

KEY TO SITE DIAGRAM

1. Minimise exposed areas

The best way to minimise erosion and control sediment discharge is by disturbing as little soil as possible at anyone time and maintaining as much vegetative cover as possible. This needs planning - stage disturbance and stabilise exposed areas as soon as possible using straw mulch, aggregate or other materials such as a geotextile.

Preventative measures reduce cost and effort - unexposed soil can't erode and doesn't need capture in sediment control measures.

2. Silt fences

Silt fences are useful for small, disturbed areas or sloping areas. For steep slopes, use more than one silt fence and decrease the spacing between fences as slope increases.

3. Earthbunds

Constructed across slopes and near the edges of the site, earthbunds control and detain runoff, allowing sediment to settle out. The bund can be constructed from clay or topsoil from the site. Channels formed by bunds can also be used to divert clean water away from disturbed areas.

4. Stabilised entranceway

The stabilised entranceway should be the first works to occur on site, as soil transferred to the roadway by vehicles will be washed into stormwater systems. All vehicles should use it for site entry and exit. An entranceway constructed from a generous spread of metal aggregate will be sufficient on small sites. A wheel wash may be needed for larger sites. Wooden planks can offer protection to footpath, grass berm and kerb, and reduce reinstatement costs. Keep all traffic off grass berms, and stabilise disturbed berms immediately - during winter significant volumes of sediment can wash off them.

5. Clean water diversion

Separation of clean and dirty water will greatly reduce the effort needed to prevent sediment runoff. Divert all upstream runoff away from the site with a bund or diversion channel. Channels will need to be stabilised when gradients exceed 2%. During construction, roof runoff may be diverted to the kerb by connecting a non-perforated pipe to the downpipe outlet.

6. Haybales

Haybales can impound sediment-laden water at points of discharge, but will only be successful if installed correctly. They need to be trenched into the ground and securely staked together, with bale strings positioned on the sides.

7. Stabilising disturbed ground

After soil is disturbed, stabilise as soon as possible with straw or hay mulch or hardfill. Where appropriate grass should be sown as soon as works are completed.

8. On site works

Concrete washings, water blasting, equipment washing, concrete and tile cutting - these works can all pollute waterways unless care is taken. These products cause problems as they can be highly alkaline, or can contain oxides, heavy metals (copper drill lubricants), or petroleum products.

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- If washing fines, make sure the wash water is confined, filtered (for instance, across grass or through silt fence or haybales), or diverted to a soak area. If discharge is necessary, do so to the sanitary sewer, not the stormwater system.
- Don't wash vehicles and equipment on site unless there is a designated wash out area where wash water soaks into the ground, or is treated before discharging from the site.
- Settle drill slurry (See Directional Drilling, below).
- When water blasting, contain dirty waste runoff. Chemical additives must not be discharged to stormwater drains. Carefully filter out paint flakes and dirt using filter cloth, bunds or similar before discharge to stormwater drains.

9. Trenching/stockpiles

Material from trenching and excavation should be stockpiled away from low points, runoff channels or kerbs. Ideally, stockpiles should be covered immediately or stabilised with mulch or vegetation. Any runoff from stockpiles needs to be directed to suitable sediment control measures such as silt fences, earthbunds or properly installed haybales.

10. Garden tanks

The inclusion of a garden tank to collect roof rainwater can reduce the amount of stormwater runoff from the site in the short and long term. During construction it may reduce the volume of clean water runoff from the site and provide onsite water for construction activities. Long-term, it can provide free non-potable water for the property owner.

Cesspit protection

Filter cloth across cesspits may be used on a temporary basis as a last resort to capture sediment. However this is not an effective control measure, as filters block up rapidly and are difficult to install and maintain. Sediment is better managed on the site, using measures described in this guideline. When temporarily using cesspit protection, the filter cloth must fully cover the cesspit grate and inlet at the back.

Pumping water from the site

Untreated water from trenches or waterlogged areas on the site must never be pumped directly to the kerb or cesspit. If water needs to be removed from the site, wait for suspended sediment to settle out. Never pump from the bottom of the trench or impoundment area - filter the pumped water across a grassed area or into a sediment control device before discharging to a cesspit or waterway.

In short, unless it is clean, don't discharge to a cesspit or waterway.

Directional drilling

Slurry from directional drilling must be allowed to settle, with the water soaking to ground, or being disposed to sewer (with local council approval) or by a waste contractor. Settle slurry using a small excavated impoundment area on site; a silt fence corral; or pump to a settling tank. In certain situations slurry may need to be taken off site for appropriate disposal.



EROSION AND SEDIMENT CONTROL ON CONSTRUCTION SITES

SITE MANAGEMENT FOR PERMITTED ACTIVITIES

This guideline outlines a range of measures suitable to use on small sites to minimise the effects of erosion and sediment discharge.

Sediment is the single most significant contaminant of our streams, lakes and coastal waters. The cumulative effect of sediment discharge from Northland's many individual building and earthworks sites can have a major detrimental effects on waterways, degrading their ecology and reducing recreational and economic value.

Earthworks not requiring a Resource Consent are termed Permitted Activities.

Large earthworks sites require Resource Consents from Northland Regional Council and must comply with consent conditions to minimise contamination of waterways by sediment. Smaller earthworks are termed Permitted Activities as they do not require a consent from Northland Regional Council. However these works still need to minimise sediment contamination, and may need a permit or consent from the local District Council.

Penalties for not putting protection measures in place range from abatement notices and instant fines, through to prosecution.

Northland Regional Council encourages landowners, contractors and developers to use the measures outlined in this guideline. These groups have a legal responsibility under the Resource Management Act (1991) to make sure any person

disturbing soil uses appropriate measures to minimise the impact of these works. It is important to recognise this responsibility includes Permitted Activities.

Failure to put appropriate protection measures in place can lead to the serving of an abatement notice, an instant fine or prosecution. Significant damage to the environment can result in very large fines and court costs or jail.

Need more information?

This guideline provides a brief outline of measures that should be used to control erosion and sediment control on smaller sites and for permitted activities.

More information on measures suitable for both large and small sites is outlined in Auckland Regional Council's Technical Publication No. 90 "*Erosion and Sediment Control Guidelines for Land Disturbing Activities*".

Call the Northland Regional Council office on: **(09) 438 4639** or

Environmental Hotline 0800 504 639

for 24 hour response to Environmental Pollution.



CALL YOUR LOCAL NORTHLAND REGIONAL COUNCIL OFFICE ON:
WHANGAREI: Phone (09) 438 4639 **DARGAVILLE:** Phone (09) 439 3300
KAITAIA: Phone (09) 408 6600 **OPUA:** Phone (09) 402 7516
or **Environmental Hotline 0800 504 639** for 24 hour response to Environmental Pollution.

CARING FOR NORTHLAND AND ITS ENVIRONMENT



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Here's what you can do to reduce erosion and sediment discharge from your site

Refer to number key over page

