

# Sediment and Erosion Management



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## Sediment and Erosion Management

### Building Information Sheet

With the coming introduction of the *Shire of Augusta Margaret River Site Erosion and Sand Drift Law 2018*, builders and home owners are required to actively prevent erosion and sedimentation from activities on their lot. The Shire has experienced ongoing erosion associated with region's clay soils. Preventing erosion and downstream sedimentation not only improves environmental habitats and the function of natural waterways, but also reduces the risk of flooding (from clogging of drainage infrastructure); reduces costs associated with supplying building sand; and improves the streetscape within the community by removing sand and waste from roads and verges.

This fact sheet provides guidance on the sediment control measures that should be implemented on building sites and has been prepared acknowledging that a one-size-fits-all approach may lead to unnecessary buildings costs. Land owners and occupiers (including builders and contractors) should undertake a site assessment and apply the appropriate controls for their site risk. Note that if your site meets any of the criteria in the higher risk categories, that is the risk level to apply.

If you are unsure of how to assess your site, please contact the Shire's Environmental Officer on 08 9780 5255.

Shire staff will regularly inspect building sites within the region and have the ability to issue fines for non-compliance with the *Shire of Augusta-Margaret River Site Erosion and Sand Drift Law 2018*.



## Site Assessment

### Low Risk

- Large lots (>2000m<sup>2</sup>)
- Soils comprised of coarse sand
- Onsite vegetation to protect soil outside of building pad
- Lot and surrounding slopes <1:10
- No waterways (creeks, rivers, streams) within the property boundary or within 250m downstream

### Medium Risk

- Urban lots (>500m<sup>2</sup>)
- Soils comprised of mainly sandy clays or silt
- Lot and surrounding slopes between 1:10 and 1:4
- No waterways (creeks, rivers, streams) within the property boundary or within 100m downstream
- No downstream drainage infrastructure (roadside entry pits, grates and pipes)

### High Risk

- Urban lots (<500m<sup>2</sup>)
- Soils comprised mainly of clay and silt material
- Presence of dispersive clay soils onsite and downstream
- Lot and surrounding slopes >1:4
- Downstream waterways (creeks, rivers, streams) within 100m of property boundary (including any waterways within the property)
- Waterways (creeks, rivers, streams) within the property boundary and/or within 250m downstream
- Downstream drainage infrastructure (roadside entry pits, grates and pipes)

## Low Risk Sites

The following sediment controls represent the minimum requirements for all building sites within the Shire. The focus of these controls is to ensure a clean building site and prevent building materials and litter leaving the site.

- Maintain a clean site, including sweeping up loose material and placing all waste material in bins (with regular collection);
- Ensure all wash down areas (including concrete and mortar slurries) are contained within the site. Do not allow material to enter drainage systems; and
- Educate all staff about the requirements to maintain a clean site and prevent wash down of barrows on driveways.

Builders should also plan ahead and check the weather forecast to ensure clean sites ahead of any wet weather. As little as five minutes of sweeping of footpaths, roadways and driveways at the end of each working day is relatively inexpensive and provides considerable benefits.

For larger lots, vegetation should be retained and replaced as quickly as possible if removed.



## Medium Risk Sites

These sites must implement the basic controls outlined above for low risk sites. As the risk of erosion is increased, additional measures are required which focus on building site arrangement:

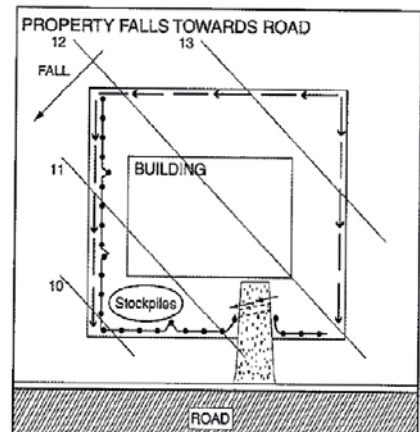
- Define a single site access location and prevent contractors driving over exposed surfaces such as unplanted verges or front yards
- Stabilise the site access location using crushed rock (150-200mm deep pad of minimum 40mm crushed rock);
- Minimise material stockpiling by scheduling deliveries. Place material within the lot and away from the roadway;
- Store sand within bags (where possible);
- Locate material stockpiles within the lot boundary (away from verges) and 2m away from driveways and other hardstand area;
- Cover stockpiles with plastic sheeting or other material; and
- Implement sediment control fences (see over).

Careful site planning can minimise the number of physical controls that are required for effective management. Consideration should also be given to any land upstream with flows diverted away from the building site.



## Sediment Control Fences

Sediment fences work to catch sediment flowing from a site and should be installed at the downstream edge of the property and around stockpiles (see sketch below). The material for the fences can include geotextiles, woven (coarse sediment) and non-woven (fine sediment) material. Effective sediment fence design requires burying the fence to 150-200mm, and installing steel star pickets at spacing of up to 2m. These fences are essential on all medium and high risk sites and must be installed even on the smallest building sites. Straw bales may be considered for lower risk, rural sites however they must also be buried and tightly packed to be effective.



Guidelines for Erosion and Sediment Control at Building Sites in the South West of WA.

Lake Macquarie City Council

## High Risk Sites

High risk sites have the potential to directly impact downstream drainage infrastructure and natural waterways. Additional measures are required to protect these systems are:

- Sediment traps (multiple sandbags or filter socks) installed in the roadway upstream of kerb inlets (ensuring flows are not directed to other drainage inlets);
- Sediment traps (multiple sandbags or filter socks) around grated drainage inlets and inlets in road sags (ensuring flows are not directed to other inlets);
- Sediment fences installed around any waterways within the property;
- Connection of the roof gutters to soakwells or street drainage, with temporary connections provided during construction (see over); and
- Rainwater tank overflows connected as per soakwells.



These measures should be implemented in addition to the measures for low and medium risk sites. They require regular inspection and cleaning to prevent sediment build up. Ongoing adjustments to the layout of sediment traps may also be required to ensure they are effective.

SEDIMENT AND EROSION MANAGEMENT

## Connecting Downpipes

Completion of roof and guttering before downpipes or connections to soakwells and/or street drainage poses a significant risk for erosion on building sites. Roofs are a large collector of rainfall and uncontrolled runoff can mobilise sediment offsite and therefore downpipe connections should be completed as soon as possible. Where this is not possible during construction, temporary downpipes must be installed (hard flexible or non-flexible pipes) and/or gutter bypass systems that pipe water from gutters to street drainage in temporary pipes and prevent runoff across the site.



## Public Safety

Implementation of any sediment controls within verges, footpaths and roadways should ensure that they do not present a hazard for vehicles and/or pedestrians.

## Further Information

- Shire of Augusta Margaret River website (<https://www.amrshire.wa.gov.au/>)
- Call the Shire's Environmental Officer on 08 9780 5255
- Erosion and Sediment Control Manual for the Darling Range, Perth, WA;
- Guidelines for Erosion and Sediment Control at Building Sites in the South West of WA; and,
- International Erosion Control Association (Australasia) (IECA) ([www.austieca.com.au](http://www.austieca.com.au))

## What about new home owners?

When land owners receive their keys before landscaping, driveways and other features are installed and exposed soil is left by the builders, the owner must do the following:

- Don't remove existing controls left by the builder (unless they are unsafe or ineffective)
- Check to see if they are installed correctly
- Install sediment measures (consistent with this fact sheet)
- Aim to finish landscaping works as a priority
- Clean up any sediment that is washed or blown onto the verge, footpath, gutter or roadway

Exposed soil, particularly in front yards, should be covered as soon as possible with a ground cover such as mulch, gravel, vegetation or geo-fabric. It is important to do this prior to any rainfall.

Contact the Shire with any questions.

## Acknowledgements

This fact sheet has been prepared with information from the referenced documents, consultation with other local authorities (including Lake Macquarie City Council) and information provided by the Sediment Task Force (Perth NRM).

Note that the guidance is general and specific site erosion and sediment control designs may be required to ensure compliance with the *Shire of Augusta Margaret River Site Erosion and Sand Drift Law 2018*.

## Document and Version Control Table

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SEDIMENT AND EROSION MANAGEMENT