Check Dam

Purpose and Benefit

Reduces the velocity of concentrated flows in ditches to minimize erosion and promote sediment deposition.

Proper Installation

- ☐ Check dam spillway width should be approximately the same width as ditch bottom
- ☐ Stones placed up the sides of the ditch above the elevation of the spillway to prevent washouts
- ☐ Stone size should be 2 to 4 inches for ditch grades less than 2% and 3 to 12 inches for ditch grades 2% and greater
- ☐ Check dams should be installed downstream of sediment traps
- ☐ When multiple check dams are used, the crest of the downstream dam should be at the same elevation as the toe of the upstream dam

Inspection and Maintenance

- Inspect every 7 days and within 24 hours after a rain event
- Maintain check dams as field conditions dictate

Common Mistakes

- Improper stone size
- Spillway not notched in the center
- Check dam placed on wrong side of sediment trap
- Sediment not removed as necessary
- Check dam not removed once ditch vegetation is established

Sediment Trap

Purpose and Benefit

Used to intercept concentrated flows and prevent sediment from being transported off site or into a ditch or watercourse.

Proper Installation

- ☐ Sediment trap must not exceed 5’ in height
- ☐ Trap length should be approximately 2 times its width
- ☐ Trap width should be sufficient to capture all flow
- ☐ Sediment traps are used in conjunction with check dams

Inspection and Maintenance

- Inspect every 7 days and within 24 hours after a rain event
- Deposited sediment should be removed when it reaches 50% of capacity
- Trap is removed when area is permanently stabilized

Common Mistakes

- Sediment trap is not maintained as necessary
- Sediment trap installed on downstream side of check dam

Filter Bag

Purpose and Benefit

Used to filter sediment-laden water pumped from dewatering operations.

Proper Installation

- ☐ Filter bag located on level ground in vegetated area
- ☐ Filter bag located above and no closer than 20 feet from a watercourse
- ☐ Vegetated buffer between filter bag and watercourse improves effectiveness
- ☐ Silt fence, gravel filter berms, and sediment traps/basins used with filter bags for added protection
- ☐ Filter bag to be properly sized based on flow rate, with 250 square feet as minimum
- ☐ Multiple filter bags can be used, if necessary

Inspection and Maintenance

- Inspect filter bag for wear, holes, or tears during pumping
- Verify that filter bag is filtering sediment
- Add gravel filter berms, silt fence, or sediment traps/basins, as needed
- Dispose of filter bag properly when full or no longer needed

Common Mistakes

- Filter bags placed on slope or too close to water
- Filter bags not placed in vegetated areas
- Filter bags not sized properly
- Using damaged or worn filter bags
- Not using silt fence, gravel filter berms, or sediment traps when needed

Construction Entrance

Purpose and Benefit

Minimizes the tracking of loose soil from the construction site onto public roadways.

Proper Installation

- ☐ Geotextile separator is placed on the ground prior to the aggregate
- ☐ Aggregate layer is a minimum of 6 inches thick
- ☐ Gravel access approach should extend at least 30 feet (residential) or 50 feet (commercial) from the edge of the roadway
- ☐ Aggregate size and gradation should be in accordance with the City of Charleston Stormwater Guidance Manual (#3 stone or bigger)

Inspection and Maintenance

- Inspect every 7 days and within 24 hours after a rain event
- Additional aggregate is placed as needed
- Roadway sweeping should be used in conjunction with the gravel access approach

Common Mistakes

- No use of geotextile separator
- Improper gradation size of aggregate
- Additional clean aggregate not placed as needed
- Gravel access approach not extended a minimum of 30 (residential) or 50 (commercial) feet off the edge of the public roadway

Charleston, WV's RIVER PROUD program

Erosion & Sediment Control Construction Site BMPs

Charleston, WV

CONTRACTORS POCKET GUIDE

to Best Management Practices

City of Charleston Stormwater Department

Construction Site BMPs

City of Charleston Stormwater Department

304-348-8106

Silt Fence

Purpose and Benefit

Inhibits the migration of sediment from the construction site. Slows the movement of sediment-laden water allowing deposition and retention of sediment.

Proper Installation

- ☐ Silt fence trenched in a minimum of 6 inches
- ☐ Stakes installed on down slope side
- ☐ Post spacing is a maximum of 6.5 feet
- ☐ Silt fence should be installed along same contour line when possible
- ☐ Silt fence ends should be turned up slope where possible

Inspection and Maintenance

- Inspect every 7 days and within 24 hours after a rain event
- Remove all sediment from behind silt fence when it reaches approximately 50% of the fence height
- Silt fence shall remain in place and properly maintained until the disturbed area is stabilized

Common Mistakes

- Silt fence installed improperly
- Bottom of fence not completely trenched
- Stakes installed on wrong side of fence
- Material removed from trenching placed on undisturbed/protected side of fence

Inlet Protection

Purpose and Benefit

Temporary device to protect streams from sediment-laden water through filtration.

Proper Installation

- ☐ Geotextile blanket is installed between cover and frame of drainage structure casting
- ☐ Geotextile is secured by trenching in behind curb or with sand/stone bags
- ☐ Silt fence installed and trenched in around perimeter of drainage structures in unpaved areas

Inspection and Maintenance

- Inspect every 7 days and within 24 hours after a rain event
- Trapped sediment is removed from geotextile blanket and silt fence, as needed
- Maintain silt fence per COC Stormwater Management Guidance Manual

Common Mistakes

- Opening in back of catch basin not covered with geotextile blanket
- Geotextile blanket not secured behind curb
- Failure to clean regularly causing ponding on roadway
- Improper maintenance and/or replacement of geotextiles, as needed

Vegetative Buffer

Purpose and Benefit

Protect waterways from sedimentation by providing a vegetative buffer adjacent to a water body.

Proper Installation

- ☐ Buffer width (distance from edge of disturbed ground to edge of watercourse) is at least 50 feet
- ☐ Stabilize disturbed up slope area prior to removing vegetative buffer
- ☐ Silt fence (optional) is placed between construction site and vegetative buffer

Inspection and Maintenance

- Inspect every 7 days and within 24 hours after a rain event
- Remove deposited sediment, as needed

Common Mistakes

- The upper slope is not stabilized prior to clearing adjacent to watercourse
- Silt fence is not properly installed or maintained along vegetative buffer

Created with information shared by:

MDOT Michigan Department of Transportation

Slope Stabilization

Purpose and Benefit

Prevents erosion on slopes and ditches and promotes growth of vegetation by providing immediate cover for bare soil.

Proper Installation

- ☐ Mulch blankets (netting on one side) used on slopes flatter than 2 to 1, adjacent to shoulders, behind curbs and in ditch bottoms up to 1.5%
- ☐ High velocity mulch blanket (netting on both sides) used on slopes greater than 2 to 1 and in ditch or channel bottoms
- ☐ At front of slopes, lay the first strip adjacent and parallel to road, remainder perpendicular to road
- ☐ Mulch blanket anchored in accordance with standard specifications and manufacturer's published guidelines
- ☐ No steel pins or staples used in areas to be mowed

Inspection and Maintenance

- Inspect every 7 days and within 24 hours after a rain event
- Blanket is re-anchored as necessary

Common Mistakes

- High velocity mulch blanket not used as required
- Mulch blanket placed in the wrong direction
- Mulch blanket not anchored or placed in accordance with specified guidelines

Site Overview Checklist

Silt Fence
- ☐ Upright
- ☐ No breaches
- ☐ Buried 6"

Inlet Protection
- ☐ Secure and intact
- ☐ Not clogged

Vegetative Buffers
- ☐ Clearly delineated
- ☐ Not damaged

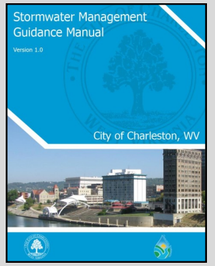
Slope Stabilization
- ☐ Slopes and large areas are stabilized
- ☐ Inactive spoil piles are covered or vegetated (21 days maximum)

Check Dam
- ☐ Located to intercept flow
- ☐ No breaches

Sediment Trap
- ☐ Located to intercept flow
- ☐ Not filled in

Filter Bag
- ☐ Located in flat vegetated area
- ☐ At least 20 feet from waterway
- ☐ Intact and only partially filled

Construction Entrance
- ☐ Gutter pan and street are swept
- ☐ Aggregate not clogged



For more information:
See the City of Charleston's Stormwater Management Guidance Manual.

An online version is available at:
charlestonstormwater.org/stormwater-manual/