



Sediment Basin

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NOTE

After a fire many trees are weakened from burning around the base of the trunk. The trees can fall over or blow down without warning. Shallow rooted trees can also fall. Therefore be extremely alert when around burned trees.

What is a sediment Basin

A facility constructed to trap and temporarily store sediment and debris carried in storm runoff.

When is a sediment basin sed?

A sediment basin is used where physical conditions or lack of access prevent installation of erosion and sediment control measures on upland areas, or where a sediment basin offers the most practical solution to:

- Reduce or eliminate undesirable deposition on developed areas;
- Preserve the capacity of reservoirs, wetlands, streams, etc.; or
- Reduce contamination of water supplies or destruction of aquatic habitat.

Sediment basins have high maintenance requirements and should not be used where there are not sufficient resources available to perform this maintenance over the entire life of the structure. Sediment basins should not be used at locations where a structural failure of the basin could cause significantly more damage than would have occurred had the basin never been built.

How is a sediment basin designed?

Sediment basin design requires the services of an experienced engineer or technician.

Sediment basins can be constructed as a below ground impoundment via excavation; as an above ground impoundment by building a dike or dam; or by a combination of these methods. Removal of sediment and debris from runoff occurs in the basin as a result of detaining the flow sufficiently to settle out undesirable material. Many factors influence the size of the sediment basin and the type of outlet works, including: the size of the contributing drainage area; the characteristics and amount of sediment and debris carried by storm runoff; the expected "design life" of the basin; the frequency of sediment removal from the basin; and the available land area and physical characteristics of the site where the basin is to be located.

How is maintenance is required?

Sediment basins generally require significant resources for removing accumulated sediment and debris as well as repairing any damage to basin components. The facility designer should provide a site specific operation and maintenance plan indicating the intended frequency of sediment and debris removal and the type of surveillance and repairs anticipated.

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The inlet and outlet works require periodic inspection for proper function, and removal of any obstructions. Typically settlement or cracks in earthen sections must be repaired. Care must be taken to limit travel on any portion of the system that will harm or destroy vegetative cover. The vegetation on earthen dikes or dams may require periodic reseeding, fertilization, application of herbicide, or mowing. Vandalism, vehicular damage, or damage caused by livestock, rodents, or wildlife must be repaired. Repair of concrete components, rusted or damaged metal components and fences; or replacement of rock riprap, are considered normal maintenance items for a sediment basin.