MANUAL FOR EROSION & SEDIMENT CONTROL IN GEORGIA

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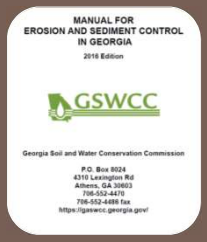

GSWCC

Chapter 6 – BMP Standards and Specifications for Land Disturbing Activities

2

Revised BMPs with last update

Tackifiers (Tac) - (Vegetative)
Sediment barriers (Sd1) - (Structural)
Construction Exit (Co) – (Structural)
Matting & Blankets (Mb) - (Vegetative)
Check Dam (Cd) - (Structural)
Channel Stabilization (Ch) - (Vegetative)
Temporary Downdrain Structure (Dn1) – (Structural)
Retrofit (Rt) – (Structural)
Temporary Stream Crossing (Sr) – (Structural)

Chapter 6 - Revised BMP

Ss

3

Matting and Blanket (Mb) –No longer a stand alone BMP, it is now called **Slope Stabilization** (Ss)

- This BMP now incorporates:
  - Hydraulic erosion control products (HECP)
  - Rolled erosion control products (RECP)

Chapter 6 - Revised BMP

Tac

4

- Tackifiers and Binders (Tb) was changed to **Tackifiers** (Tac).
- Tackifiers are used as a tie-down for soil, compost, seed, straw, hay or mulch. Tackifiers hydrate in water and

Only anionic forms shall be used

Chapter 6 - Revised BMP

Tac

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- There are five types of Tackifiers. These blends take into account different blends of synesthetic and/or organic polymers.
- For general use, the tackifier must meet the specifications in Manual. To be used in other BMP applications, such as Slope Stabilization or Channel Stabilization, please refer to that BMP for specification.

Guar is annual legume. It is an organic tackifier

Chapter 6 - Revised BMP

Sd1

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- **Sediment Barriers** (Sd1)
  - The 2016 Manual clarifies the use of Type A,B,C Silt Fences in Non-Sensitive and Sensitive Areas.
  - Type C will be classified as Sensitive and Type A and B as Non-Sensitive.
  - Type C definition was amended to include wire, **or equivalent**, reinforcement.
  - The 2016 Manual clarifies that mulch berms and compost socks are types of sediment barriers.

Chapter 6 - Revised BMP

Sd1

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- Two rows of type S sediment barrier is still to be used along all state water and sensitive areas but it **should be** placed at least 36 inches apart.
- Information is given about the static slicing and the traditional trenching method.
  - This information came directly from EPA.

Sediment barriers shall be replaced whenever they have deteriorated to such an extent that the effectiveness of the product is reduced (approximately six months) or the height of the product is not maintaining 80% of its properly installed height.

Chapter 6 - Revised BMP

Sd1

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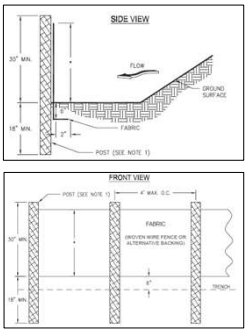
- Sediment Barriers (Sd1) incorporate bmps other than silt fence for perimeter control.
- When a Sediment Barrier is used, the product height in inches for each barrier being used must be shown on the plans.
- Sediment Barriers must be maintained at half their height regardless of size.



Chapter 6 - Revised BMP

Co

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- **Construction Exit** (Co)
  - Pad Length – The gravel pad shall have a minimum length of 50 feet. When the construction is **less than 50 feet** from the paved access, **the length shall be from the edge of existing pavement to the permitted building being constructed.**

Chapter 6 - Revised BMP

Co

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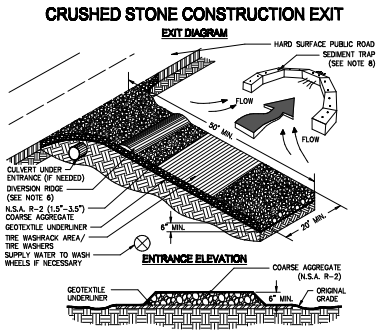

Chapter 6 - Revised BMP

Cd

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- **Check Dam** (Cd)
  - Practices will be categorized as follows
    - Stone Check Dams (Cd-S)
    - Straw-Bale Check Dams (Cd-Hb)
    - Compost Filter Sock (Cd-Fs)

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

1.cfs in the channel/ditch that the check dam is being used in:_____

2. Above 2.0 cfs: Yes_____ No_____

3. If Yes, list BMP being used in conjunction with check dams:_____

Chapter 6 - Revised BMP

Cd

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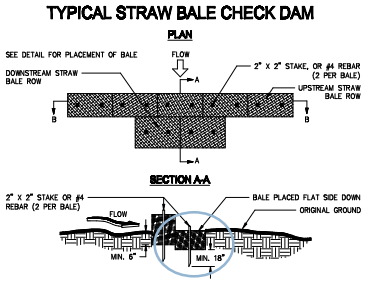
- Most notable change in check dams is the installation of the straw bale check dam.



Check Dam – Hay Bale

Cd

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Chapter 6 - Revised BMP

Ch

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- **Channel Stabilization** (Ch)
  - Products will be categorized as followed:
    - Category 1 (0-5 ft/sec) Vegetated Lining with Blankets
    - Category 2 (5- 10 ft/sec) Vegetated Lining with TRM or Rip Rap Lining
    - Category 3 (> 10 ft/sec) Concrete Lining

Chapter 6 - Revised BMP

Dn1

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- **Temporary Downdrain Structure** (Dn1)
  - For slopes steeper than 2:1, slope drains should be placed **diagonally** across the slope, extending the drain beyond the toe of the slope. Curve the outlet uphill and adequately protect the outlet from erosion.

Chapter 6 - Revised BMP

Rt

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- **Retrofit** (Rt)
  - "A device or structure placed in front of a permanent stormwater detention pond outlet **or roadway drainage structure** to serve as temporary sediment filter."
- **Silt Control Gate** (Rt-Sg)
  - May be used for temporary sediment storage on linear construction projects including roadway construction or maintenance, and utility line installation.
  - Drainage area shall not exceed 50 acres.

Chapter 6 - Revised BMP

Rt

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Chapter 6 - Revised BMP

Sr

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- **Temporary Stream Crossing** (Sr)
  - Revised language

"Temporary stream crossings should not be used on streams with drainage areas greater than one square mile (640 acres), **unless specifically designed to accommodate the additional drainage area by the design professional."**

Chapter 6 – BMP Standards and Specifications for Land Disturbing Activities

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New BMPs with last update

Flocculants/Coagulants (Fl-Co) - (Vegetative)
Slope Stabilization (Ss) - (Vegetative)
Filter Surface Skimmer (Sk) - (Structural)
Seep Berm (SpB) - (Structural)
Temporary Sediment Trap (Sd4) - (Structural)
Turbidity Curtain (Tc) - (Structural)
Tree Protection (Tr) - (Structural)

Chapter 6 New BMPs

Fl-Co

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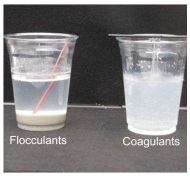
- **Flocculants & Coagulants** (Fl-Co)
- Formulated to assist in the solids/liquid separation of suspended particles.
- There will be no Fl-Co on the Equivalent BMP List. Any product may be used as long as it conforms to the criteria set forth in the Manual.
- Only anionic forms shall be used.



Flocculants

Fl-Co

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Coagulants

Fl-Co

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Chapter 6 New BMPs

Sk

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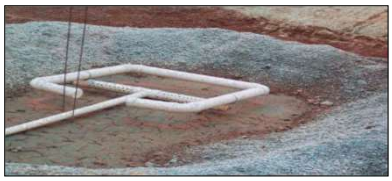
- Floating Surface **Skimmer** (Sk):
  - A skimmer drains the water from the top allowing cleaner less turbid water to discharge from the ponding area.
  - An emergency spillway is required when using a skimmer.
  - It should not be used in conjunction with Rt.
  - It can replace the riser pipe as the principal spillway.
  - If a skimmer cannot be used, a rationale/justification must be given.

Skimmers are 1 option to meet NPDES Part IV.D.3.a(3) requirement



Chapter 6 New BMPs

Sk

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- Floating Surface Skimmers require the following to be shown on the erosion control plan:

There is no min/max, shall be specified by design professional

TO BE SHOWN ON THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN

When a FLOATING SURFACE SKIMMER is used, show the following information along with each sediment pond, trap or basin being used on the site:

1. Pond, trap or basin size, length* (top and bottom) width* (top and bottom) and depth = _____
2. Time to Drain (hrs) = _____
3. Skimmer Dimensions (orifice and head size)** _____
4. Manufacturer's name _____

There is not an equivalent list of manufacturers for skimmers. Any person utilizing a home-made skimmer, accepts liability for its use. Their name would be the manufacturer.

*feet, ** inches

Floating Surface Skimmer

Sk

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Chapter 6 New BMPs

SpB

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- **Seep Berm** (SpB)
  - A seep berm is a linear control device constructed as a diversion perpendicular to the direction of the runoff to enhance dissipation and infiltration of runoff, while creating multiple sedimentation chambers with the employment of intermediate dikes.
  - To allow the 2 year storm event, 24 hour design storm to seep out while allowing larger flows to be diverted to a sediment storage area.
  - If a fill berm is utilized it is very important that it has proper compaction and stabilization.
  - Berm storage volumes can be figured as function of berm height and watershed gradient.

Chapter 6 New BMPs

SpB

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- Seep Berm require the following to be shown on the erosion and sediment control plan:
  - Top of Berm Elevation*
  - Bottom of Berm Elevation*
  - Top of Berm Width *
  - Height of the Berm*
  - Seep Hole Diameter*
  - Distance from the top of the berm to the seep to be placed in accordance with the 2yr-24hr storm*
  - Type of Seep

    PVC Metal Other(specify)
  - Spacing of Seep Along the Berm*

* shown in ft.

Chapter 6 New BMPs

Sd4

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- **Temporary Sediment Trap** (Sd4)
  - This BMP was added to provide sediment storage options for smaller sites.
  - This is effective against course sediment, not silt or clay particles that remain suspended.
  - All Sd4's are to be cleaned out at 1/3rd full
  - Provides three options
    - Overflow
    - Combination
    - Rock

V = 0.4 x A x D

Chapter 6 New BMPs

Sd4

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1. Temporary Sediment Trap - **Overflow** (Sd4-A)
   - An overflow temporary sediment trap is limited to small areas less than 1 acre.
   - The maximum life span of an overflow trap is 6 months.
   - Silt fence, straw bale barriers or grass filter strips are used to "polish" the overflow water as it leaves the sediment trap.

Sd4-A Detail

Sd4

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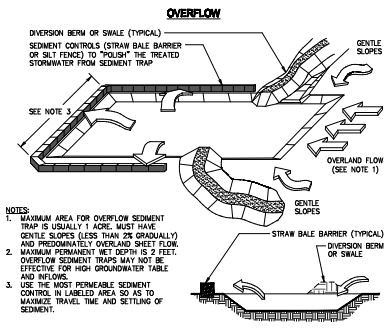

Chapter 6 New BMPs

Sd4

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2. Temporary Sediment Trap – **Combination Outlet** (Sd4-B)

- The combination outlet uses straw bales and silt fence to dewater the sediment trap.
- Proper installation and staking of the straw bales, and wire backing on the silt fence are required for the materials to resist 1 foot or more of ponded water.
- The combination straw bale and silt fence outlet is limited to 1 acre total drainage area, and has a life span of less than 1 year.

Sd4-B Detail

Sd4

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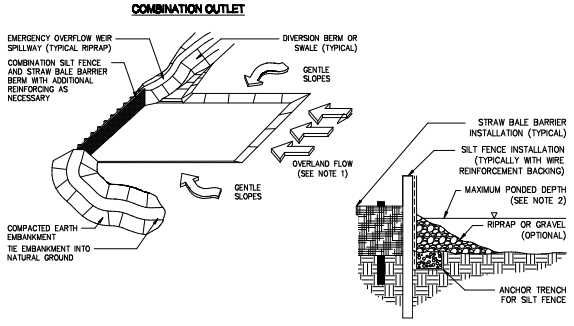

Chapter 6 New BMPs

Sd4

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3. Temporary Sediment Trap – **Rock Outlet** (Sd4-C)

- The rock outlet relies on filtering through layers of aggregate, rock or riprap material to dewater the sediment trap.
- It is the most sturdy of the sediment trap designs and generally requires less maintenance.
- It can be used for drainage area up to 5 acres and has a life span of 1 year.

Sd4-C Detail

Sd4

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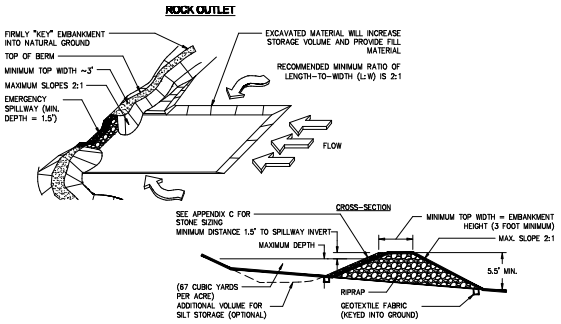

Sd4-C Detail

Sd4

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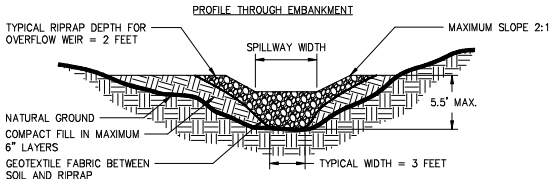

Chapter 6 New BMPs

Tc

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- **Turbidity Curtain** (Tc)
  - A floating or staked barrier installed within the water. (It may also be referred to as a floating boom, silt barrier or silt curtain).
  - Not to be used as sediment storage
  - Turbidity Curtain is installed to minimize turbidity and silt migration from work occurring within the water or as a supplement to perimeter control BMPs at the water's edge.
  - Silt or turbidity is confined to the area within the boundary created by the installation, such that suspended particles drop out of the water column over time.

Chapter 6 New BMPs

Tc

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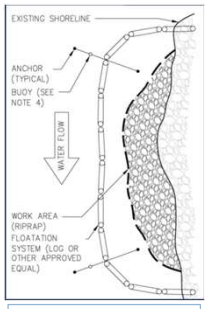
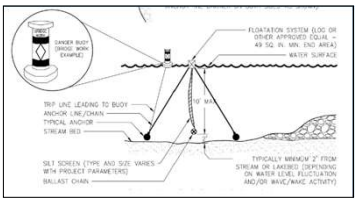


Staked Turbidity Curtains Tc-S

Floating Turbidity Curtains Tc-F



Chapter 6 New BMPs

Tr

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- To protect desirable trees from injury during construction activity.
- Tree Protection Zones:

(1) Measure the diameter of the tree trunk in inches at 4.5 feet from the ground. This is called the Diameter Breast Height or DBH.

(2) Multiply this value by1.5. This result is the diameter of the root protection zone in feet. This is also considered the critical rooting distance.

- **Tree Protection** (Tr)

"If it's green, it's clean"

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- **BMPs are used in series to provide a defense against erosion on land disturbance sites using both vegetative and structural measures**

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Questions?

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