



DWR – NPDES-SOP – G – 16 –Erosion Prevention and Sediment Control Handbook – 01092026
Erosion Prevention and Sediment Control Handbook

4.4.12.1.2 Solid Baffles



Source: City of Franklin

Definition and Purpose

Solid baffles are made of non-porous materials that increase the length of the flow path within a sediment basin or trap. Increasing the flow path length increases basin residence time, which promotes the settling of sediment.

Appropriate Applications

Baffles can be installed in any sediment trap or basin. Solid baffles are often used when a sediment basin is on the site, but the available space does not allow for the basin to be constructed with the ideal length-to-width ratio, or the inlet and outlet structures are adjacent to each other, and there is a risk of short-circuiting in the basin.

Limitations and Maintenance

Baffle material must be securely anchored and trenched (unless constructed from plywood) into the ground. Solid baffles may increase the frequency with which accumulated sediment must be removed from the basin, particularly within the first chamber. Inspect for scour along the sides of the baffle and replace baffle material if it is damaged or degraded. Inspect the baffles during rainfall events to confirm that short-circuiting or overtopping of the baffles does not occur.

Planning and Design Considerations

Various types of materials can be used for solid baffles, including plywood, geotextile curtains, floating turbidity curtains (Section 4.4.12.4), or aggregate berms (IDEM, 2021).



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Example Application

No formal design or quantities are required for this measure and therefore are not presented here.

References

- Farjood, A., Melville, B. W., & Shamseldin, A. Y. (2015). The effect of different baffles on hydraulic performance of a sediment retention pond. *Ecological Engineering, 81*, 228-232.
- IDEM. (2021). *Indiana Storm Water Quality Manual: Sediment Traps and Basins*.
- KTC. (2015). *Best Management Practices (BMPs) for Controlling Erosion, Sediment, and Pollutant Runoff from Construction Sites*.
- Rivers, E. & McLaughlin, R. (2015). *Using Baffles to Improve Sediment Basins*. North Carolina State University Extension.