

# Sediment Control

## Controlling Stormwater Pollution

### Fact Sheet 4

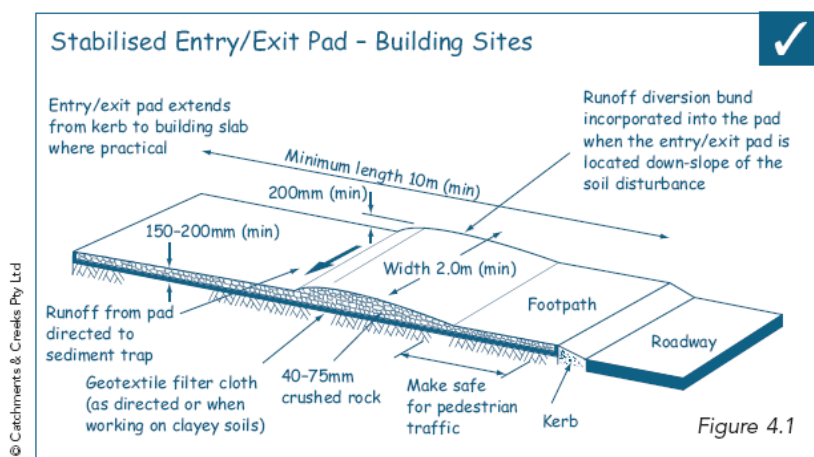
#### Your Building Site

The Whitsunday Regional Council has developed this erosion and sediment control fact sheet to assist in its goal to protect, enhance and promote its natural assets. Soil erosion, sediment and litter from building sites can be major sources of stormwater pollution and can cause significant harm to our sensitive marine environments like the Great Barrier Reef.

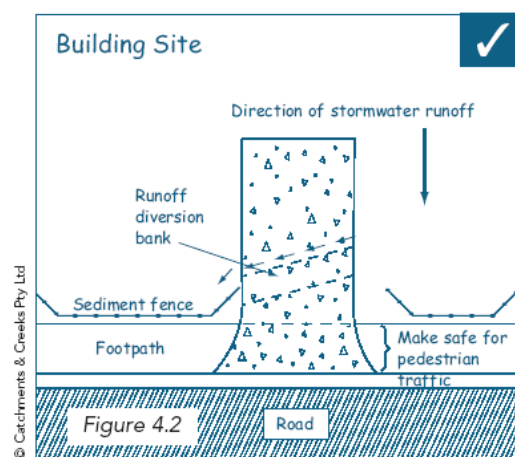
A combination of sediment control measures is often needed on an individual site. Sediment controls usually consist of a sediment barrier installed along the lower side of the soil disturbance, and a stabilised entry/exit pad (rumble pad).

#### Stabilised Entry/Exit Point (Rumble Pad)

Where possible, manage the entry/exit point of the site so that sediment is not tracked off the site. Where practical, restrict the entry/exit point to one stabilised location, not necessarily at the location of the permanent driveway (refer Figure 4.1).



Stabilised entry/exit detail



Entry/exit bund detail



Stabilised entry/exit point (rumble pad)

A rumble pad may be used to stabilise the entry/exit point. These pads should be at least 2 metres wide consisting of minimum 40 mm crushed rock placed 150–200 mm thick over geotextile filter cloth (note that crusher dust is not an acceptable solution). Where possible, the rumble pad should extend from the kerb to the building slab or a minimum length of 10m. Where the entry/exit point (rumble pad) slopes toward the road, install a minimum 200mm high flow diversion bund across the pad to deflect stormwater run-off into the main sediment control zone or into a separate Ushaped sediment fence (refer Figure 4.2).

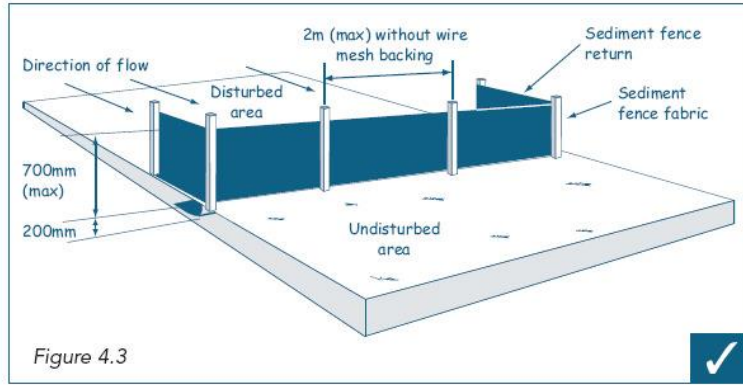
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### Sediment Fences



*Sediment fences cannot be used to retain building waste and rubble*

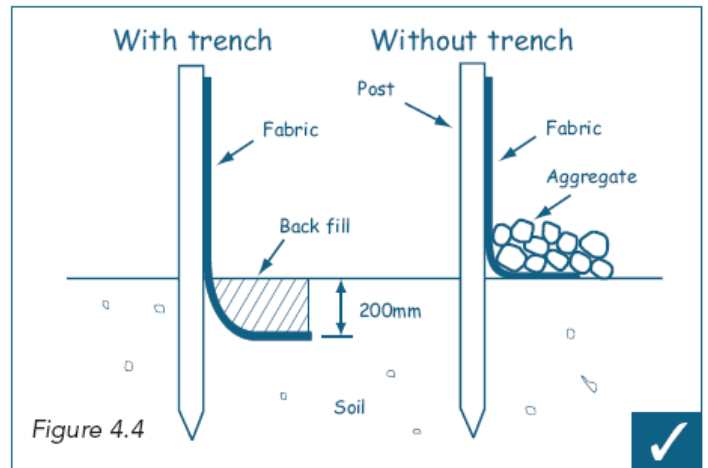


*Typical sediment fence installation*

The most efficient sediment barrier for building sites is usually a specially manufactured geotextile sediment fence. The use of filter cloth or shade cloth is not permitted (refer Figure 4.3).

Sediment fences on building sites can be stapled to approximately 40 mm square hardwood posts or wire tied to steel posts. Wire-tied sediment fences have the advantage of being more readily unhooked from their support posts during working hours to allow the unloading of materials. This feature is useful on small frontage building sites where site access is limited.

In areas where it is impractical to bury the lower edge of the sediment fence, the lower 200 mm (min) portion of the fabric should be placed on the ground up-slope of the fence and buried under a 100 mm (min) layer of coarse aggregate (20-40 mm) (refer Figure 4.4).



*Alternative sediment fence installations (with and without a trench)*



*Sediment fences require checking and maintenance at the end of each day*

Sediment fences should be located down-slope of the disturbance, and ideally along a line of constant land level to prevent the concentration of stormwater run-off. Where this cannot be achieved then sections of the sediment fence should have 'returns' directed up slope for 1-2 metres to control the concentration of stormwater run-off.



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Well designed and maintained sediment fence



Poorly maintained or inappropriately located sediment fences can lead to sediment entering the stormwater drain

### Grass Filter Strips

Grassed areas or grassed filter strips (narrow strips of turf) have generally not proven to be effective in the capture of sediment from urban residential building sites. At best these areas should be used as a secondary sediment barrier in partnership with a sediment fence. The main benefit of maintaining grass on and around a building site is to help reduce soil erosion in the first place.

Grass filter strips are often placed adjacent to road kerbs and footpaths during the subdivision stage of a new estate. All reasonable and practicable efforts should be taken to minimise damage to this or any established grass in or around a building site.

### Vegetated buffer zones

In rural residential areas, building sites are often surrounded by large areas of grassed or vegetated land. Such land may be used as the primary sediment barrier if it:

- is down-slope of the soil disturbance
- is fully contained within the property
- does not contain any drainage swales that may concentrate stormwater runoff
- is at least 15 metres long (in the direction of flow)
- contains established grass that fully covers the soil

The minimum recommended length (in the direction of flow) of a grassed buffer zone is:

Slope of Grassed Buffer (%)	Minimum Length (Metres)
0-3	15
4	20
5	25
10	50

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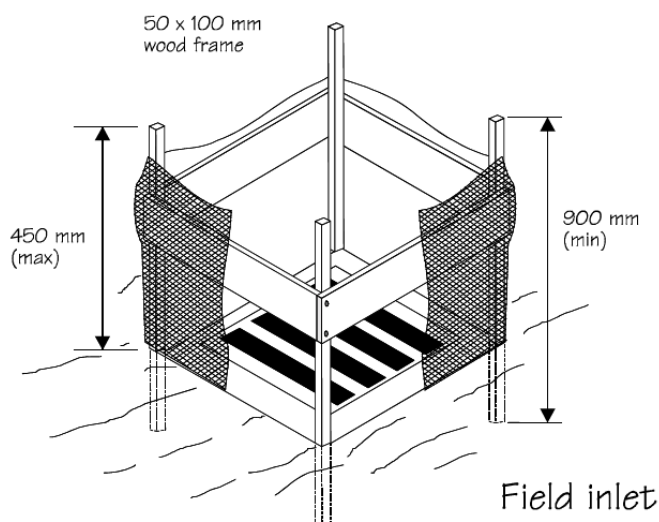
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#### Field Inlet Sediment Barriers

Sediment controls for stormwater inlets located within the property may consist of geotextile fabric placed either directly over the grated inlet or around the inlet supported by a timber frame.

Field inlet protection is necessary where these inlets drain areas of bare and unprotected soil.

During storms, ponding should be allowed to occur around the stormwater inlet to assist in the settling-out of sediments. A structurally sound support frame is needed to withstand the weight of sediment-laden water. Ensure that the type of sediment barrier used does not divert sediment laden water elsewhere without being treated by a sediment control device.



#### Roadside Gully Inlet Sediment Barriers

For safety reasons and sediment control efficiency, sediment barriers generally should not be located outside property boundaries without Council approval. This especially applies to sediment barriers placed on the road. Sediment barriers placed in front of roadside stormwater inlets are rarely as effective as onsite controls and at best usually result in the sediment being washed down the street and into the nearest open gully inlet. They should only be used as a last resort (refer Figure 4.5 and 4.6). If a roadside gully inlet barrier is to be installed, then it should not fully block the inlet structure.

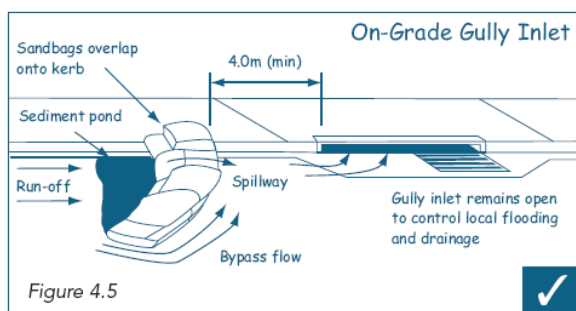


Figure 4.5  
A roadside on-grade gully inlet sediment barrier. On a hillside, sediment barriers may consist of a temporary dam constructed from sand or gravel filled bags placed at least 4 metres up-slope from the gully inlet. Fabric should not be placed across the grate or gully inlet.

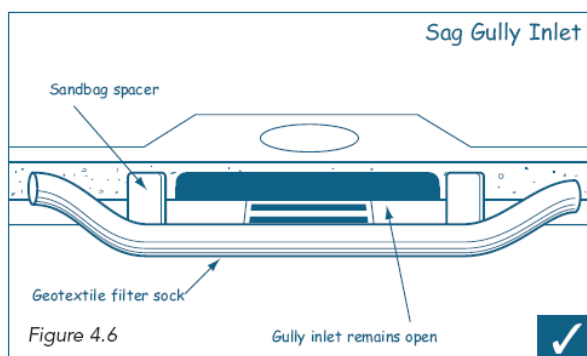


Figure 4.6  
Roadside sag (low point) gully inlet only. At road sag points, a sediment barrier may be constructed around the gully inlet, but should not block the inlet.

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#### Maintenance of Control Measures

All sediment control measures need to be regularly checked and maintained in good working order. Best practice includes anticipating potential risks and being prepared for abnormal circumstances and emergencies. This should include stockpiling extra sediment fence material on-site to facilitate emergency repairs.

Replace sediment fences if the fabric is ripped or otherwise damaged. The maintenance of sediment fences includes the removal of sediment deposited up-slope of the fence and, where necessary, retrenching the fabric and ensuring posts are firmly secured in the ground. If excessive sediment build-up occurs, reapply crushed rock to the entry/exit pad.



*Regular maintenance of sediment control devices is required*

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#### Further Details:

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*These fact sheets are based on those produced by the South East Queensland Healthy Waterways Partnership.*