Sediment Trap



Description

A temporary runoff containment area to promote sedimentation prior to discharge of the runoff through a stabilized spillway.

Applications

- Drainage areas less than 5 acres.
- Areas along the perimeter of the site where sediment-laden runoff is discharged off-site.
- Areas requiring additional sediment containment measures such as bodies of water or discharge points to a drainage system.
- On-site discharge points to a stabilized or natural area or waterway.

Installation and Implementation Requirements

- Construct sediment trap prior to engaging in clearing, grubbing, or grading activities.
- Location shall be based on the following:
  - Area where a low embankment may be constructed across a swale.
  - Area where failure of sediment trap will not cause property damage or loss of life.
  - Area where maintenance crew may easily access sediment trap.

Sediment Trap

Installation and Implementation Requirements *(continued)*

- Sediment trap size shall be based on the following:
  - Minimum trap settling volume of 133 cubic yards per acre.
  - Minimum trap sediment storage volume of 33 cubic yards per acre.
  - Trap width shall be less than one-half of the trap length.
  - Flood volume.
  - Construct sediment trap by excavating ground or constructing an earthen embankment to create a containment area.



Construct sediment trap prior to engaging in clearing, grubbing, or grading activities.

- Area under embankment shall be cleared, grubbed, and stripped of vegetation and root mat.
- Fill material for embankment shall be free of roots, woody vegetation, oversized stones, rocks, organic material, or other objectionable material. Compact embankment by traversing with construction equipment.
- Stabilize trap outlet with stone or vegetation.
- Install fencing to prevent unauthorized entry and for safety purposes.
- All pipe joints shall be watertight when a riser is used.
- The top two-thirds of the riser shall be perforated with holes 1 to 4 inches in diameter. The holes shall be vertically spaced at 8-inch intervals and horizontally spaced at 10- to 12-inch intervals.
- Outlet crest elevation of an earth or stone outlet shall be a minimum of 1 foot below the top of the embankment.
- If the sediment trap is to remain in place for 14 calendar days or more, the embankments, berms, and other areas of exposed soil must be temporarily stabilized.

Considerations

- Applies to maximum drainage area of 5 acres. Drainage areas exceeding 5 acres shall implement Sediment Basins. *See* section SC-5 Sediment Basin for more information.
- Only removes large and medium size particles.
- Requires protective fencing.
- Do not install in live streams.
- Availability of right-of-way may limit size of sediment trap.

Sediment Trap

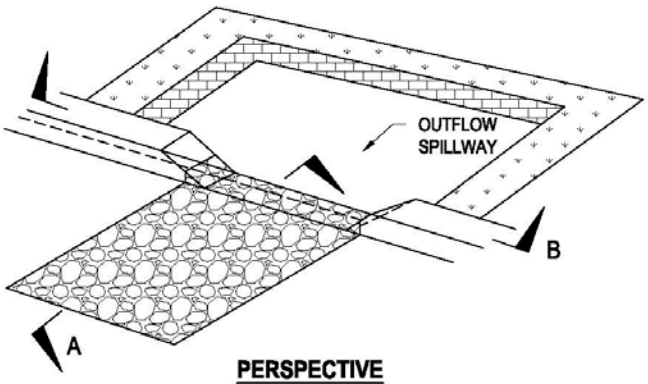
What to Inspect

- Are spillways or outlets obstructed or damaged?
- Is there evidence of erosion at the outlets?
- Are the areas stabilized around outlets?
- Is fencing damaged?

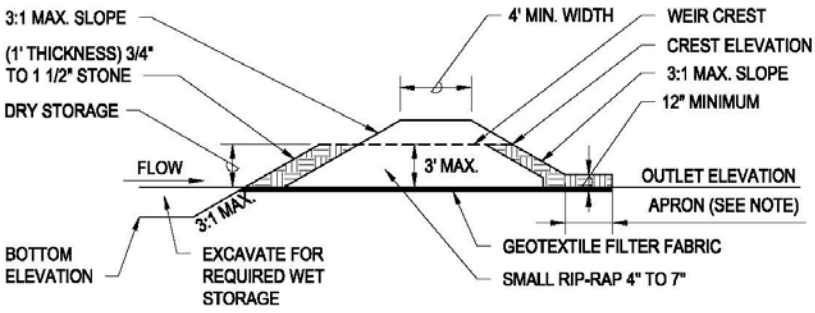
Maintenance

- Remove obstruction and repair damage as necessary.
- Remove sediment which has accumulated to within 1 foot of the maximum storage elevation.
- Properly dispose of sediment and debris removed from sediment trap.

Sediment Trap



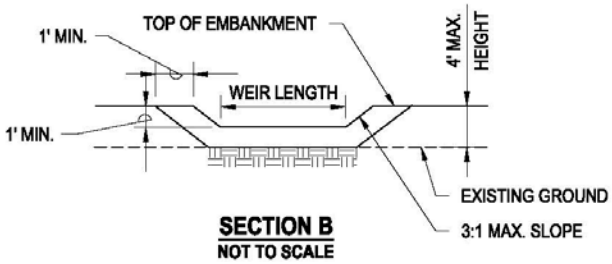
PERSPECTIVE
NOT TO SCALE



SECTION A
NOT TO SCALE

NOTE:

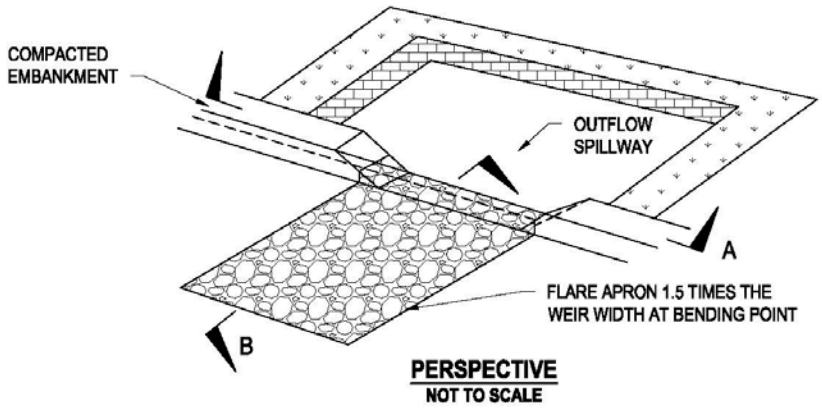
MAXIMUM DRAINAGE AREA = 5 ACRES



SECTION B
NOT TO SCALE

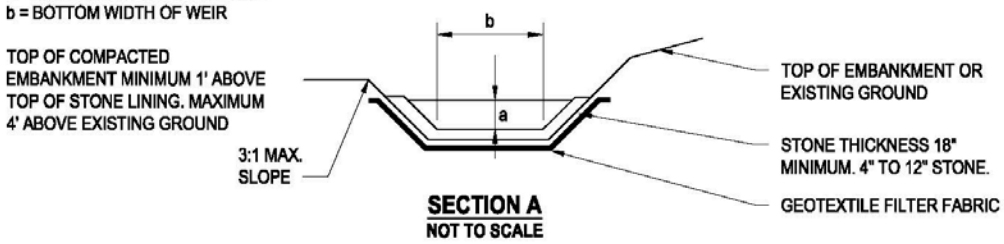
STONE OUTLET SEDIMENT TRAP

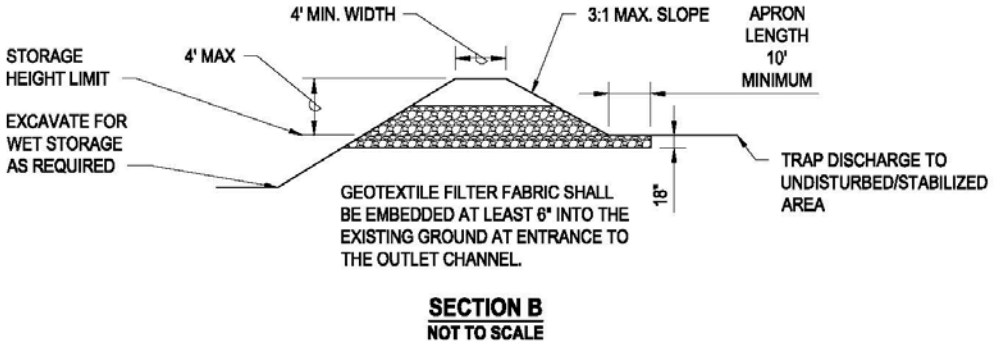
Sediment Trap



LEGEND:

a = MINIMUM DEPTH OF CHANNEL
b = BOTTOM WIDTH OF WEIR





RIP-RAP SEDIMENT TRAP