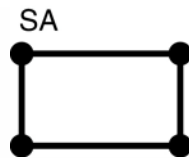


Kerb Inlet Traps – Sag Inlets

SEDIMENT CONTROL TECHNIQUE

Type 1 System		Sheet Flow	✓	Sandy Soils	✓
Type 2 System		Concentrated Flow	✓	Clayey Soils	✓
Type 3 System		Supplementary Trap	✓	Dispersive Soils	



Symbol



Photo 1 – side-entry kerb inlet (use of sediment trap)



Photo 2 – side-entry kerb inlet (use of sediment trap)

Key Principles

1. Road safety issues must take priority.
2. Sediment trapping primarily occurs through the forms around the inlet.
3. The critical design parameters are the inlet width, inlet depth, and depth of ponding, which dictates the extent of sediment trapping.
4. The side-entry kerb inlet is not recommended unless specifically required within the Erosion & Sediment Control Plan (ESCP).

Design Information

Minimum spacing of the sediment barrier from the side-entry kerb

Recommended minimum height of

'Block & Aggregate' type

is 15 to 25mm.

Use of sandbags (Photo 5) as a sediment trap on open public roads is generally not recommended. when the bags are filled with 15 to 25mm aggregate.

Table 1 – Types of ‘sag’ kerb inlet sediment traps

Type	Materials	Typical usage
Ag-pipe wrapped in filter cloth (Photo 1)		
Block and aggregate (Figure 2)		
Fabric drop inlet protection (Photo 3)		
Fabric wrap (Photo 1 & 2)		
Filter sock (Photo 2)		
Gully bag (Photo 6)		
Sandbags (Photo 5)		
Solid weir-type (Photo 4)	Solid sediment barrier with flexible apron.	

Figure 1 shows the typical arrangement of a sag inlet sediment trap.

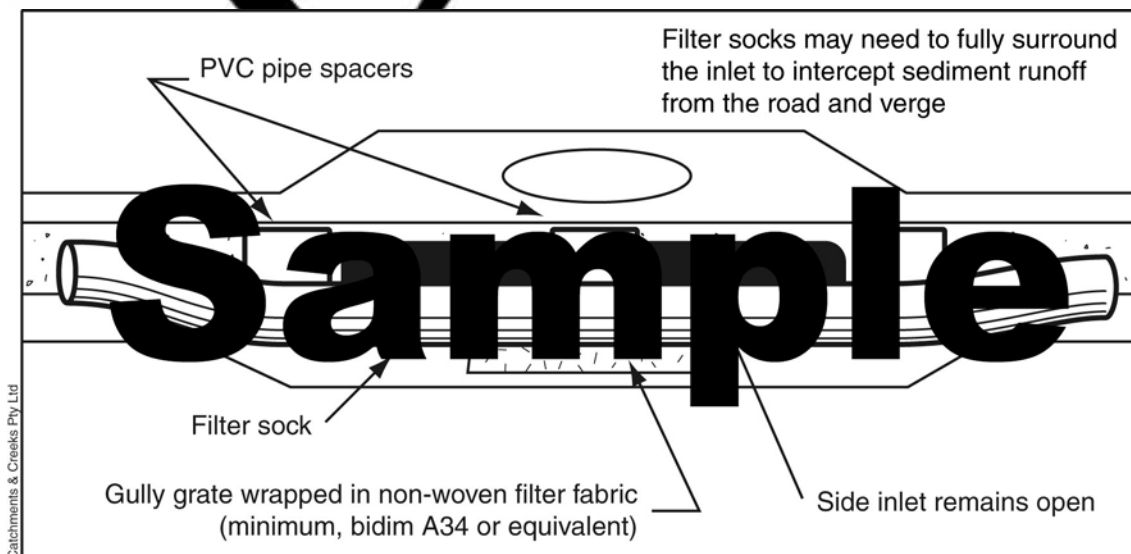


Figure 1 – Sag inlet sediment trap using a filter sock



Photo 3 –



Photo 4 –



Photo 5 – sandbag curb inlet protection



Photo 6 –

Figure 1 shows the typical arrangement of a block and aggregate type sag inlet sediment trap. These types of sediment traps should be used with extreme caution, especially on open public roads.

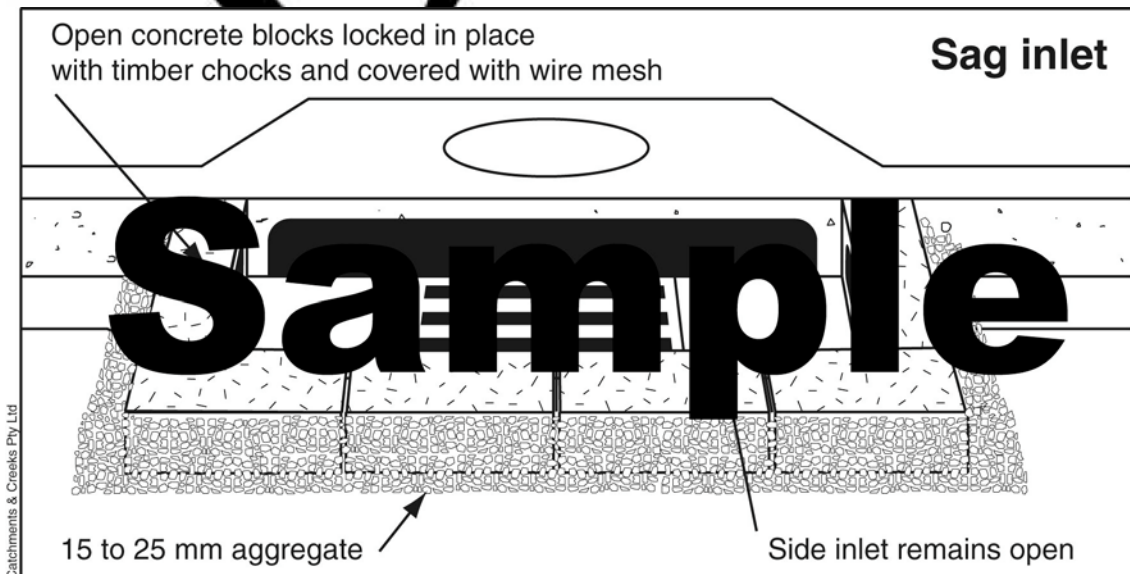


Figure 2 – Block and aggregate 'sag' inlet protection



Photo 7 – ‘



Photo 8 –



Photo 9 – On public road
arrangeable to



Photo 10

Description

A ‘sag’ kerb inlet is a low-kerb stormwater inlet located at a low point in a roadway where water would collect and otherwise pond if the inlet was blocked or sealed.

The alternative to an sag inlet is an ‘on-grade’ inlet, which is located on a part of a roadway that has a positive gradient.

Numerous designs exist as described in Table 1.

Purpose

Used to trap sediment at roadside kerb inlets located at sag points on a roadway.

These sediment traps may also be used to collect sediment and other suspended material from wash-water resulting from diamond saw cutting, concreting works, and other road works activities.

Limitations

These are ‘supplementary’ sediment traps primarily used to collect coarse sediments.

In most cases these sediment traps should be used in partnership with more substantial downstream sediment traps.

Very limited control of fine sediment and turbidity.

Advantages

Simple to construct.

Can assist in limiting sediment build-up in stormwater drains, thus reducing the cost of final off-maintenance clean-up.

Disadvantages

Require cleaning on a regular basis.

Can be easily damaged by road traffic.

Can represent a traffic safety hazard.

Common Problems

These are generally one of the most misused and poorly maintained sediment control devices.

The sediment barrier is often installed such that all flow entry into the inlet is prevented. This causes stormwater runoff to be diverted out of the roadway, possibly through an adjacent property.

The sediment traps are often damaged by road traffic. Operators must exercise extreme caution when placing these devices on open public roadways.

Location

Surrounding 'sag' kerb inlets.

Special Requirements

Consideration must always be given to potential bypass flows in the event of severe storms.

Ponding must be allowed to occur adjacent the trap in order to achieve particle settlement.

Public safety must take priority. If the installation of the sediment trap would represent an unacceptable safety risk then an alternative sediment trap must be used, such as a *Gully Basin* trap.

The sediment trap should not block the side-entry inlet, but should be set back to allow the inlet to function during periods of heavy rain.

Site Inspection

Check the installation for safety risks.

Check for excessive sediment build-up.

If possible, check that during maintenance the collected sediment is removed from the roadway and not just washed into the drain.

Check to see if additional sediment traps are required up-slope of the kerb inlet.

Ensure the kerb inlet is not blocked or partially blocked by the sediment trap.

Installation

1. Refer to approved plans for location and installation details. If there are questions or problems with the location, dimensions, or method of installation, contact the engineer or responsible on-site officer for assistance.
2. Ensure that the installation of the sediment trap will not cause undesirable safety or flooding issues.
3. Install sediment trap in accordance with standard drawing supplied with the approved plan, or as directed by the site supervisor.
4. Ensure the sediment trap fully encloses the kerb inlet. Use appropriate spacers to ensure the sediment trap does not block the side-entry inlet.
5. If necessary, install additional 'on-grade' kerb inlet sediment traps up-slope of the sag inlet to adequately contain the expected quantity of sediment runoff.
6. Take all necessary measures to minimise the safety risk caused by the structure.

Maintenance

1. Inspect all sediment traps daily and immediately after runoff-producing rainfall. Make repairs as needed.
2. Remove collected sediment and dispose of in a suitable manner that will not cause an erosion or pollution hazard.
3. Ensure sediment does not enter the stormwater drain during de-silting operations and maintenance of the trap.
4. Sediment on the road shall be removed immediately if it represents a safety hazard.

Removal

1. When the up-slope drainage area has been stabilised, remove all materials included deposited sediment and dispose of in a suitable manner that will not cause an erosion or pollution hazard.