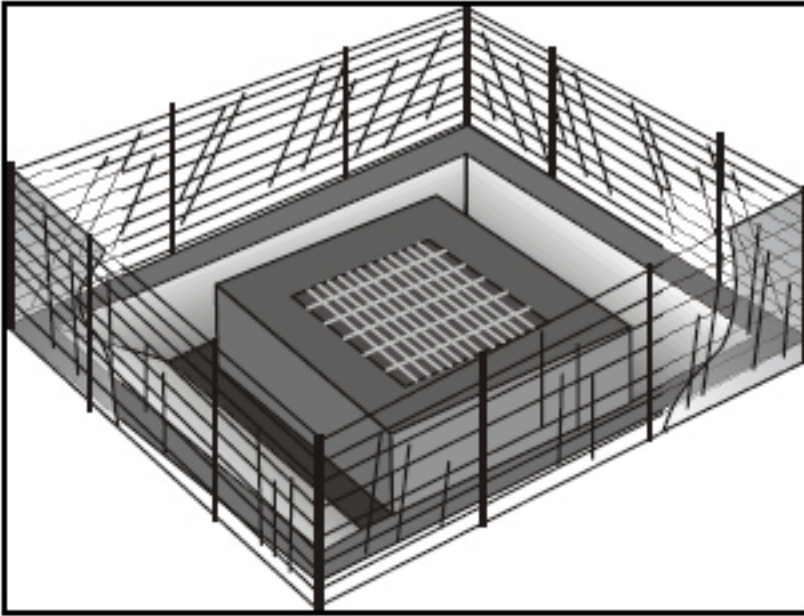


Storm Drain Inlet Protection



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Storm drain inlet protection BMPs are devices that prevent soil and sediment from entering existing storm drains. These BMPs are usually temporary and may consist of one or more of the following: excavation around the perimeter of a storm drain inlet, silt fences around inlet entrances, block and gravel protection, gravel bags, or sod inlet protection. These BMPs are designed either to temporarily pond water (allowing sediment to settle) or to remove sediment by filtration.

Usage

Use storm drain inlet protection on every storm drain on the construction site. Depending on the location, BMPs should be chosen that meet site needs, anticipated flow, and level of sedimentation.

- excavated drop inlet protection is suitable in locations where high flow is anticipated
- silt fences and sod inlet protection are suitable in locations with less flow and flat drainage areas
- block gravel inlet protection is suitable for curb inlets
- gravel bag barriers are suitable for creating small sediment traps upstream of areas with anticipated sheet flow

Benefits

- protects storm drain systems from receiving waters laden with sediment and soil
- allows storm drains to be utilized without polluting them
- reduces the amount of sediment leaving the site

Estimated Cost

Varies, depending on mitigation method of choice

\$50-\$150/inlet, with maintenance costs as much as 100% of inlet cost

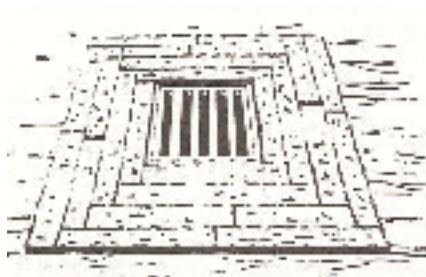
\$200/inlet is average annual cost of installation and maintenance for 1-yr lifespan of device

Alternatives

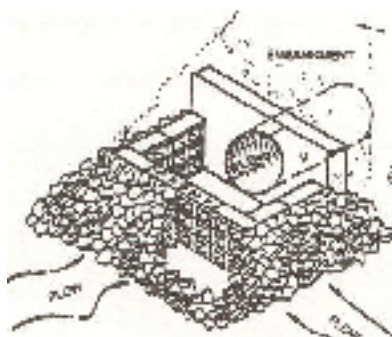
None

Notes:

Storm Drain Inlet Protection



Sod Inlet Protection



Block and Gravel Inlet Protection

Notes:

Images courtesy of: USEPA, 1993

Limitations

- requires a significant area for ponding to occur
- difficult to remove sediment under high-flow conditions
- difficult to remove sediment from the BMP
- causes erosion elsewhere if device becomes clogged with sediment
- requires frequent inspection

Installation Tips

Excavated Drop Inlet Protection

- excavate 1-2 ft of material from the inlet structure (side slopes should not exceed 2:1 in steepness)
- create the largest trench in direction of anticipated flow
- provide some means of drainage to prevent standing water over the storm drain inlet

Silt Fence

- install around the perimeter of the storm drain inlet as recommended by the silt fence fact sheet (p. 3-15)

Block and Gravel Protection

- lay wire mesh over inlet structure (overlap if necessary)
- place filter fabric material on top of wire mesh
- place concrete blocks on top of mesh and fabric with openings facing out, not up
- place wire mesh over outside face of the blocks and pile stone against mesh to the top of the blocks

Gravel Bag Berms

- install as recommended by the gravel bag berm fact sheet (p. 3-7)
- use a gravel bag made of geotextile fabric and fill with gravel ranging in size from 0.25-0.75 in
- construct in the area upstream of drain inlet with bags that will allow water to pond and sediment to settle
- pack bags close together, overlap, and stack several layers high
- leave an area on top level to act as a spillway for overflow

Storm Drain Inlet Protection

Sod Inlet Protection

- avoid using unless most of the surrounding area has been stabilized
- lay sod so it extends at least 4 ft in every direction from storm drain
- stagger strips of sod so ends are not aligned

Further Considerations

- detailed installation tips can be found in the ODNR Rainwater and Land Development manual

Maintenance

- inspect BMPs periodically for failure; repair or replace BMPs where applicable
- accumulated sediment reaching 1/3 of barrier's height must be periodically removed to maintain effectiveness
- inspect after major rain events
- make sure that there are no gaps at the interface of the ground and any storm drain inlet BMP, in particular silt fences
- if BMPs are not maintained properly, clogging of the water intake will be very costly to repair

Vendors

See Appendix pages F18-F19

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