silt/sediment pollution into the stream during construction. In addition,
 minimize the amount of fines contained with the aggregate fill used for construction of temporary
 stream crossings.

Inspection and Maintenance

A temporary stream crossing should be inspected at least once within every 7-day inspection monitoring period. The following is a general list of questions that should be addressed during each inspection:

- Are the embankment slopes of the temporary stream crossing eroded?
- This is caused by improper grading of the embankment slopes and should be repaired with erosion protection measures to stabilize the slopes surrounding the crossing.
 - Is the streambank caving in or is erosion occurring below the pipe of the temporary stream crossing?

This is due to erosion control measures not being in place at the entrance and exit of the temporary stream crossing. Add appropriate stabilization measure for adequate protection such as rip rap.

- Is the roadway or surface of the temporary stream crossing overtopping with water?

 This could be occurring for a variety of reasons including incorrect pipe diameter, not enough piping placed underneath/within the temporary steam crossing, or the pipe placement is too high, relative to the streambed. The Engineer or Designer either needs to redesign the pipe system to meet the needs of the stream or reevaluate the location of the pipe.
- Is there debris or materials blocking the flow of water through the pipes?

 Streams naturally carry debris and other materials. If flow is obstructed, remove the debris or material from the blocked areas.

BIODEGRADABLE LOG SLOPE INTERRUPTION

Purpose and Operation

Biodegradable logs are devices used for ditch checks, slope interruption, or inlet protection. They prevent erosion by slowing the rate of water leaving a site and catching the sediments that are in that runoff. For slope interruption purposes the primary use is to slow sheet flow and collect sediments on a slope.

To view KDOTs Standard Drawings for a biodegradable log slope interruption select the following link which shows the detailed drawing with relevant design information: <u>Landscape Standard LA 852D</u>. This file can also be found on KDOTs KART webpage with a free account.

Design

Material Specification

- For low flow, construct logs using straw/compost.
- For high flow, construct the logs using excelsior/wood chips/coconut fiber.
- Stakes shall be 2"x2" (Nom.).
- Stakes shall be wood or steel according to KDOTs Standard Specifications <u>Section 2114 Temporary Sediment Barriers</u>. Length of stakes should be 2 times the height of the log at a minimum with minimum ground embedment equal to the height of the log.
- The table on <u>Landscape Standard LA 852D</u> includes the guide to sizing the biodegradable log based on the slope gradient.
- For further specifications regarding the biodegradable log refer to KDOTs Standard Specifications <u>Section 902 – Temporary Erosion and Sediment Control</u> and <u>Section 2114 – Temporary Sediment Barriers</u>. See additional Special Provisions for KDOTs Standard Specifications (<u>Division 900</u> and <u>Division 2100</u>).

Placement

- Place as many biodegradable logs as necessary so that water does not flow around the end of the slope.
- Place logs tightly together with a minimum overlap of 18".
- Each log (except compost filter logs) should be keyed into the ground at a minimum of 25% of its height. Compost filter socks should be placed on smooth prepared ground with no gaps between the log and soil.
- Stakes need to be placed along the log with a maximum width of 4' between them.

Installation

Proper Installation Method

- Excavate a trench the length of the planned slope interruption that is 25% of the height of the log deep and a log's width wide. Confirm that the trench is excavated along a single contour. When practicable, slope interruptions should be placed along contours to avoid a concentration of flow.
- Place the logs in the trench close together to avoid any gaps between them. Stakes should be driven into the logs with a 4' maximum distance between the stakes.
- Optional: A downstream apron is required when directed by the Engineer or Designer. Apron material will be paid at the contract unit price.

List of common placement/installation mistakes to avoid

- When practicable, do not place biodegradable log slope interruptions across contours. Slope
 interruptions should be placed along contours to avoid concentrated flows. Concentrated flow
 over a slope interruption can cause it to degrade faster and lead to scour.
- Do not place biodegradable slope interruptions in channels with shallow soils underlain by rock. If the log is not anchored sufficiently, it will wash out.
- Do not allow the slope interruption length to exceed 250'.

Inspection and Maintenance

Biodegradable log slope interruptions should be inspected at least once within every 7-day inspection monitoring period. The following is a general list of questions that should be addressed during each inspection:

Are there any points along the slope interruption where water is concentrating?

When slope interruptions are not placed along contours, water concentrates at low points of the slope interruption. This concentrated flow usually causes a failure of the slope interruption. Even if the interruption does not fail, the concentration of flow drastically reduces the overall storage capacity of the slope interruption. The only solution to this problem is reinstalling the slope interruption (or sections of it) so that it is level.

Does water flow under the slope interruption?

This is usually caused by the log not having full contact with the soil surface and not properly staked. If the problem is insufficient compaction, add more soil directly upstream of the check and recompact. If the problem is improperly trenched logs, the entire check should be removed and a new one installed, using the proper trench depth.

- Are logs decomposing due to age and/or water damage?
 Inspect the logs for signs of decomposition or damage and replace as necessary.
- Is there significant scour on the downstream side of the slope interruption? This is usually caused by too much water flowing into the log. Either install the optional apron on the downstream side of the biodegradable log or consult design Engineer or Designer for alternative measures.
- Is the biodegradable log undercut, scoured out, or incorrectly trenched in?
 Biodegradable logs that have been undercut, scoured out, or incorrectly trenched in should be retrenched.

SILT FENCE SLOPE INTERRUPTION

Purpose and Operation

Silt fence slope interruptions operate by intercepting and ponding sediment-laden slope runoff. Ponding the water reduces the velocity of the incoming flow and allows most of the suspended sediment to settle out. Water exits the silt fence by percolating through the silt fence fabric. Silt Fence Slope Interruptions should only be used as perimeter controls at the base of sheet flow areas. Do not use as intermediate interruptions on a slope!

To view KDOTs Standard Drawings for a silt fence slope interruption select the following link which shows the detailed drawing with relevant design information: <u>Landscape Standard LA 852D</u>. This file can also be found on KDOTs KART webpage with a free account.

Design

Material Specification

- Silt fence fabric should conform to the AASHTO M288 silt fence specification.
- Stakes or posts shall be 4 ft. (min.) long and of one of the following materials:
 - Hardwood 1 3/16" x 1 3/16";
 - Southern Pine 25/8" x 25/8";
 - Steel U, T, L, or C Section 0.95 lbs. per 1'-0"; or
 - Synthetic same strength as wood stakes.
- Silt fence fabric should be attached to the wooden stakes or steel posts with three zip ties within the top 8" of the fence. Alternate attachment methods may be approved by the Engineer or Designer on a performance basis.
- The staples used should be wire staples that are 6" long x 1" wide (min.).
- For further specifications regarding silt fence refer to KDOTs Standard Specifications <u>Section 902</u>

 Temporary Erosion and Sediment Control and Section 2114 Temporary Sediment Barriers.

 See additional Special Provisions for KDOTs Standard Specifications (<u>Division 900</u> and <u>Division 2100</u>).

Placement

- Silt fence should be used at the toe of a slope when a ditch does not exist. The silt fence should be placed on nearly level ground 5' 10' away from the toe of a slope. The barrier is placed away from the toe of the slope to provide adequate storage for settling out of sediment.
- When practicable, silt fence should be placed along contours to avoid a concentration of flow.
- Silt fence can also be placed along right-of-way fence lines to keep sediment from crossing onto adjacent property. When placed in this manner, the silt fence will not likely follow contours. This is not a substitute for construction fence.

Installation

Proper Installation Method

- Excavate a trench the length of the planned silt fence that is 6" deep by 6" wide. Confirm that
 the trench is excavated along a single contour. When practicable silt fence should be placed
 along contours to avoid a concentration of flow. Place the excavated soil on the upslope side of
 the trench for later use.
- Roll out a continuous length of silt fence fabric on the down slope side of the trench. Place the
 edge of the fabric in the trench starting at the top upslope edge. Line the bottom and the

downslope sides of the trench with the fabric. Wires staples (6" long x 1" wide) should be used to pin the fabric to the bottom of the trench and spaced 3' on center. Backfill over the fabric in the trench with the excavated soil and compact. After filling the trench, approximately 24" to 36" of silt fence fabric should remain exposed.

- Lay the exposed silt fence upslope of the trench to clear an area for driving in the stakes or
 posts. Just down slope of the trench, drive stakes/posts into the ground to a depth of at least 24".
 Place stakes/posts no more than 4' apart.
- Attach the silt fence to the anchored post with zip ties. Alternate attachment methods may be approved by the Engineer or Designer on a performance basis

List of common placement/installation mistakes to avoid

- When practicable, do not place silt fence across contours. Silt fences should be placed along contours to avoid a concentration of flow. When the flow concentrates, it overtops the barrier, and the silt fence quickly deteriorates.
- Do not place silt fence stakes/posts on the upslope side of the silt fence fabric. In this
 configuration, the force of the water is not restricted by the posts, but only by the zip ties. The silt
 fence will rip and fail.
- Do not place silt fence in areas with shallow soils underlain by rock. If the silt fence fabric is not sufficiently anchored, it will wash out.
- Silt fence must be dug into the ground silt fence at ground level does not work because water will flow underneath.
- Silt fence should be properly trenched in and compacted to minimize scouring or undermining of the silt fence fabric.
- Do not allow the silt fence length to exceed 250'.

Inspection and Maintenance

Silt fence should be inspected at least once within every 7-day inspection monitoring period. The following is a general list of questions that should be addressed during each inspection:

Are there any points along the silt fence where water is concentrating?

When silt fence is not placed along contours, water concentrates at low points in the silt fence. This concentrated flow usually causes a failure. Even if the silt fence does not fail, the concentration of flow drastically reduces the overall storage capacity of the silt fence. The only solution to this problem is reinstalling the silt fence (or sections of it) so that it is level.

Does water flow under the silt fence?

This can be caused by posts that are too far apart, a trench that is too shallow, or an improper burial procedure. Stakes/posts should be no more than 4' apart. The trench should be at least 6" wide by 6" deep. The bottom edge of the silt fence should be anchored securely by installing wire staples to pin the fabric to the bottom of the trench and backfilling over the fabric in the trench with the excavated soil and then compacting. If these guidelines have not been met, the silt fence should be reinstalled, or the deficiencies should be remedied.

Does the silt fence sag excessively?

Sagging silt fence is caused by excessive stake/post spacing and/or overtopping of the silt fence. Silt fence stakes/posts should be no more than 4' apart. If the stake/post spacing exceeds 4', additional stakes/posts should be added to decrease spacing between stakes/posts. Water should flow through

the silt fence and not over it. Silt fence installations quickly deteriorate when water overtops them. If a section of silt fence is regularly overtopped, it has probably been placed in a location that receives flows beyond its intended capacity. If this is the case, discontinue the use of silt fence in this area and try something different.

- Has the silt fence torn or become detached from the posts?

 Silt fence can be torn by the force of ponded water, or by winds that rip the silt fence fabric away from the stakes/posts. If a silt fence develops tears for any reason, it should be replaced.
 - Does sediment need to be removed from the silt fence?

Sediment accumulated in front of the silt fence, should be removed when it reaches one-half of the original exposed height of the silt fence. Allowing too much sediment to accumulate in front of the silt fence drastically reduces its effectiveness. One high-intensity rainfall can dislodge enough sediment from surrounding slopes to completely overtop the silt fence. That is why it is extremely important to inspect silt fences within 24 hours of a large rainfall event. When removing sediment from in front of the silt fence with a bulldozer or backhoe, take care not to damage the fabric or undermine the entrenched silt fence.