Stockpile Management

GENERAL CONSTRUCTION PRACTICE

Best practice stockpile management involves giving appropriate consideration to the following issues.

Stockpile location

All material stockpiles should be located within the property boundaries. Materials should not be located within the road verge unless permission is obtained from the relevant road authority, and/or the works are occurring within the road corridor.

Wherever practical, sand and soil stockpiles should be located within the general sediment control envelope of the work site.

Sand and soil stockpiles should be located away from areas subjected to concentrated overland flow.

Photo 1 – Soil stockpile located within sediment control envelope

Photo 2 – Sand stockpile inappropriately located within an overland flow path

Drainage control measures

Where necessary, a *Flow Diversion Bank* or *Catch Drain* should be placed up-slope of a stockpile to direct overland flow around the stockpile. The diversion of up-slope stormwater around stockpiles is generally recommended during those periods when rainfall is possible, the average monthly rainfall exceeds 45mm, and the up-slope catchment area exceeds 1500m^2.

All soil stockpiles should remain in a free-draining condition to avoid long-term soil saturation.

Photo 3 – Catch drain

Photo 4 – Straw bales can be used for the temporary diversion of up-slope runoff

Erosion control measures

Table 1 outlines the recommended erosion control measures for sand and soil stockpiles.

Table 1 – Protection of sand and soil stockpiles from wind and rainfall

Material	Stockpile cover [1]	Comments
Sand	No cover	• When wind erosion and dust control is not an issue.
	Synthetic cover, porous or not porous	• When the control of wind erosion is essential for reasons of safety.
Soil	No cover	• When wind erosion and dust control are not an issue.
	Mulching, vegetative cover, chemical stabilisers, soil binders, or impervious blanket [2]	• Long-term (>28 days) stockpiling of dispersive soils. • Long-term (>28 days) stockpiles of clayey soils when turbidity control is desirable. • Long-term (>5/10 days) soil stockpiles during months of Extreme/High erosion risk. • Short and long-term stockpiles of clayey soils when turbidity control is essential.

[1] Applicable only when displacement of the stockpiled material has the potential to cause environmental harm. The practice of covering stockpiles may need to be modified if theft or damage to covers becomes excessive.

[2] Mulching is normally applied at the first opportunity that mulch or hydromulch can be introduced to the site. Minimum 70% cover is required for both mulch and vegetative covers. Though still desirable, a cover may not be required if runoff from the stockpile is directed to a sediment basin.

Photo 5 – Stockpile protected with impervious cover

Photo 6 – Earth stockpile protected with mulch

Sediment control measures

Stormwater runoff originating from stockpiles needs to be directed to, and/or controlled by, a suitable sediment trap (e.g. *Sediment Fence* or *Compost Berm*).

Table 2 outlines the recommended minimum sediment control practices for stockpiles.

Table 2 – Sediment control practices down-slope of stockpiles

Material	Sediment control	Comments
Sand or gravel	Woven sediment fence or equivalent	• Sediment control is only required if stockpiled material could be displaced and cause safety risks or environmental harm.
Topsoil	Woven sediment fence or equivalent	• If the topsoil is moderately to highly erodible and is likely to release significant clay-rich (turbid) runoff, refer to the recommendations below for subsoil stockpiles.
Subsoil	Woven sediment fence or equivalent	• Stockpiles located up-slope of suitably grassed areas that will allow for the infiltration of stormwater runoff from the stockpile (minimum 15m of flow length), or all runoff is directed to a Type 1 or Type 2 sediment trap.
	Compost berm, filter fence, composite (non-woven) sediment fence, or equivalent	• Stockpiles not located up-slope of a suitable grassed area, or Type 1 or Type 2 sediment trap. • Soil stockpiles located adjacent permanent drainage channels or waterways.

Photo 7 – Straw bales used to prevent stockpiled material shifting onto the sediment fence

Photo 8 – Sediment fence placed down-slope of soil stockpile

De-watering stockpiles

Table 3 outlines best practice sediment control measures for the de-watering of stockpiles.

Table 3 – Sediment control practices for de-watering stockpiles

Material	Sediment control	Comments
Non-clayey material	Grass filter beds or equivalent	• Ensure grassed area remains unsaturated during de-watering operation.
Clayey material	Filter fence (non-woven filter cloth)	• Filter cloth must be supported by wire mesh, or aggregate berm. • Woven sediment fence fabric must **not** be used.
	Compost berm or Mulch berm or Filter sock	• Ensure the berm/sock is placed along the contour to ensure flow is distributed evenly along the length of the berm/sock. • Ensure water does not bypass around the end of the berm or sock.
Contaminated material	Not applicable	• Seek expert advice on case-by-case basis.

Photo 9 – Filter fence

Photo 10 – Compost berm

Management of stockpiles

Soil should be removed from stockpiles in a manner that avoids vehicles travelling over the stockpile.

All soil stockpile areas should be rehabilitated as soon as reasonable and practicable after the material has been removed.

Topsoil stockpiles

Table 4 outlines the recommended management of topsoil stockpiles.

Table 4 – Management of topsoil stockpiles

Condition of topsoil	Recommended stockpiling requirements
Topsoils containing valuable plant seed content that needs to be preserved for re-establishment.	• Upper 50mm of soil stockpiled separately in mounds 1 to 1.5m high. • Topsoil more than 50mm below the surface stockpiled in mounds no higher than 1.5 to 3m. • The duration of stockpiling should be the minimum practicable, but ideally less than 12 months.
Imported topsoil, or in-situ topsoil containing minimal desirable or undesirable seed content.	• Maximum desirable stockpile height of 2m. • The duration of stockpiling should be the minimum practicable, but ideally less than 12 months.
Topsoils containing significant **undesirable** seed content.	• Ideally replace soil with alternative local topsoil free of weed seed content (seek expert advice). • Depending on expert advice, stripped topsoil may be appropriately treated to prevent germination of weed seed content, covered with clear plastic sheeting to help burn-off the weed seed content, or buried under a minimum 100mm of soil.
Topsoils containing weed seed of a declared noxious or otherwise highly undesirable plant species.	• Suitably bury the topsoil on-site, or remove the soil from the site for further treatment (in accordance with local and State laws). • Stripped soil must **not** be transported off-site without appropriate warnings and identification.
Previously disturbed sites where the surface soils consist of a mixture of topsoil and dispersive subsoil.	• Mix the soil with gypsum, lime or other appropriate ameliorants prior to stockpiling in either high or low mounds according to required protection of seed content. • Choice of chemical treatment of the dispersive soil depends on desired pH adjustments (seek expert advice).