Type 1 & 2 Sediment Traps – General

SEDIMENT CONTROL TECHNIQUE

Sediment controls can be grouped into four categories based on their ability to trap a specified grain size. The adopted classifications are Type 1, Type 2, Type 3 and 'supplementary' sediment traps. Photos 1 and 2 show examples of Type 1 sediment traps.

Photo 1 – Type C (dry) sediment basin

Photo 2 – Type F (wet) sediment basin

Photos 3 to 6 show examples of Type 2 sediment traps.

Photo 3 – Rock filter dam with geotextile filter

Photo 4 – Rock filter dam with aggregate filter

Photo 5 – Sediment trench (with *rock filter dam* outlet system) located at the base of a fill embankment

Photo 6 – Upstream face of a sediment weir

Table 1 outlines the typical usage of the various Type 1 and Type 2 sediment control systems.

Table 1 – Typical usage of various Type 1 and Type 2 sediment control techniques

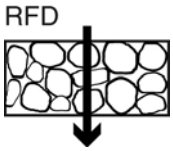
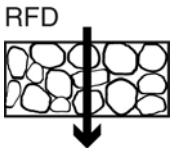
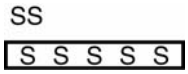
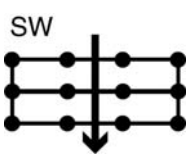
Technique	Code	Symbol	Typical use
Rock Filter Dam: Filter cloth used as the primary filter medium	RFD		• Type 2 sediment trap. • Locations where there is sufficient room to construct a relatively large rock embankment. • The incorporation of filter cloth is the preferred construction technique if the removal of fine-grained sediment is critical; however, de-silting and replacement of the fabric can be difficult, and can lead to ongoing poor performance. • Long-term performance benefits from the incorporation of a sediment collection pit.
Rock Filter Dam: Aggregate used as the primary filter medium	RFD		• Type 2 sediment trap. • Best used on sandy soils. • Locations where there is sufficient room to construct a relatively large rock embankment. • Aggregate filters are normally used on long-term sediment trap, as well as sediment traps that are likely to be regularly de-silted. • Short-term performance can be impaired if a sediment collection pit is included.
Sediment Basin – Type C	SB	No standard symbol—draw actual basin layout on ESCP	• Type 1 sediment trap. • Best suited to coarse-grained soils. • Used when a major (Type 1) sediment trap is required when working in areas containing coarse-grained, good settling soils.
Sediment Basin – Type F and Type D	SB	No standard symbol—draw actual basin layout on ESCP	• Type 1 sediment trap. • Best suited to fine-grained or dispersive soils. • Best available technique for the control of turbidity within discharged waters. • Used when a major (Type 1) sediment trap is required when working in areas containing fine-grained, dispersive or poor settling soils.
Sediment Trench	SS		• Type 2 or 3 sediment trap. • Used in long, narrow spaces. • At the base of fill batters where there is limited space between the toe of the batter and the property boundary. • Limited available space often means these traps are only considered a Type 3 system.
Sediment Weir	SW		• Type 2 sediment trap. • Used where space is limited (i.e. when space is not available for use of a *Rock Filter Dam*). • Used when the sediment trap may be subjected to regular over-topping flows. • Used as a Type 2 drop (field) inlet protection system.

Table 2 provides guidance on the selection of a sediment control technique for various soil and catchment conditions.

Table 2 – Selection of sediment control technique for minor concentrated flows [1]

	Excavated sediment trap	Filter tube dam	Rock filter dam (geotextile filter)	Rock filter dam (aggregate filter)	Type C (dry) sediment basin	Type F or D (wet) sediment basin	Sediment trench	Sediment weir
Standard drawing code	EST	FTD	RFD	RFD	SB	SB	SS	SW
Typical treatment standard [1]	2/3	2	2	2	1	1	2/3	2
Turbidity control [2]	L	L	M	L	M	H	L	L/M
Catchment area	< 0.25ha				> 0.25ha		< 0.25ha	
Soil properties:								
Sandy soils	✓	✓		✓	✓		✓	✓
Good-settling clayey soils		✓	✓			✓	✓	✓
Fine, slow-settling clay soils						✓		
Dispersive soils						✓		
Flow path geometry:								
Overland flow path		✓					✓	✓
Stormwater inlet		✓						✓
Minor concentrated flow	✓	✓	✓	✓				✓
Large catchment runoff					✓	✓		
Operation life of sediment trap (guide only):								
Less than 3 months	✓	✓	✓	✓	✓	✓	✓	✓
3 to 6 months	✓	[3]	✓	✓	✓	✓	[3]	✓
More than 6 months	✓			✓	✓	✓		✓

[1] Identifies the most likely sediment treatment standard for the technique as Type 1, Type 2 system. "2/3" indicates the system is commonly found operating as either a Type 2 or Type 3 system.

[2] L = low, M = medium, H = high control of turbidity.

[3] Maintenance costs can become excessive in long-term operations unless operating for extended periods during the dry season.