Sediment Basin
Conservation Practice Job Sheet *FL350JS*

Natural Resources Conservation Service (NRCS) **March 2011**

Definition

A basin constructed with an engineered outlet, formed by an embankment or excavation or a combination of the two.

Purpose

To capture and detain sediment laden runoff, or other debris for a sufficient length of time to allow it to settle out in the basin.

Where used

This practice applies to urban land, construction sites, agricultural land, and other disturbed lands:

- Where physical conditions or land ownership preclude treatment of a sediment source by the installation of erosion-control measures.
- Where a sediment basin offers the most practical solution.
- Where failure of the basin will not result in loss of life, damage to homes, commercial or industrial buildings, main highways or railroads; or in the use of public utilities.
- The product of the storage times the effective height of the dam is less than 3,000. Storage is the volume, in acre-feet, in the reservoir below the elevation of the crest of the auxiliary spillway.
- The effective height of the dam is 35 feet or less. The effective height of the dam is the difference in elevation, in feet, between the auxiliary spillway crest and the lowest point in the cross section taken along the centerline of the dam.
- The Hazard Class of the dam is Low.

Considerations

Sediment trapping is achieved primarily by settling within a pool formed by an embankment. The sediment pool may also be formed by excavation, or by a combination of excavation and embankment.

Where possible, the basin should be configured to enhance sediment deposition. This can be accomplished by using flow deflectors, inlet and outlet selection, and by adjusting the length to width ratio.

To improve the effectiveness of the basin, it should be located to intercept the largest possible amount of runoff from the disturbed area.

Plans and specifications

Plans and specifications for sediment basin will be provided according to Florida NRCS conservation practice standard Sediment Basin, Code 350.

Site-specific requirements are listed on the specification sheet. Additional provisions are entered on the job sketch sheet or attached drawings.

Provisions shall be made for draining sediment pools if necessary for safety and vector control. Fencing and other safety measures shall be installed as necessary to protect the public from floodwater and soft sediment.

The design of dams, spillways, and drainage facilities shall be appropriate for the class and kind of structure being considered.

Operation and maintenance

All sediment basins must be adequately maintained if their purposes are to be realized through the expected life.

The sediment basin should be inspected periodically and especially after heavy rains to determine whether it is functioning properly or if repairs are needed.

Appurtenances such as trashracks, outlet structures, and valves shall be kept free of trash and replaced when needed.

When sediment storage is full, accumulated sediment must be removed or the basin must be redesigned and modified to restore capacity.

Rills on the slopes of the structure shall be filled with suitable material, compacted, seeded and fertilized as needed. Should the upstream face of the structure erode due to wave action, protection such as riprap may be needed. If seepage through or under the structure occurs, proper corrective measures shall be taken immediately.

Control weeds and woody plants by mowing or spraying. The vegetative cover of the structure shall be maintained by mowing and fertilizing or burning when needed.

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Cooperator Name: _____ Contract Number: _____

County: _____ Tract Number: _____ Field / ID: _____

Planned by: _____ Date: _____ Checked by: _____ Date: _____

Approved by: _____ Date: _____

GENERAL INFORMATION	
Total drainage area (acres): _____	Required sediment storage volume [1/] (ac-ft):_____
Total disturbed drainage area (acres): _____	Sediment storage volume provided (ac-ft): _____
Total disturbed area to be treated by basin (acres): _____	Required detention storage volume [2/] (ac-ft):_____
Design storm event (year/hour): _____	Detention storage volume provided (ac-ft): _____
Design flow (cfs): _____	

[1/] Minimum required volume = 900 cu ft /acre * Disturbed Area (acre).

[2/] Minimum required volume = 3600 cu ft /acre * Disturbed Area (acre).

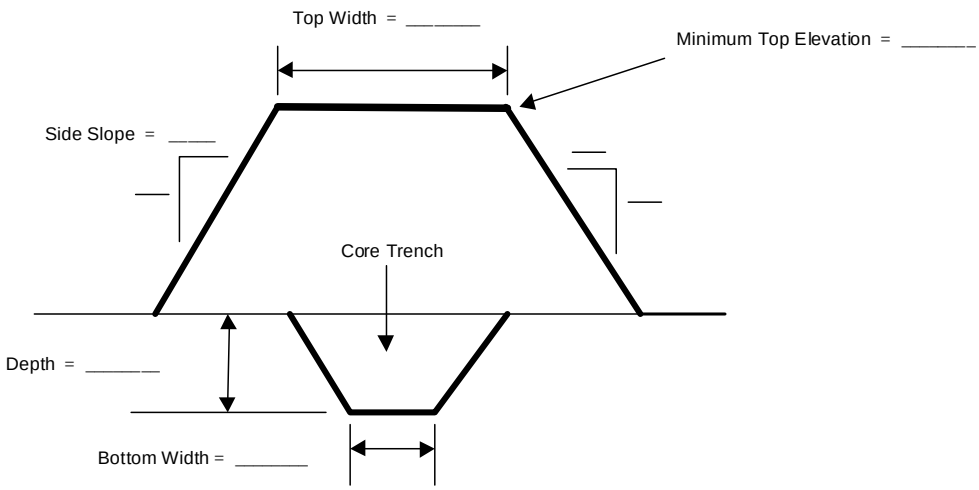
PRINCIPAL SPILLWAY (if applicable)			
Pipe diameter (in.): _____	Pipe Length (ft.): _____	Riser Diameter (in.): _____	Height of riser [3/] (ft.): _____
Pipe inlet invert elevation: _____		Pipe outlet invert elevation: _____	
Top of riser elevation (ft.): _____		Hp [4/] (ft.): _____	
Drawdown method: _____		Riser perforation dimensions :_____	
Type of trash rack & anti-vortex device: _____			
Type of base: _____			

[3/] Base to top of riser

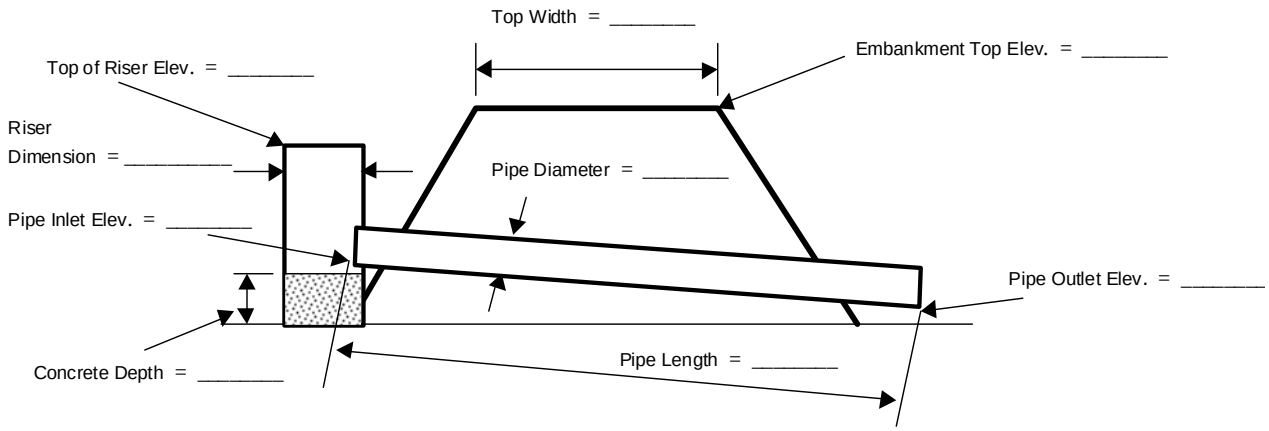
[4/] Height of water in pool (head) above spillway

AUXILIARY SPILLWAY (if applicable)		
Bottom width (ft.): _____	Crest elevation (ft.): _____	Control section, length, (ft): _____

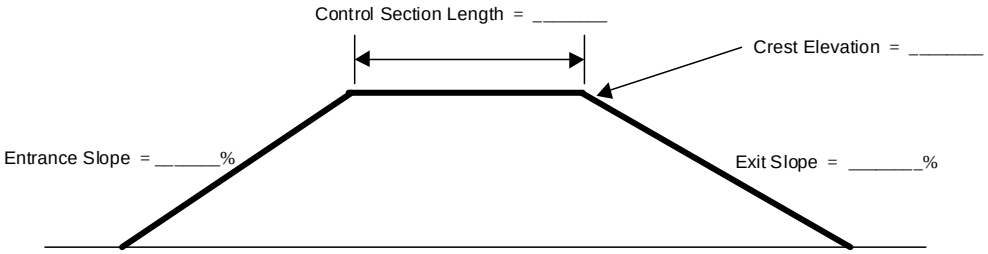
TYPICAL SECTIONS FOR EARTH WORK



Typical Embankment Section



Typical Riser Section



Auxiliary Spillway Profile

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Operation and Maintenance
The sediment basins should be inspected annually and after significant storm events to identify repair and maintenance needs.
Cleaning and re-grade the collection facilities to maintain proper flow lines and functionality.
Check and remove debris as needed from trash racks and structures to assure proper operation.
Remove sediment from traps and/or storage facilities to maintain design capacity and efficiency.
Maintain vegetation to prevent sheet and rill erosion or gullying of the embankment.
Control trees and woody cover on embankments.

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Draw a sketch (or attach or refer to appropriate plan map) of the sediment basin. Other relevant information, such as complementary practices, and adjacent field or tract conditions. Show any sensitive areas that this practice is addressing or may be impacted.

Scale 1" = _____ ft. (NA indicates sketch not to scale: grid size = 1/2" by 1/2")

Additional specifications and notes:

Certification: This practice meets NRCS standards and specifications.	Yes ☐	No ☐
Signature of authorized conservationist:	Date	Date