



Review of legislation and tools that facilitate sediment prevention and control across land development sites in Australia

Prepared for the Department of
Biodiversity, Conservation and Attractions

By Urbaqua

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Acknowledgement

We acknowledge the Whadjuk people of the Noongar nation as the Traditional Owners of the lands, waters and skies of the Country of Boorloo. We acknowledge and respect their enduring culture, their custodianship of Country and continuing connections, their contribution to the life of the Perth, Swan Coastal Plain area, and Elders, past and present.

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1 INTRODUCTION

1.1 Context and background

In Western Australia (WA), nationally and internationally, there is increasing acknowledgment of the significant environmental, economic and social costs resulting from non-compliance with legislative requirements for sediment control during land development.

Poor industry practice is contributing to the degradation of waterway and wetland ecosystem health, recreational, tourism, public health and cultural heritage values, and is compromising stormwater infrastructure and water sensitive urban design (WSUD) investments, at significant cost to government and the community.

Research, sponsored by the Sediment Task Force and conducted by the University of Western Australia/CRC for Water Sensitive Cities¹, at Heron Park in Armadale ascertained that approximately 17,000 kg/ha of exposed sand can escape into the environment, stormwater drains, rivers and waterways for every hectare of building development every year. It also concluded that:

- Exposed sand/soil is a major problem (including uncovered stockpiles).
- Not emptying side entry pits has significant impacts, especially prior to heavy rainfall events.
- There is consistent sediment deposition in drains at low baseflows and potential for groundwater intrusion to flush-out sediments already in the system particularly during earthworks on sites where there is known, or anticipated, water table rise in low lying areas.
- There is a lack of monitoring for water-borne sediment during subdivision.

Anecdotal evidence over many decades confirms 'frequent evidence' of non-compliance with erosion and sediment control (ESC) requirements at land development sites, with significant volumes of sand drift and sediment-laden runoff often containing nutrients, contaminants, bacteria and microplastics being mobilised from sites into waterways, mainly via drains, and low levels of monitoring for compliance and enforcement in WA.

1.2 Purpose of this review

Effective industry adoption of best practice ESC practices during all forms and stages of land development is essential to protect water quality and prevent further sedimentation.

State Government agencies with statutory management roles and responsibilities related to land use planning and land development are well placed to support industry and Local Government to improve sediment management outcomes and reduce the risk of environmental harm.

This review, sponsored by the Sediment Task Force (coordinated by the Department of Biodiversity, Conservation and Attractions (DBCA)) is intended to aid this progression.

¹ [Oldham C.E., Eynon F. and Ocampo, C.J. 2020. Quantifying sediment export from an urban development site: Heron Park, WA, Melbourne, Australia: Cooperative Research Centre for Water Sensitive Cities.](#)

1.3 Report overview

This report summarises current State and local government approaches for the control of sediment as part of the land development process across Australia. This includes legislation and/or regulation and associated infringement criteria and fines, as well as other tools that prevent or reduce contamination and sedimentation of waterways, wetlands, estuaries and marine environments.

The scope of development considered includes activities associated with land subdivision, as well as industrial, commercial and residential building activities, roadworks, public transport and utilities infrastructure development, landscaping activities in the public and private realm, and the management of stormwater.

The review included engagement with officers in other jurisdictions at State and local government level to understand barriers and benefits of different ESC approaches.

This information was used to underpin recommendations on approaches most likely to improve sediment management practices in the Swan Canning catchment that can be delivered by the responsible organisations.

1.4 Significance of this review

Effective management determines whether water quality is improved, restored, sustained or degraded.

The findings of this review will assist DBCA to achieve Objective 1 of their draft Derbal Yiragan (Swan) Djarlgarro (Canning) River Protection Strategy 2024, to 'manage the catchment to protect biodiversity, waterways, and wetlands' in part by 'preventing sediment mobilisation during land development'.

It will inform the delivery of the Commonwealth funded Urban Rivers and Catchments Program's Sediment and Litter Control and Prevention Project 2024-28 (SLCPP). The SLCPP is coordinated by the South East Region Centre for Urban Landcare (SERCUL) on behalf of SECCA, in partnership with DBCA and with support from the Department of Environmental Protection (DWER). The SLCPP will work with the Cities of Armadale, Gosnells and Canning and Town of Victoria Park, peak bodies, land developers, builders, other state government agencies and the community to develop a coordinated approach and improve sediment and litter management during urban development in the South East Corridor of the Canning River Catchment. It is anticipated the findings of this review will also assist governments to adopt new internal management systems and build officer and industry capacity to ensure proponents 'keep soil and sand on site', to protect water quality.

2 SEDIMENT MANAGEMENT PRACTICES ACROSS THE COUNTRY

The laws across Australian states and territories share common goals to facilitate sediment prevention and control across land development sites but differ in their specific provisions and enforcement mechanisms. Most states have an environmental protection act that includes a general duty to prevent environmental harm, including sediment runoff and many states explicitly prohibit pollution, including sediment runoff, from construction sites. With regards to planning requirements, development applications typically require consideration of environmental impacts, including sediment control, with outcomes able to be delivered via approval conditions.

Queensland and New South Wales have more detailed provisions specifically targeting sediment control, whereas other states incorporate these requirements within broader environmental protection laws. Queensland has also developed specific decision support tools for local governments to manage erosion and sediment control and Victoria provides detailed guidelines for construction techniques to prevent sediment pollution.

The following section summarises the legislation and tools used in States other than WA to facilitate sediment prevention and control across land development sites.

2.1 Queensland

2.1.1 Guiding legislation and/or regulation

In Queensland, several pieces of legislation, regulations, policies, and guidelines are relevant to the prevention of soil erosion and the control of sediment on land development sites:

- **Environmental Protection Act 1994 (EP Act):** This act is the primary environmental legislation in Queensland. It regulates activities that may cause environmental harm, including sediment runoff from construction sites. Under section 319, persons in Queensland carrying out activities which may cause environmental harm must comply with the general environmental duty (GED): 'A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm'. In addition, Section 440ZG: Prohibits the release of sediment into waters from construction sites.
- **Planning Act 2016:** This act governs land use planning and development assessment in Queensland. It includes provisions for managing erosion and sediment control during the construction and operation of developments. Section 63 allows for development conditions to be imposed to prevent environmental harm, including measures for erosion and sediment control.
- **State Planning Policy 2017 (SPP):** The SPP outlines the state's interests in planning and development, including water quality and erosion and sediment control. It provides guidance for local governments to incorporate these interests into their planning schemes. Appendix 2, Table A of the SPP specifies construction phase stormwater management design objectives (SMDOs). The SMDOs outline desired outcomes to prevent sediment release during the construction phase of a development and are intended to be reflected in Queensland local government planning schemes and development approval conditions. When SMDOs are reflected in development approval conditions, they are enforceable under the Planning Act 2016 (Qld).
- **Local Government Regulations:** Local governments in Queensland have the authority to impose conditions on development approvals, including requirements for erosion and sediment control plans (ESCPs). These regulations ensure that sediment control measures are implemented at the local level
<https://environment.desi.qld.gov.au/management/water/urban-stormwater/erosion-sediment-control>.

- **Guidelines and Procedural Guides:**
 - **Erosion and Sediment Control (ESC) Guidelines:** These guidelines provide best practice advice and information for managing soil erosion and sediment on construction sites. They are used by local government officers and industry professionals to design and implement effective sediment control measures.
 - **Procedural Guide for Releases to Waters from Land Development Sites:** This guide provides tools for undertaking ESC compliance inspections and applying enforcement provisions under the EP Act.
- **Transport and Main Roads Specifications MRTS52:** This technical specification outlines the requirements for erosion and sediment control on transport infrastructure projects. It includes principles and standards for developing and implementing ESCPs.

In addition, the Australian and Queensland Government's [Reef 2050 Long Term Sustainability Plan](#) includes requirements to implement best practice stormwater management (e.g. erosion and sediment control, water sensitive urban design and capture of gross pollutants) for new development in coastal catchments and build capacity for local government and industry to improve water quality management in urban areas.

In Queensland, the State Planning Policy and *Planning Act 2016* regulate future planning and development, and development approvals should include provisions relating to construction and operation of developments. Not all activities undertaken that have the risk of causing environmental harm, require development approval under the *Planning Act 2016* however (e.g. building works approved only under the *Building Act 1975* or plumbing and drainage works approved under the *Plumbing and Drainage Act 2002* or Development under the 2500 m² threshold in the SPP Water Quality Interim Development provisions) and not all development approvals have adequate or specific provisions regulating the management of ESC.

Land and infrastructure development (all residential, commercial, industrial and public infrastructure developments on land, such as subdivisions, roads, rail, bulk water distribution and hospitals) are subject to legal requirements for depositing prescribed water contaminants in waters, including water contamination caused by the release of sediments during the construction stage of urban land development under the EP Act.

Section 440ZG of the EP Act 1994 (Qld) is devolved to local government (as per section 100, Environmental Protection Regulation 2008 (Qld)). Under section 440ZG, it is an offence to unlawfully deposit a prescribed water contaminant (including sediment) in or in such a way where it could reasonably enter a roadside gutter or stormwater drain.

The Queensland Department of Environment, Tourism, Science and Innovation has prepared guidelines to provide officers authorised under the EP Act with a tool for undertaking ESC compliance inspections. These guidelines also assist local government officers to administer and enforce s.440ZG on building and development sites:

- [Procedural guide, Releases to waters from building sites and small construction sites \(less than 2500m²\) \(PDF, 927KB\)](#)
- [Procedural guide, Releases to waters from land development sites and construction sites 2500m² and greater \(PDF, 879KB\)](#)

These documents have been applied on construction and land development sites across Queensland by departmental officers and Local Governments with delegation under the EP Act and by industry in designing and implementing ESC. The procedural guides are to be applied across Queensland and incorporate evolving sediment management technologies including high efficiency sediment basins.

2.1.2 *Infringement criteria and fines*

In Queensland, the penalties for non-compliance with sediment control regulations can be significant, and local governments play a crucial role in enforcing these regulations.

Penalties for Non-Compliance

- **Fines:** Non-compliance can result in fines ranging from 20 to 100 penalty units for development-related offences. As of July 1, 2024, the value of a penalty unit is \$161.30 ([Brisbane City Council website](#)). This means fines can range from approximately \$3,226 to \$16,130, depending on the severity of the offence.
- Erosion and Sediment Control prescribed infringement notices (PIN) amounts for a corporation start from \$8,538.00. The current maximum penalties in a court of law for these offences are \$189,560.00 if it was done wilfully or \$68,310.00 otherwise ([Townsville City Council](#)).
- **Environmental Protection Orders:** The Queensland Department of Environment Tourism, Science and Innovation (DETSI) can issue environmental protection orders requiring immediate action to rectify non-compliance.
- **Prosecution:** In severe cases, non-compliance can lead to prosecution, resulting in higher fines and potential imprisonment for individuals responsible.

Local councils in Queensland enforce sediment control regulations through several activities:

- **Regular inspections:** Councils conduct regular inspections of construction and development sites to ensure compliance with ESC measures.
- **Issuing notices:** If non-compliance is detected, councils can issue infringement notices, requiring immediate corrective action.
- **Education and support:** Councils provide education and support to developers and builders to help them understand and comply with sediment control requirements.
- **Collaboration with State Government:** Councils work closely with the State Government to monitor compliance and take enforcement actions when necessary.

Demonstrating that all reasonable and practicable measures have been adopted to prevent and minimise environmental harm can be used as a defence for offences under the EP Act 1994 (DETSI Procedural Guides). The implementation of best practice ESC, in particular the measures and practices described in Best Practice Erosion & Sediment Control (BPESC) document (IECA, 2008), is considered by the Queensland government to demonstrate compliance with the legislation. Its' recommendations include there should be:

- Controls and practices incorporated during the planning and design phases to prevent soil erosion and surface-water and drainage-water running over sites.
- Restrictions on timing and staging of earthworks at times of high risk.
- Discharge from sediment basins (<50mg/L TSS).
- Regular monitoring and auditing (corrective action).

The BPESC document, guidelines, webinars, seminars, conference papers, winners of IECA Australasia's Environmental Excellence Awards and newsletters are available at [Publications - International Erosion Control Association](#).

2.1.3 *In practice*

Compliance and enforcement activities in the SEQ region have resulted in high levels of effective onsite erosion and sediment control performance within the land development industry, demonstrating sediment load reductions of 60 – 80% (HLW, 2019).

It is noted however, that the degree of enforcement by local governments is highly variable. Some, like Brisbane City Council and other large city scale urban local governments, take the responsibility quite seriously and have a dedicated ESC/440ZG enforcement team backed by an experienced legal team. As part of their ESC compliance program, they undertake proactive site inspections of building and development sites and will issue enforcement notices and PINs if they feel it is warranted.

In comparison other local governments, particularly smaller regional councils may do very little. If there are no dedicated officers undertaking proactive site inspections, the only time an investigation is undertaken would be on a reactionary basis if an incident is reported to Council. In addition, it is likely that even if something is reported, this will not result in issuing an enforcement notices or PIN under 440ZG (K Toms, Pers comm). It is the opinion of Karen Toms, Principal Scientist at [Water by Design](#) in Queensland, that those who proactively regulate ESC get much better outcomes on development sites than those that don't.

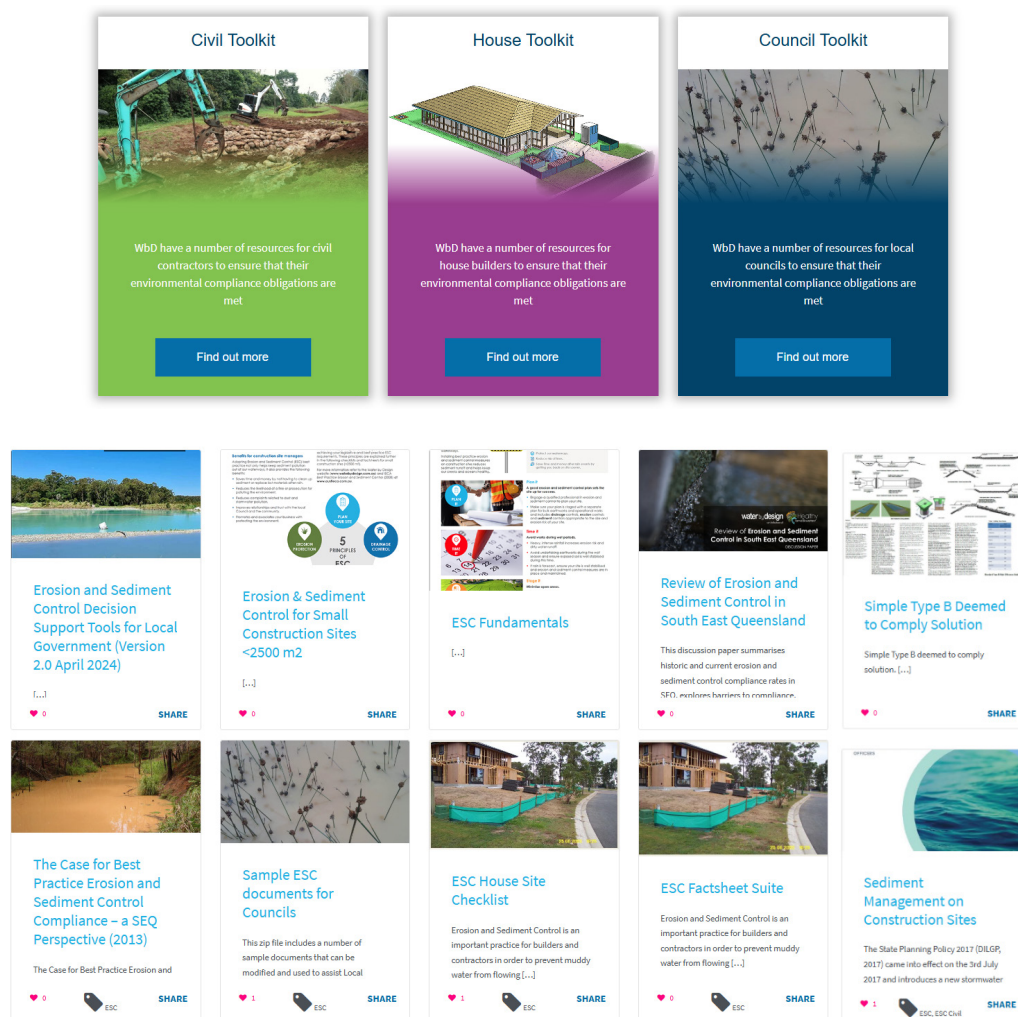
Local governments can also take action under the Planning Act by upholding conditions of approval. This can be a successful avenue if the local government has good ESC policies in their planning scheme and strong ESC standard conditions of approval. However, it can be harder for a local government to successfully apply an enforcement notice in the absence of these tools.

Karen Toms, Principal Scientist at Water by Design in Queensland, also notes that:

- In addition to the above, the two main reasons why local government won't issue enforcement notices/fines are low political/managerial support (they don't want to deter the development industry), and lack of resourcing (costs associated with having a dedicated ESC compliance officer etc).
- In terms of getting developers to comply, the most effective tool is the threat of a fine. I have seen LGs solely use education programs to no effect. However, education programs, backed by enforcement after education has been tried, can be very effective.
- [Healthy Land and Water](#) prefers to concentrate capacity building programs on local government officers, because they help educate the development industry. This has been more effective than trying to train the whole of the development industry, because it involves far fewer people to train, and also the development industry won't typically participate in training unless they are encouraged/pushed by local government.

2.1.4 Key resources

Online tools to assist the building and construction sectors to meet their erosion and sediment control requirements have been prepared by the DETSI, Master Builders Queensland, the Housing Industry Association (Qld) and Healthy Land and Water Ltd. The factsheets and compliance guidelines provide technical advice and mobile user-friendly checklists to prevent sediment leaving building and construction sites and reaching local waterways, Moreton Bay and the Great Barrier Reef. They contain easy to understand consistent key messaging based on scientific research, such as 'Over a truckload of soil can wash into our waterways for every house under construction'. These resources are available on the [Healthy Land & Water ESC Toolkit](#) page.



Queensland Local Councils have developed their own resources to assist industry, also using simple messaging such as 'Soil erosion, sediment and litter from building sites can be major sources of stormwater pollution and can cause significant harm to our local waterways and sensitive marine environments like the Great Barrier Reef ([Mackay City Council 2025](#))' and 'Protect our prized waterways from development-related pollution and erosion' (Sunshine City Council, 2023).

2.2 New South Wales

2.2.1 Guiding legislation and/or regulation

In New South Wales, several pieces of legislation and guidelines support the prevention and control of sediment from land development sites:

- **Protection of the Environment Operations Act 1997 (POEO Act):** This act is the primary piece of environmental legislation in NSW. It regulates pollution and waste management, including sediment control, and provides the framework for issuing environment protection licenses. Section 120 prohibits the pollution of waters, making it an offence to discharge sediment-laden runoff into waterways.
- **Environmental Planning and Assessment Act 1979 (EP&A Act):** This act governs land use planning and development assessment in NSW. It requires development applications to consider environmental impacts, including erosion and sediment control. Section 4.15 outlines the evaluation criteria for development applications, including environmental

impacts. Consent authorities must consider the likely environmental effects of proposed developments, which encompasses erosion and sediment control measures.

Guidelines

- [Guidelines for Erosion and Sediment Control on Building Sites 2024](#) replace the 2001 Guidelines for Erosion and Sediment Control on Building Sites and deliver on a commitment under the [NSW Marine Estate Management Strategy 2018-2028](#) to improve water quality and protect waterways. These guidelines help builders on small-scale sites (less than 2,500m²) understand how to control erosion and sediment runoff using modern practices so they can avoid polluting waterways. The guidelines provide practical advice to assist industry to meet their obligations under their development consent. The guidelines are also referred to in the [standard conditions of development consent](#) for erosion and sediment control.
- [Managing Urban Stormwater: Soils and Construction \(The Blue Book\)](#) - While the Blue Book remains a key technical resource, it is often used in conjunction with the newer guidelines listed above to provide comprehensive guidance on erosion and sediment control. environment.nsw.gov.au/sites/default/files/managing-urban-stormwater-soils-construction-volume-1-fourth-edition.pdf

2.2.2 *Infringement criteria and fines*

Local governments and the NSW Environment Protection Authority have several regulatory tools for responding to water pollution. They can issue clean-up and prevention notices under Parts 4.2 and 4.3 of the POEO Act that can require builders to install and maintain appropriate erosion and sediment controls on their site. The conditions of development consent will also require proponents to avoid polluting the environment. If the conditions are breached, the builder may be issued with a penalty notice under section 9.58 of the *Environmental Planning and Assessment Act 1979*, which can result in additional fines or prosecution. Penalties can be substantial, with fines reaching up to \$5 million for corporations and \$1 million for individuals.

Non-compliance with sediment control guidelines in New South Wales can be identified based on several criteria which include:

- Lack of an Erosion and Sediment Control Plan (ESCP): Development sites are required to have an ESCP prepared by a suitably qualified person. If a site lacks this plan or if the plan is not followed, it constitutes non-compliance.
- Inadequate or improper installation or maintenance of control measures: Sediment control measures, such as silt fences, sediment basins, and erosion control blankets, must be properly installed and maintained.
- Pollution of waterways: Any activity that results in sediment or pollutants entering waterways is a breach of the guidelines and can result in penalties.
- Non-compliance with Development Consent Conditions: Development consents often include specific conditions related to erosion and sediment control. Failure to comply with these conditions is a criterion for non-compliance.

2.2.3 *In practice*

The NSW EPA regulates larger building sites up to a certain number of millions which are usually determined by the Department of Planning. Smaller sites are regulated by local government and their authorised officers (usually Building Compliance, however local governments also authorise Rangers) can issue fines/infringement notices.

It is noted that on-the-spot fines for many offences under the POEO Act have recently increased, together with higher fines for repeat violations. For common offences like water pollution or not following a clean-up notice, the fines are:

- \$15,000 for a first offence and \$22,500 for a second offence for individuals
- \$30,000 for a first offence and \$45,000 for a second offence for corporations.

State and Local government are also working together via the 'Get the Site Right' (GTSR) program which targets erosion and sediment control on commercial and residential building sites across NSW. Get the Site Right or GTSR is coordinated by the Parramatta River Catchment Group in partnership with Cooks River Alliance, Georges Riverkeeper, Sydney Coastal Councils Group, NSW EPA, and councils across NSW. It received funding from the Commonwealth Urban Rivers and Catchments Program in 2022.

The GTSR program assists local governments to work with the NSW EPA on some joint inspections, however it is more effective as a collaborative program that supports a unified approach. It also provides training, mostly of the NSW EPA staff. A key strategy is the month-long education and compliance campaign that aims to educate builders and developers on the importance of properly maintaining their sites to prevent sediment runoff from polluting local waterways. As part of the campaign, a one-day compliance blitz is undertaken, where officers from NSW EPA and more than 20 councils will undertake inspections. This date is advertised by the program so that industry is aware of when the inspection will take place.

In the October 2024 Blitz, 748 sites were inspected, with 56.4 percent found to be compliant by the end of the campaign – a slight decrease compared to the May 2024 campaign, highlighting the ongoing need for greater education and enforcement. \$357,410 in fines were issued for non-compliance, including inadequate sediment controls and unsecured building waste. This is an improvement from 2022, where \$596,064 in fines were issued across nineteen councils across Sydney and parts of regional NSW. This involved the inspection of 654 sites, of which 361 sites (55%) were found to be compliant.

The 2025 GTSR campaign, which held the compliance blitz on Thursday 13 March, included expanded educational materials and collaboration with councils to help standardise inspection reporting and increase awareness of best-practice erosion and sediment control. The program is also advertising a follow-up blitz week from 25 to 29 August 2025.

While the Parramatta River Catchment Group developed and has coordinated the GTSR Campaign for 10 years (with participation from over 25 councils across the state with the assistance of Cooks River Alliance, Georges Riverkeeper Group and Sydney Coastal Council Group) they believe it should be run by the NSW EPA as a state-wide behaviour change program like 'don't be a tosser' and 'Love food hate waste' which is backed by resources and social research.

2.2.4 Key Resources

It is also suggested that many of the resources such as [Managing Urban Stormwater: Soils and construction - Volume 1 | Environment and Heritage](#) and [Guidelines for Erosion and Sediment Control on Building Sites | Planning Portal - Department of Planning and Environment](#) are too technical to communicate to many contractors, particularly if they are from non-English speaking backgrounds.

The [GTSR website](#) contains simple and effective information on why ESC is required, how to do it and the consequences of not doing it. It also encourages the community to report pollution incidents, including poor erosion and sediment control, to the local council or the EPA's 24/7 Environment Line. Examples of the available information are:

- [Erosion and Sediment Control for Builders](#)
- [Erosion and Sediment Control for Home Builders and Renovators](#)
- [Site Maintenance Checklist](#)
- [Guidelines for Erosion and Sediment Control on Building Sites 2024](#), published by the Department of Planning, Housing and Infrastructure.
- [Media release on the latest Get the Site Right campaign](#).

2.3 Victoria

2.3.1 Guiding legislation and/or regulation

In Victoria, the legislation and guidelines relevant to the prevention and control of sediment from land development sites are:

- **Environment Protection Act 2017:** This act is the primary environmental legislation in Victoria. It establishes the framework for environmental protection, including the management of sediment and erosion control. The principle of General Environmental Duty (GED) (Section 25) imposes a duty on individuals and businesses to minimise environmental risks, including those related to sediment runoff from construction sites.
- **Planning and Environment Act 1987:** This act governs land use planning and development assessment in Victoria. It includes provisions for managing erosion and sediment control during the construction and operation of developments. Section 4(1) states the objective of planning is to protect natural resources and maintain ecological processes, supporting the inclusion of sediment control conditions in planning permits. Section 60 requires consideration of environmental impacts, including sediment control, in planning decisions.

The Victorian EPA website notes that businesses should make sure that erosion and sediment caused or generated by their activities does not harm human health or the environment. This includes being responsible for hired contractors or tradespeople, and highlights obligations to:

- [manage risks under the general environmental duty](#)
- [notify EPA of a pollution incident](#)
- [manage contaminated land](#)
- [respond to harm caused by the pollution](#).

2.3.2 Infringement criteria and fines

In Victoria, the penalties for non-compliance with environmental protection regulations are significant:

- The Victorian EPA can issue environmental protection orders requiring immediate action to rectify non-compliance.
- Non-compliance with the *Environment Protection Act 2017* can result in substantial fines. For corporations, fines can reach up to \$3.2 million for serious offences, while individuals can face fines up to \$500,000, however previous fines have been in the order of \$7,500 to \$15,000. Additional fines can be imposed for each day the offence continues, with corporations facing up to \$240,000 per day and individuals up to \$120,000 per day.
- In severe cases, non-compliance can lead to prosecution, resulting in higher fines and potential imprisonment for individuals responsible <https://www.epa.vic.gov.au/for-business/penalties>. This includes the following case: [EPA files Supreme Court action over Yarrowee River | Environment Protection Authority Victoria](#)

2.3.3 In practice

Anecdotal evidence suggests that there is a very limited focus on ESC in Victoria currently. Advice from a State Government officer suggests that enforcement of ESC compliance is seldom undertaken (primarily due to resourcing constraints), and when it is, the penalties imposed for non-compliance are insufficient to significantly encourage compliance efforts by development contractors. There is generally poor awareness, knowledge and understanding of appropriate ESC practice across the industry – amongst assessors, construction staff and construction surveillance (and enforcement) personnel, and there is a well-established and entrenched culture of accepting poor ESC practice in the Victorian construction industry.

There is also a degree of confusion regarding the regulatory basis for compliance as there are conflicting opinions regarding responsibility. It has been suggested that the responsibility lies with the EPA or the statutory catchment management authorities, while other advice is that it should be local government due to their responsibility for drainage. However, this could be due to the application of different mechanisms. Local governments have authority under the *Planning and Environment Act 1987* and *Litter Act 1987* to enforce noncompliance of planning permit conditions relating to urban development amenity issues, including sediment impacts from construction sites, while the EPA has Officers for Protection of Local Environment ([OPLEs](#)) who work with local governments on smaller scale pollution.

However, it is likely that the Department of Energy, Environment and Climate Action will partner later this year with [Clearwater](#) to update some guidance and develop a program of engagement.

2.3.4 Key resources

The Victorian EPA has also developed a series of fact sheets that provide examples of controls and actions that reduce erosion and sediment, noting that businesses are required to demonstrate they have eliminated or reduced the risk of harm as far as of harm as far as [reasonably practicable](#). Fact sheets include instructions to:

- [Manage soil disturbance](#)
- [Use a treatment train \(multiple control\) approach](#)
- [Manage stockpiles](#)
- [Manage truck and other vehicle movement](#)
- [Manage how you work within or adjacent to waterways.](#)

2.4 South Australia

2.4.1 Guiding legislation and/or regulation

In South Australia, legislation, policy and guidelines relevant to the prevention and control of sediment from land development sites include:

- **Environment Protection Act 1993:** This act provides the regulatory framework to protect South Australia's environment, including land, air, and water. Section 25 establishes the General Environmental Duty, requiring all reasonable and practicable measures to prevent environmental harm, including from sediment runoff during development activities.
- **Environment Protection (Water Quality) Policy 2015:** This policy, established under the *Environment Protection Act 1993*, sets out the requirements for protecting water quality. Increasing sediment levels in waters is declared to constitute environmental harm under Section 5 (h).

- **Planning, Development and Infrastructure Act 2016:** This act governs land use planning and development assessment in South Australia. It includes provisions for managing erosion and sediment control during the construction and operation of developments. Section 102 allows conditions to be imposed on development approvals to mitigate environmental impacts, such as requiring sediment control measures.

To fulfil the obligations of the Water Quality Policy and ensure these pollutants do not move off site, South Australia's EPA recommends that all building or construction sites undertake [erosion, sediment and drainage control management practices](#) and refers to a [Code of practice for the building and construction industry](#) that requires a soil erosion drainage management plan (SEDMP) to be prepared:

- where there is a high risk of sediment pollution to adjoining lands or receiving waters; or
- if the total area to be disturbed, or left disturbed, at any one time exceeds 0.5 ha.

This code is linked to the Water Quality Policy and designed to assist proponents to comply with their general environmental duty. The requirements outlined in the code are enforceable by the issuing of an EPO under section 93 of the EP Act 1993. Failure to comply with an order is a breach of the Act and constitutes a criminal offence.

2.4.2 *Infringement criteria and fines*

In South Australia, the penalties for non-compliance with sediment control regulations are outlined under the EP Act 1993 and the Environment Protection (Water Quality) Policy 2015 as follows:

- On-the-Spot Fines: For minor offences, on-the-spot fines can be issued. For example, a \$300 fine may apply for allowing pollutants to enter the stormwater system.
- For more serious offences, the EPA may negotiate a civil penalty or apply to the Environment, Resources and Development (ERD) Court for an order that the offender pays a civil penalty. Penalties can be substantial, depending on the severity of the offence. In severe cases, offenders can be prosecuted, leading to higher fines and potential imprisonment. For example, fines for serious environmental harm can reach up to \$120,000 for individuals and \$600,000 for corporations.

Infringement criteria include:

- Allowing soil, cement slurry, or other building materials to enter the stormwater system is a common infringement. This includes any discharge that can cause environmental harm.
- Not implementing required erosion and sediment control measures on construction sites can lead to non-compliance.
- Failing to comply with orders issued by the EPA to rectify non-compliance issues.

2.4.3 *In practice*

It is noted, however, that there is currently no policing of sediment discharge from development sites in South Australia by the EPA. Officers within the Water Sensitive SA program were not aware of whether local government officers were able to be authorised under the EP Act and there was little visibility of the need for ESC. However, it was noted that conversations had recently commenced between Government and industry around the topic.

2.4.4 *Key resources*

Resources listed by the SA EPA include:

- EPA 2004, [Handbook for pollution avoidance on building sites](#), 2nd edition.

- KESAB Clean Site®, [How to do it right](#).
- International Erosion Control Association (Australasia) 2008, [Best Practice Erosion and Sediment Control](#).
- Catchments & Creeks 2012, [Erosion and Sediment Control A Field Guide for Construction Managers](#) Version 5.
- Catchments & Creeks 2013, [Erosion and Sediment Control A Field Guide for Builders](#) Version 3.
- Catchments & Creeks 2012, [Principles of Construction Site Erosion and Sediment Control](#) Version 1.
- Landcom 2004, [Managing Urban Stormwater: Soils and Construction](#) Volume 1, 4th edition (the Blue Book).
- Victorian EPA 2023, [Civil construction, building and demolition guide](#).

In addition, the SA Department for Infrastructure and Transport has developed the [Protecting Waterways Guideline](#), which forms Attachment 6A of the Department's Environment and Heritage Technical Manual (EHTM). The document applies to a range of Department programs and projects including road, rail, marine and other infrastructure. It outlines the processes to be followed and criteria to be applied when assessing and mitigating potential impacts to the quality of receiving waters and the aquatic environment, including soil erosion and impacts on surface water and groundwater quality.

Water Sensitive SA (2024) Resource – Webinar: [A line in the sediment – changing our behaviours to protect our waterways](#).

2.5 Tasmania

2.5.1 Guiding legislation and/or regulation

In Tasmania, the legislation, policy and guidelines relevant to the prevention and control of sediment from land development sites are:

- **Environmental Management and Pollution Control Act 1994 (EMPCA):** This act provides the legislative framework for environmental management and pollution control in Tasmania. It establishes the Environment Protection Authority and outlines responsibilities for managing pollution, including sediment control. Section 23A introduces the General Environmental Duty, mandating the minimization of environmental harm, including that caused by sediment from construction sites.
- **Land Use Planning and Approvals Act 1993 (LUPAA):** This act governs land use planning and development assessment in Tasmania. It includes provisions for managing erosion and sediment control during the construction and operation of developments. Section 51 permits planning authorities to impose conditions on permits to protect the environment, which can include erosion and sediment control requirements.
- **Urban Drainage Act 2013:** focuses on the management of stormwater systems within urban areas. While it does not specifically require erosion and sediment control measures, Section 14(1) mandates councils to develop stormwater system management plans that can address the issue.
- **State Stormwater Strategy 2010:** This strategy provides guidelines for managing stormwater, including erosion and sediment control measures. It emphasises the importance of water sensitive urban design to reduce the impact of stormwater runoff.
- **State Policy for Water Quality Management 1997:** provides a framework for protecting Tasmania's water resources, including specific provisions for managing erosion and sedimentation. Section 31.1 advises that planning schemes should require development proposals with the potential to cause off-site polluted stormwater runoff, leading to environmental nuisance or harm, to include stormwater management strategies with

appropriate safeguards to reduce pollutant transport off-site. Section 31.2 encourages the development and implementation of best practice environmental management for controlling erosion and stormwater runoff from construction activities, including roadworks and Section 31.5 mandates that planning schemes ensure land use and development align with the physical capability of the land, minimising the potential for erosion and subsequent water quality degradation.

- [Erosion and Sediment Control – the fundamentals for development in Tasmania](#) (2023) by the Derwent Estuary Program provides information and practical guidance on erosion and sediment control in a local context.

2.5.2 Infringement criteria and fines

In Tasmania, the penalties for non-compliance with sediment control regulations are outlined under the *Environmental Management and Pollution Control Act 1994* (EMPCA). The infringement criteria are consistent with other State and the penalties include on-the-spot fines for minor offences, for example, a penalty infringement notice issued for breaches of the EMPCA.

For more serious offences, the EPA may negotiate a civil penalty or apply to the court for an order that the offender pays a civil penalty. Penalties can be substantial, depending on the severity of the offence. In severe cases, offenders can be prosecuted, leading to higher fines and potential imprisonment. For example, fines for serious environmental harm can reach up to 1,000 penalty units, which is approximately \$202,000 in 2024/25. Additional fines can be imposed for each day the offence continues, further increasing the financial impact on the offender.

2.5.3 In practice

In practice it is too difficult to use the provisions of the EMPCA to improve the control and management of sediment as it is necessary to prove environmental harm (which is very difficult to do). And while the preparation of stormwater management plans can lead to improved ESC outcomes, the *Urban Drainage Act* doesn't contain any powers to address non-compliance.

Accordingly, the planning system is considered to provide the best opportunity for improved ESC, through the use of development conditions and potentially contributions schemes.

The [Derwent Estuary Program](#) has commenced a program of education for local government officers to assist them to apply the right planning condition and understand what compliance looks like. The program is also partnering with the Master Builders Association and Civil Contractors Federation to develop opportunities to upskill industry.

2.5.4 Key resources

The Derwent Estuary Program and the Tamar Estuary and Esk Rivers Program updated the following documents in 2023, in consultation with their partners and industry:

- Erosion and Sediment Control on Development Sites
- Erosion and Sediment Control - The Fundamentals for Development in Tasmania
- Erosion and Sediment Control for Development in Tasmania (printable brochure)
- Erosion and Sediment Control Plan – Template.

These 'fundamentals' provide developers of small-scale sites with information to prevent sediment and other pollution reaching waterways. References to information for larger and more complex developments is also included.

2.6 Northern Territory

2.6.1 Guiding legislation and/or regulation

In the Northern Territory, the legislation and guidelines relevant to the prevention and control of sediment from land development sites are:

- **Environment Protection Act 2019:** This act provides the framework for environmental protection in the Northern Territory, including the management of pollution and waste. It establishes the Environment Protection Authority (EPA) and outlines responsibilities for preventing environmental harm.
- **Waste Management and Pollution Control Act 1998 - Section 12:** Establishes a General Environmental Duty to prevent pollution, which includes managing sediment runoff from development sites.
- **Water Act 1992:** This act regulates the use and management of water resources in the Northern Territory. It includes provisions for protecting water quality from sediment and erosion caused by land development.
- **Planning Act 1999:** This act governs land use planning and development assessment in the Northern Territory. It includes requirements for managing erosion and sediment control during the construction and operation of developments. Section 51 requires consideration of environmental impacts in development assessments, supporting the inclusion of sediment control measures.
- **Northern Territory Planning Scheme (NTPS) 2020:** The NTPS includes guidelines for erosion and sediment control that must be applied to development activities. These guidelines are formally recognised under the *Planning Act 1999*.
- **Erosion and sediment control guidelines: Built environment** by the Northern Territory Department of Natural Resources, Environment and the Arts, 2007, highlights the importance of erosion and sediment control plans and provides guidance for design, site layout, site management, construction of measures, maintenance, and rehabilitation.

2.6.2 Infringement criteria and fines

In the Northern Territory, the penalties for non-compliance with sediment control regulations are outlined under the *Environment Protection Act 2019* and the *Water Act 1992*. The infringement criteria include:

- Allowing soil, sediment, or other pollutants to enter the stormwater system or natural waterways is a common infringement. This includes any discharge that can cause environmental harm.
- Not implementing required erosion and sediment control measures on construction sites.
- Failing to comply with orders issued by the EPA to rectify non-compliance issues.

EPA officers can issue Pollution Abatement Notices or penalty infringement notices for breaches of the *Environmental Protection Act 2019* and the *Water Act 1992*. Additional fines can be imposed for each day the offence continues, further increasing the financial impact on the offender.

For more serious offences, the EPA may negotiate a civil penalty or apply to the court for an order that the offender pays a civil penalty. Penalties can be substantial, depending on the severity of the offence.

2.6.3 In practice

While EPA officers do issue infringements, they are reactionary only as compliance occurs only in response to a complaint. This is often only for large developments as it is considered that smaller developments should be managed through the planning approvals process.

2.6.4 Key resources

- **Soil management, erosion, and sediment control information:** The Northern Territory Government provides technical notes and resources on best practices for erosion and sediment control on large development and construction sites.
<https://nt.gov.au/environment/soil-land-vegetation/soil-management-erosion-sediment-control>

2.7 Australian Capital Territory

2.7.1 Guiding legislation and/or regulation

In the Australian Capital Territory (ACT), the legislation and guidelines relevant to the prevention and control of sediment from land development sites are:

- **Environment Protection Act 1997:** This act provides the legislative framework for environmental protection in the ACT. It establishes the Environment Protection Authority (EPA) and outlines responsibilities for managing pollution, including sediment control. Section 22 establishes the General Environmental Duty to prevent or minimise environmental harm, necessitating sediment control measures during land development.
- **Environment Protection Regulation 2005** - Part 8A Section 66A gives power to issue infringements for non-compliance with a sediment plan. The section defines the meaning of erosion and sediment control measures (as to prevent or minimise soil erosion and the movement of sediment to land or waters outside a development site) and states that "A person who is in charge of development on a development site commits an offence if... the person does not install and maintain on the site erosion and sediment control measures Maximum penalty: 10 penalty units. The regulations provide for the appropriate response based on the size of the development.
- **Water Resources Act 2007:** This act regulates the use and management of water resources in the ACT. Section 74 imposes a general duty on landowners and occupiers whose property adjoins or contains a waterway to take all reasonable steps to prevent damage to the waterway.
- **Planning and Development Act 2007:** This act governs land use planning and development assessment in the ACT. Section 165 allows for the imposition of conditions on development approvals to protect the environment, including erosion and sediment control measures.
- **Environmental Protection Agreements:** An Environmental Protection Agreement is a formal agreement under the EP Act between the EPA and people undertaking certain activities that pose environmental risks. An Agreement is required for land development or construction activities on sites of 0.3 hectares or greater. An Agreement must be obtained prior to works commencing and includes the requirement for an EPA approved ESC Plan. The ESC Plan should be submitted to the planning authority as part of development application for the site.
- **[Environment Protection Guidelines for Construction and Land Development in the ACT \(2022\)](#):** provides practical guidance on best practices for managing erosion and sediment on construction sites. The Guidelines cover design, site layout, site management, construction of measures, maintenance and rehabilitation.

- **[Municipal Infrastructure Technical Specifications \(MITS\) 00C - Control of Erosion and Sedimentation](#)**, Transport Canberra and City Services, 2019: This document outlines technical specifications for controlling erosion and sedimentation during municipal infrastructure projects. It includes requirements for pre-construction planning, site establishment, and implementation of control measures.

2.7.2 *Infringement criteria and fines*

In the ACT, the compliance criteria and penalties for non-compliance with sediment control regulations are outlined under the *Environment Protection Act 1997* and the *Environment Protection Regulation 2005*. For minor offences, on-the-spot fines can be issued. The value of a penalty unit is \$160 for individuals and \$810 for corporations. More serious offences may lead to prosecution.

The compliance criteria in the ACT include:

- Implementation of appropriate erosion and sediment control measures as specified in the Environment Protection Guidelines for Construction and Land Development in the ACT.
- Preparation and approval of an ESCP for development sites of 0.3 hectares or greater before construction begins.
- Complying with ESC plans as part of building approval (by building certifiers) for sites less than 0.3ha (where no Development Application (DA) is required).
- Maintenance of control measures in good working order throughout the construction period.

2.7.3 *In practice*

A key consideration is that the ACT government operates a bit differently than other states as there are no local government authorities. The ACT government therefore regulates many things that would be done by local government in other states.

The ACT EPA actively regulates sediment and erosion control on construction sites, issuing warnings (both verbal and by letter/email) and if non-compliance continues, infringements are issued to the builder.

Large construction sites (>0.3ha) require an Environmental Protection Agreement which contains an ESC plan approved by the EPA. Up to three warnings/infringements may be issued, after which the Environmental Protection Agreement may be cancelled. The re-establishment of the Environmental Protection Agreement can be a significant undertaking and may also affect other construction sites. The site's ESC measures are therefore usually rectified on the first or second warning.

If sediment or polluted water is running off site and the impact on the environment is likely to be significant, the ACT officers may choose to regulate under Division 4.2: Protection of waterways, which has the potential for larger fines and prosecution.

The main driver for ESC in the ACT is the impact on waterways. Additional resources (more Environment Protection Officers) were provided for ESC recently in response to a poor report card for waterway health.

ACT EPA engages with the community and industry and follows the compliance model to engage, educate, enforce (Figure 1). They have recently released a survey of the building industry to gauge education levels on erosion and sediment control and possible reasons for non-compliance.

2.7.4 Key resources

The Environment Protection Guidelines for Construction and Land Development in the ACT are part of the educational suite available to the building and construction industry and are regularly updated. There are also guidelines for small, residential sites.

[Environment protection policies and guidelines - Access Canberra](#)

Preventing pollution from residential building sites - [Builders' booklet](#). Note: This document replaces the previous 'prevent pollution from building sites' information sheets.

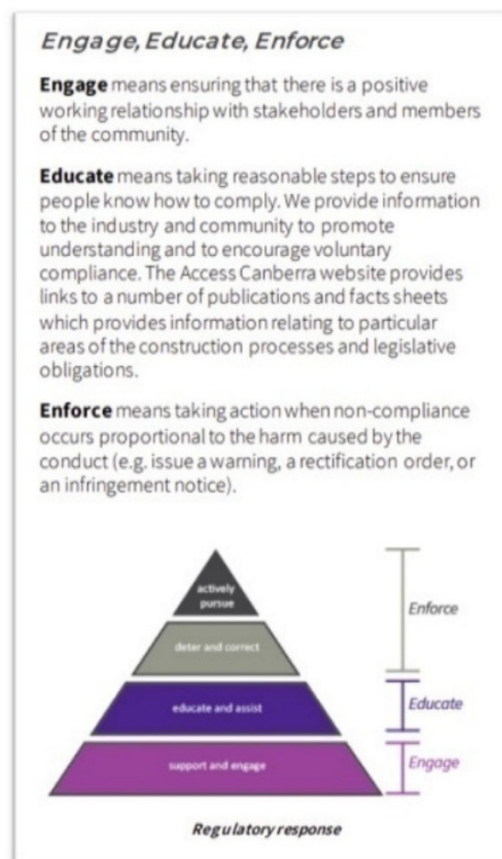


Figure 1: ACT EPA Compliance model

3 KEY CHALLENGES TO EFFECTIVE MANAGEMENT AND CONTROL ACROSS AUSTRALIA

It is considered that, across Australia, ESC is most progressed in Queensland. However, despite strong regulatory mechanisms and adequate technical support, a recent review of land development sites in South-east Queensland (SEQ) suggests that ESC compliance continues to be low. The [Review of Erosion and Sediment Control in South East Queensland Discussion Paper](#) (Water by Design, 2023) compared practices in 2013 and 2022. This review of 40 land development (subdivision) sites and 135 building sites (single dwellings under construction) in seven local governments across SEQ found ESC compliance on development sites was still low, with only 15% of sites substantially compliant. Building sites had a slightly higher compliance rate of 25% (Figure 2).

Overall ESC compliance

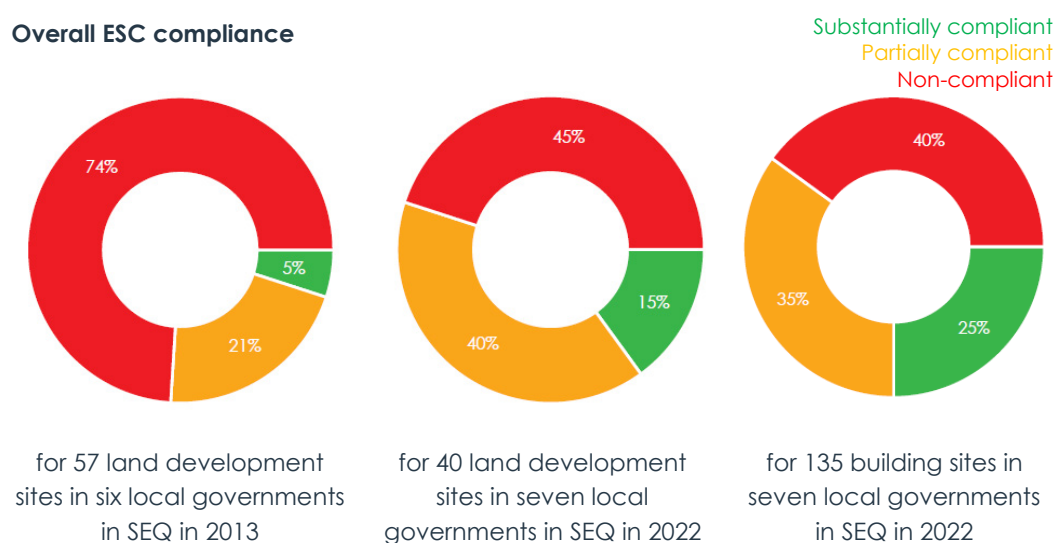


Figure 2: Results of ESC compliance assessment (source Water by Design, 2023)

To understand the reasons for this low compliance rate, Healthy Land and Water gathered information from stakeholders over the last ten years via stakeholder surveys, meetings, local government embedments and stakeholder workshops. The key barrier to ESC compliance is considered to be a lack of enforcement of requirements. This is exacerbated by inconsistency between local government actions.

Healthy Land and Water suggests that despite enforcement powers, “some local governments are reluctant to utilise them as a way to encourage ESC compliance. The lack of enforcement and/or inconsistent enforcement across the region is reducing the likelihood of land developers and construction site operators getting ‘caught’, fined, or prosecuted for non-compliance. As a result, some industry members are willing to risk getting caught rather than budget for the full cost of proper ESC implementation.” The cost of preparation, implementation and review of ESC plans is a key deterrent to industry, particularly in a time of low margins and high building costs.

Healthy Land and Water also believe that inconsistency in how ESC compliance activities are undertaken between local governments can cause confusion in the industry and create an uneven playing field across the region. Inconsistent approaches observed include:

- ESC plans:** How and when ESC plans are assessed and approved/accepted by local government, and the quality of the plans being submitted/accepted varies. Some local governments review and approve plans, while others don't. Recent feedback from the International Erosion Control Association suggests that the overall quality of ESC plans being submitted across the region is poor and is resulting in ESC not being properly budgeted for by developers.

- **ESC conditions:** ESC related development conditions vary between local governments. This affects the level of ESC implementation on development sites and a local government's ability to enforce the conditions under the *Planning Act*.
- **Compliance resourcing:** Resourcing for ESC compliance varies, with some local governments employing teams of well-trained, experienced ESC compliance officers dedicated to undertaking proactive ESC compliance activities, while other local governments dedicate very little to no resources to compliance.
- **Staff training:** Staff knowledge and experience varies, which can affect an officer's confidence and ability to assess ESC plans and undertake compliance activities.
- **Enforcement action:** How and when enforcement action is taken varies. Some local governments take enforcement action under the *Environmental Protection Act*, others under the *Planning Act*, some under both, and others don't take any enforcement action.

Improving consistency in the above listed matters would reduce confusion, improve understanding of legal requirements, reduce disparity across the region and likely increase voluntary compliance.

The absence of an effective and regionally consistent regulatory ESC compliance and enforcement program across all SEQ Councils is viewed by many experienced ESC stakeholders from both government and industry as the major barrier to improved compliance, but also a major part of the solution. Implementation of such a program in SEQ that is supported by strong political leadership, education and collaboration between government and industry, will ultimately help to change current attitudes and behaviours, increase the implementation of best practice ESC, and reduce the costs and impacts of sediment pollution in SEQ ([Water by Design, 2019](#)).

3.1 Addressing the barriers

Healthy Land & Water also assessed the effectiveness of a range of different compliance programs. Key success factors were considered to be (i) the level of resourcing and support for compliance by a local government and (ii) the quality of ESC plans produced, (approved) and implemented.

Healthy Land and Water found that the most effective ESC programs had compliance officers/teams that were:

- Well trained and experienced.
- Well resourced, funded and staffed.
- Supported to undertake regular proactive site inspections.
- Given the authority and support to undertake enforcement action when necessary.
- Provided with effective and consistent compliance processes and systems.

Evidence collected by Healthy Land & Water suggests that ESC plans being submitted and approved by local governments often do not reflect best practice (i.e. Best Practice Erosion & Sediment Control (IECA, 2008)). Such plans are often not created by a suitably qualified person, such as a Certified Professional in Erosion and Sediment Control (CPESC) and were not reviewed by an experienced local government officer.

Effective ways identified by Healthy Land and Water to address these barriers include:

- Capacity building and education
- Recognition and behaviour change programs
- Queensland Government engagement
- Continual research and policy improvements

- Continual monitoring and data sharing.

These are outlined in more detail below.

3.1.1 Capacity building and education

Since 2012, the Queensland Government has funded a regional ESC capacity building program in partnership with Healthy Land & Water to build ESC knowledge and skills across government and the building and development industry. The program includes:

- Training and field days demonstrating ESC best practice methods and emerging technologies.
- ESC Community of Practice workshops which bring government and industry stakeholders together to share information, discuss issues and develop solutions.
- Embedment activities with local governments to support the review and improvement of their ESC policies, plans, staff training, and compliance and enforcement activities.
- Development of educational material, such as *Erosion and Sediment Control Factsheets for Building Sites* (Healthy Land & Water, 2022), to help improve industry knowledge of best practice ESC.

Through annual practitioner surveys and independent reviews, Healthy Land and Water understands that these activities increase the capability and ability of targeted local government organisations, industry representatives and developers to undertake technical, logistical, and managerial-led decisions in the implementation of increased ESC and urban stormwater management best practice. Karen Toms from Water by Design also notes that they get the most industry representation at ESC training when local government encourages them to attend.

Water by Design has also assisted local governments to review their ESC Management Systems and provides ESC training to local officers. Water by Design's ESC Management Systems Review process is comprehensive. They have tested and validated this approach through undertaking successful ESC Reviews with many local governments across Queensland. These ESC Reviews have improved QLD local government's understanding of their ESC programs, identified process gaps, and provided information and tools to help them improve ESC compliance on development and Council work sites. It is considered that this review process has been very effective at getting local governments to identify and address gaps in their policies and procedures, which leads to improved ESC plans being submitted at DA stage, and proactive site inspections being undertaken. This has an additional flow on effect, as it leads to more education and compliance within the development industry. (Local governments interested in engaging Healthy Land & Water to undertake an ESC Review are required to contact HLW directly).

A further program that has demonstrated effectiveness is the 'ESC Officer swap' program that involved officers from one local government going to another local government to hear about their program and 'swap' ideas and key learnings, and vice versa. This was effective at helping those local governments who have good policies, processes and dedicated ESC teams in place upskill their counterpart officers. The swaps helped officers learn what other local governments are doing and improve consistency of ESC compliance methods across the region.

Offering continuous professional development opportunities for local government staff to stay updated on the latest sediment control techniques and technologies, particularly where these are acknowledged by other professional associations as accredited professional development, may increase participation.

3.1.2 Recognition and behaviour change programs

Recognition and behaviour change programs could also be used as an incentive to increase voluntarily ESC compliance. This could include:

- Industry led accreditation programs, for example Green Star programs that include ESC criteria (Exploring Green Star, Green Building Council of Australia).
- Industry awards programs e.g IECA Australasia [Environmental Excellence Awards - International Erosion Control Association](#).
- Articles in industry newsletters highlighting consistently complying companies.
- Behaviour change programs that aim to improve voluntary compliance (e.g. [refer ESC behaviour change case study](#)).

3.1.3 State Government engagement and collaboration with other organisations and/or the community

Local government stakeholders in Queensland, New South Wales and Western Australia have suggested more direct engagement from the State Government would help them improve their accountability, transparency and capacity to administer requirements of State Government legislation. This could include building trusted relationships between agencies to share learnings through joint site inspections or working groups. This would improve the confidence of local government compliance officers and improve the consistency of enforcement procedures.

There is also an opportunity to form partnerships with environmental organisations, industry groups, and other government agencies to help share resources and expertise. While this is the intent of the Sediment Task Force, it is probable that partnerships of fewer organisations targeted at specific sectors, locations or demonstration projects may also be effective and would value add. This approach was successfully trialled during the [Perth South West Sediment Snapshot 2023](#) and will be achieved by the Sediment and Litter Control and Prevention Project 2024-2028 which aims to develop a coordinated approach and improve sediment and litter management during urban development in the South East Corridor of the Canning River Catchment.

Engaging community volunteers in monitoring and reporting sediment control issues may also be an option to supplement local government resources.

3.1.4 Continual research and policy improvements

New techniques and technologies are continually arising that make ESC implementation easier and more affordable. This should include investigating the opportunity for Geographic Information Systems (GIS), remote sensing, and Artificial Intelligence to assist in design, monitoring and/or compliance assessment, as well as supporting improvements to in-field compliance assessment and recording tools and databases. Funding and actively encouraging and promoting the following on an ongoing basis, including providing subsidises to 'Innovators and Early Adopters' would help ensure continual industry improvement:

- Research into new ESC techniques and technologies.
- Emerging innovative compliance and ESC practices.
- Guideline development.
- Legislation and policy updates.

3.1.5 *Continual monitoring and data sharing*

Healthy Land and Water demonstrated that ESC compliance monitoring could be used to measure industry performance to help government and industry understand change and progress in compliance rates. They recommended ongoing monitoring of ESC compliance to:

- Measure changes to ESC compliance.
- Measure the effectiveness of ESC improvement programs, such as those recommended throughout this report.
- Improve capacity of local government to undertake compliance monitoring and enforcement activities.
- Improve consistency of ESC across the region.

Creating platforms for knowledge sharing among councils, developers, and industry professionals can facilitate the exchange of best practices and innovative solutions. Healthy Land and Water also noted that local governments also expressed an interest in the creation of a database to enable the sharing of relevant ESC related information, including:

- Enforcement notices issued by local government. This would help local government identify operators who are consistently not complying so they can target ESC compliance activities and assess the environmental risk of proposed developments.
- Standardised ESC monitoring procedures and the ability to upload and share monitoring results.
- Standardised ESC conditions, policies, enforcement procedures and best practice guidance.
- Register of suitably qualified persons/Certified Professionals in ESC. This would help governments identify and engage with such professionals and check their credentials.
- Other resources, information, and case studies relevant to ESC.

4 WESTERN AUSTRALIA

The key legislation, guidelines and tools available in Western Australia are summarised below.

4.1 Guiding legislation and/or regulation

In Western Australia, the following legislation is relevant to the control of sediment from land development sites:

- **Environmental Protection Act 1986 - Section 3A:** Defines environmental harm, including pollution and other forms of environmental degradation.
 - **Section 49:** Prohibits causing pollution and outlines the duty to prevent pollution, which includes sediment runoff from construction sites.
 - **Section 49A:** Specifies penalties for causing pollution, including fines and imprisonment. Fines can range from \$250 to thousands of dollars, depending on the severity of the offence.
 - **Section 52:** Requires works approvals and licenses for activities that may cause pollution, including construction projects, however land development projects generally do not require an approval or licence.
 - **Section 65:** Allows for the issuance of environmental protection notices/pollution abatement notices requiring corrective actions to prevent or mitigate environmental harm.
 - **Section 69:** Allows for the Minister to make stop orders if a pollution abatement notice is not complied with.
 - **Section 87:** Provides for inspections to ensure compliance with the Act and any conditions of works approvals or licenses.
 - **Section 99:** Allows the regulatory authority to undertake necessary measures to control sediment and recover the costs from the responsible party if they fail to take corrective action.
- **Environmental Protection (Unauthorised Discharges) Regulations 2004 (UDRs), Regulation 3: Schedule 1: Materials that must not be discharged into the environment -** Lists materials, including sediment, that must not be discharged into the environment without authorisation, thereby requiring sediment control measures during land development. Under the UDRs, the Department of Water and Environmental Regulation (DWER) interprets the word “sediment” to mean visible suspended solids in water.
- **Local Government Act 1995:** outlines overarching responsibilities to ensure that local governments manage the local environment effectively. Under **Section 3.25 and Schedule 3.1(6) and Schedule 3.1 (9.1 clause 12) (wind erosion and sand drift)** of the LG Act, local governments have the power to take specified measures for preventing or minimising the movement of sand, silt, clay or rocks on or from the land if, in the opinion of the local government, that movement would be likely to adversely affect other land. In addition, under **Section 3.5** of the LG Act 1995, local governments can make local laws that are necessary or convenient for the performance of any of its functions.
- **Planning and Development Act 2005 –**
 - **Section 5:** Requires consideration of environmental impacts, including sediment control, in planning decisions.
 - **Schedule 7, Clause 4(2) & (3):** Enables local governments to impose planning conditions for the conservation of the natural environment and water resources, which can include erosion and sediment control requirements.
 - **Part 13 Sections 226 to 235** provide that regulations may prescribe an offence under the Act to be an offence for which an infringement notice may be issued. In this regard,
- **Planning and Development Regulations 2009,** Regulation 42 prescribes that amongst other things a modified penalty (ie an on-the-spot fine) can be issued for a contravention

of s218(a) of the *Planning and Development Act 2005* (i.e. contravention of the provisions of a local planning scheme).

- **Planning and Development (Local Planning Schemes) Regulations 2016, Clause 63 (1)** indicates that an application for development approval must be accompanied by (d) any other plan or information that the local government reasonably requires. **Clause 68** provides for the imposition of Conditions, and **Clause 79 (2)** allows that an authorised officer may, for the purpose of monitoring whether the local planning scheme is being complied with, at any reasonable time and with any assistance reasonably required — (a) enter any building or land in the Scheme area; and (b) inspect the building or land and any thing in or on the building or land.
- **State Planning Policy (SPP) 2.9: Water resources** - provides guidance to planning decision-makers for the consideration of water resources as part of the land use planning and development approvals process. The policy was reviewed in 2021 and the draft [State Planning Policy 2.9 Planning for Water](#) and draft [SPP2.9 Planning for Water Guidelines](#) will replace the current policy and *Better Urban Water Management* (WAPC, 2008) once gazetted. The policy and guidelines highlight the need for ESC practices to be employed during land use change, subdivision and development.
- **Building Act 2011** regulates building and demolition work in Western Australia, ensuring that buildings are constructed and maintained to acceptable standards for safety, health, and amenity.
 - **Section 16:** Requires a building permit for any building work.
 - **Section 20:** Details the application process for a building permit, including the need for compliance with applicable standards and regulations.
 - **Section 37:** Allows the permit authority to impose conditions on building permits to ensure compliance with applicable standards.
 - **Section 33:** Requires compliance with the conditions of the building permit.
 - **Section 37:** Allows for the issuance of notices and orders to ensure compliance with permit conditions.

4.1.1 Key guidelines

[Erosion and Sediment Control Guidelines for Local Government](#) (2024): Developed by the Western Australian Local Government Association (WALGA) in collaboration with the Sediment Task Force, provides comprehensive guidelines for local governments to manage erosion and sediment control effectively.

[Local Government Guidelines for Subdivisional Development](#) by the Institute of Public Works Engineering Australasia 2017, section 1.15 Erosion control states....

Details of sediment and erosion control, dust and sand drift control measures to be adopted during the construction of the subdivision shall be included in the specification and shown on the drawings. The measures in relation to dust are to be in accordance with 'A guideline for managing the impacts of dust and associated contaminants from land development sites, contaminated sites remediation and other related activities (Department of Biodiversity, Conservation and Attractions, March, 2011). The WAPC does not normally require a dust management plan as a condition of subdivision, as developers are required to comply with separate health and environmental legislation, including the Department of Biodiversity, Conservation and Attractions Guidelines. Where dust control creates a problem for adjacent residents and developments the Local Government can implement Schedule 3.1 in reference to schedule 9.1 clause 12 (wind erosion and sand drift) of the Local Government Act 1995. Where required by the Local Government a Construction Management Plan shall be submitted prior to start of any subdivision work addressing, among other things dust control, control of export of eroded soil and nutrient from the site, dieback control, noise pollution and traffic management.

In those locations, where climatic conditions are such that wind borne dust and sand drift may cause significant problems the responsible Local Government may require a dust control and sand drift bond to be lodged as a condition of approval of the engineering drawings.

The measures in relation to vehicle or water caused transport of soils, sediments and dust are to be in accordance with Section 2.1.2.1.5.4 Soil Stabilisation Strategy.

Other available guidance includes:

- [Stormwater Management Manual for Western Australia](#) (DWER, 2021):
 - Chapter 7 Non-structural controls; Section 2.1 Construction practices 2.1.1 Land development and construction sites - These guidelines provide information on management practices that may be applied at construction sites to improve stormwater management and environmental performance.
 - Chapter 9 Structural controls; Section 6.1 Litter and sediment management: Describes Litter and sediment management systems for retaining gross pollutants by physical screening or rapid sedimentation techniques.
- [Erosion and Sediment Control Policy and Guidelines for Local Government](#) (2008): Prepared by the Eastern Metropolitan Regional Council in partnership with the Swan River Trust, to provide a range of planning and management mechanisms for local government to minimise soil erosion during construction and to prevent downstream sedimentation.
- [Erosion and Sediment Control Manual for the Darling Range, Perth, Western Australia](#) (2001): Assists in the minimisation of land degradation and water pollution due to land development with a focus on the minimisation of erosion resulting from runoff and the prevention of sediment movement off site during land development, assessing erosion risk and applying suitable control measures.
- [Guidelines for Erosion and Sediment Control at Building Sites in the South West of WA](#) (2008): Provides a practical guide to techniques to minimise erosion, sediment transport, and stormwater pollution from building sites. They are designed to help people involved in the building industry to reduce the environmental impacts of their building activities, and to comply with their statutory environmental duties and avoid large fines.

4.1.2 *Infringement criteria and fines*

Under the UDRs, authorised State and local government officers can issue infringements or enforce legal action against any individual or entity that breaches the regulations. Infringement penalties begin at \$250 for the first offence notice, rising to \$500 for subsequent infringement notices. If convicted in a court of law, the maximum penalty for an individual is \$5,000 and \$25,000 for a body corporate.

With regards to Local Laws, the fines (infringements) are as listed in the *Local Government Act 1995*. For an offence punishable on conviction, the penalty is not to exceed \$10,000. If the offence is of a continuing nature, the local law may make the person liable to a further penalty not exceeding a fine of \$500 in respect of each day or part of a day during which the offence has continued. The local law may provide for the imposition of a minimum penalty for the offence.

Prosecution under either head of power for sediment discharge is rare, due to the need, in most cases, to prove the breach beyond doubt.

Under the *Planning and Development Act 2005*, failure to comply with or breach any condition of an approval can result in a maximum penalty of \$200,000 and a maximum penalty of \$25,000 per day for a continuing offence with increased penalties for business entities.

4.2 Other tools

Other tools that provide an opportunity to regulate, require or recommend sediment management include Local Laws, policies, guidelines, planning approvals, permits, bonds, advice notes and management plans.

4.2.1 Local laws

Local Laws are a significant tool for Local Governments to manage erosion, sediment loss, sand drift and dust during subdivision, building and road construction. Existing Local Laws for managing erosion and sediment control gazetted in WA are many and varied. They relate to soil erosion, sediment and sand drift, environment, health, private property, public thoroughfare, dust, liquid waste and nuisance management. Local Laws specific for ECS are likely to be more effective than those that address a broader range of issues.

Local governments in WA who have gazetted a specific Local Law for soil erosion, sediment runoff, sand drift and dust control include:

- City of Rockingham Sand Drift Prevention and Abatement Local Law 2000
- City of Kalamunda Sand Drift and Litter Control Local Law 2006
- Shire of Serpentine-Jarrahdale [Dust and Building Waste Local Law](#) 2017
- Shire of Jerramungup Dust and Sand Local Law 2011
- City of Nedlands Site Erosion and Sand Drift Local Law 2014
- Town of Claremont Site Erosion and Sand Drift Local Law 2016
- City of Wanneroo Site Erosion and Sand Drift Local Law 2016
- Shire of Augusta-Margaret River Erosion and Sediment Control Local Law 2019.

Anecdotal evidence suggests that the use of local laws to manage sediment in WA has not been overly successful. While the Shire of Augusta Margaret River has reported some success, this can be attributed to the proactive program of implementation that included development of guidance notes, industry engagement and building capacity within the Shire, supported by regular monitoring for compliance following a reasonable period of awareness raising of new industry requirements to adhere to the new ESC Local Law.

Other local governments have reported a lack of success due to a range of factors which include a lack of awareness of the occurrence of the local law, reactive compliance programs and difficulty in understanding what the issues is and what appropriate on-ground practice should be.

However, an example of successful application of a Local Law occurred in 2023, when the City of Armadale issued a Cease Work Order and infringement for non-compliance with sediment control regulations, under their Nuisance Local Law. The City served notice on the proponent, requiring specific actions to prevent erosion and escape of dust and sand, in a phased approach. There was an escalation of regulatory site visits by the City until compliance was demonstrated, which was achieved in less than one week (City of Armadale, 2023).

The [Sediment Task Force](#) has recommended development of a standardised (model) Local Law for erosion and sediment control to increase consistency between local government compliance actions across the region, assist local governments to adopt this tool and raise awareness of the issue. However, it is recommended that a review of the effectiveness of existing local laws is undertaken prior to this, to inform recommendations.

4.2.2 Local planning instruments

Many local governments across the Perth and Peel regions use a range of local planning instruments (planning schemes, policy, guidelines, specifications and approval conditions) to assist in the management of sediment and soil erosion as part of the planning and development process.

Scheme provisions

City of Wanneroo District Planning Scheme No 2 contains Clause 80B: Amenity which states:

(2) No land, building or appliance shall be used in such a manner as to permit the escape therefrom of smoke, dust, fumes, odour, noise, glare, vibration or waste products in such quantity or extent or in such a manner as will create or be a nuisance to any inhabitant, or to traffic or persons using any land or roads in the vicinity.

(3) If the local government forms the opinion that there has been a breach of the requirements of the preceding sub clauses it may, by notice in writing, require the owner to make good the breach in the manner and within the time stated in the notice. The notice may be served on the owner personally or by posting it to the last address of the owner known to the local government, and if served by post, shall be deemed to have been served three (3) clear days after the date of posting.

(4) Any person upon whom a notice is served pursuant to this clause may, within 28 days of the date of service of the notice on that person appeal pursuant to Part 14 of the Act against the requirements of the notice and, where any such appeal is lodged the effect of the notice shall be suspended until a decision to uphold, quash or vary the notice has been made on the appeal or the appeal has been withdrawn, whereupon the time stated in the notice shall again begin to run.

(5) Failure to comply with a notice under this clause shall be a breach of the provisions on the Scheme.

Conditions of subdivision and development

[Model Subdivision Conditions Schedule November 2024](#): Released by the Western Australian Planning Commission (WAPC), it outlines the model subdivision conditions and associated advice notes to be applied to subdivision approvals to ensure adherence to planning legislation and policies. It contains one condition (D9) that refers to ESC requirements as follows:

A management plan detailing how risk of drainage, erosion and sedimentation or other environmental impacts into nearby water bodies/reserves will be minimised during subdivision is to be:

- a) prepared by the landowner/applicant and approved prior to the commencement of subdivisional works; and
- b) implemented during subdivisional works.

The DBCA has developed a standard condition applicable to development proposals that have been referred to the DBCA (where development may impact the Swan and Canning river system) where the likelihood of erosion and sedimentation impacts exist. The DBCA will recommend imposing the condition, however, the responsibility for implementation and compliance with the condition rests with the Statutory decision maker. The wording of the condition is:

1. All works are to be undertaken in accordance with a Sediment and Erosion Control Plan which is to be submitted to and approved by the <decision maker, to the specification of the> Department of Biodiversity, Conservation and Attractions prior to commencement of works. (Advice Note X)

And

2. Evidence, including photographs, is to be submitted to the Department of Biodiversity, Conservation and Attractions on a <weekly/fortnightly/monthly> basis to demonstrate that the works are being carried out in accordance with the sediment and erosion control plan required by condition <x>.

Or

1. All works are to be undertaken in accordance with a Sediment and Erosion Control Plan prepared to the specifications of the <statutory decision maker>. (Advice Note X)

Advice/Supporting information that will be issued by DBCA with the Condition comprises:

1. Regarding Condition X, the Sediment and Erosion Control Plan shall describe how the authorised works will be managed and implemented to mitigate the risk of drainage, erosion and sedimentation on nearby water bodies and/or reserves during the work and should include, at a minimum, control measures such as:

- a) daily recovery of sediment (including imported building sand) from outside the works area (e.g. end-of-day sweeping)
- b) perimeter controls such as sediment control fences
- c) sediment traps at stormwater drain inlets
- d) vehicle washdown, vibration grids or rock pads at entry/exits
- e) containment of stockpiles.

Other tools

Some examples of other tools used by WA local governments are outlined below.

- The City of Cockburn requirements for management of sediment and erosion, particularly in new development areas, is contained within their [Subdivision Guidelines](#) as well as in Local Planning Scheme No. 3 specifically relating to the Cockburn Coast development area. The City of Cockburn also requires preparation (and approval) of Dust Management Plans for any works that have the potential to create dust. The plan must be submitted 14 days prior to the anticipated start date and approved before any work begins. This is contained within their [Dust Management for Development Sites - Policy](#). Despite these efforts, there have been many and regular reports of non-compliance by contractors, particularly in large-scale residential developments, including a marina development. For example, no erosion and sediment controls were in place for all five sites inspected in the City of Cockburn during the Perth South West Region Sediment Snapshot' Pilot Trial (Sediment Task Force, 2023).
- The City of Swan has developed [Specification 211 - Control of erosion and sedimentation](#) and [Development Design Specification D7 Erosion control and stormwater management](#) to address sediment and erosion control. Despite these efforts, there have been reports of non-compliance by contractors, particularly in large-scale residential developments.
- The City of Rockingham requires the management of sediment (dust) and erosion as part of the implementation of [Local Planning Policy 3.3.15 - Bulk Earthworks](#) and developments particularly in coastal areas.

- The City of Subiaco published its [Sand Drift Prevention and Sediment Control Guidelines for Building Sites](#), which state it is the responsibility of property owners and land developers to control sediment from building sites. The guidelines were developed in response to the City's understanding of the negative impacts of sediment from building sites in drains and waterways including reduced capacity of the stormwater system due to blocked drains, and reduced size of stormwater collection basins which can lead to localised flooding, altered channel flow of waterways, increased maintenance costs and considerable costs to remediate the impacts of sediment drift (Sediment Task Force 2022).
- The City of Nedlands has developed [Construction Management Plan Guidelines](#). All relevant aspects of building work, demolition or excavation for all major commercial, industrial, large residential development projects and any other developments which the City considers appropriate require a Construction Management Plan (CMP). The CMP must address Stormwater and Sediment Control and outline proposed methods to control the drift of sand and dust from all sites.

4.2.3 Regular audits and inspections

As highlighted by the inter-state review, local laws and other planning instruments are often only effective where they are actively enforced. This requires inspection and audit of their application and an assessment of compliance to be undertaken. While all local governments generally have environmental health and building compliance officers, very few in WA will enforce ESC compliance. A notable exception is the City of Wanneroo, who recognised the costs to the City that could be avoided, which included Councillor and officer time dealing with complaints, and costs associated with rectifying stormwater management systems and landscapes, due to improved sediment and dust management industry practices.

In 2024, the City of Wanneroo employed a full-time Sand Drift Compliance Officer (SDCO) to undertake daily surveillance. They advised UDIA(WA) and land developers operating in their jurisdiction of the new approach and established a new Management Procedure that increased communication between the planning and compliance teams. The procedure allows for the proactive inspection of sites and education of building site supervisors. Where site management is insufficient, the SDCO works with the site supervisor to agree on the actions required to comply with appropriate practices and issues a warning. If the actions are not implemented, an infringement will be issued under the Planning and Development Act (with reference to Clause 80B of the City's Planning Scheme) with a penalty of \$500, which can be issued daily until rectification. For continued non-compliance, the City will consider prosecution for up to \$200,000.

The City has prosecuted a builder for various sand drift offences impacting a neighbour. The builder failed to comply with verbal instructions, letters, Infringement Notices and Direction Notices issued by compliance officers. A guilty plea was entered by the builder at the Joondalup Magistrates Court on 30 November 2023. In December 2023, Compliance Services issued new Direction Notices under section 3.25 of the *Local Government Act 1995*, requiring the builder to engage an expert to further review sand drift mitigation measures and to prevent sand drift. The prosecution came before the Joondalup Magistrates Court on 19 December 2024 and the court granted the City's application to proceed to sentencing on the basis that a plea of guilty had previously been entered and had not been disturbed. After hearing the facts and submissions, the court imposed a penalty of \$2,500, along with a daily penalty totalling \$3,000. The accused company was also ordered to pay the City's costs in the amount of \$3,000 (total costs of \$8,500).

The City also notes that even with a compliance officer, there are still many issues to address. These include:

- Difficulty matching sites with relevant stage names, site contacts, relevant Dust Management Plans etc.

- Sites undertaking bulk earthworks via DA have no site compound / office and no supervision by a City Engineer.
- No road names in new developments (where am I and what am I looking at?).

4.2.4 Bonds

Bonds are an effective strategy for encouraging compliance from the outset of a project. The *Local Government (Uniform Local Provisions) Regulations 1996* enable local governments to impose conditions on builders and developers for any works that obstruct or cause damage to a public thoroughfare or place. This includes the condition that an applicant submits a deposit (bond/security) to cover the cost of any damage that may result from construction activities. This includes both the subdivision and lot development stages. Examples include:

- **Civil Engineering 12-month Defects Liability Period (DLP) Bonds** - Stormwater pipework can only be inspected by a City Engineer at the end of the 12-month DLP if it is 'clear' of sediment. Therefore, the developer must educt stormwater pits / pipes of all sediment. The City of Kwinana holds this bond until 80% of house construction has been completed.
- **Landscape Establishment & Maintenance Bonds** - Smothered or damaged landscaping will need rectifying. May trigger an extended Establishment & Maintenance Period depending on the severity.
- **Verge bonds** – Provide funding for rectification works where the verge is damaged by development works and/or the works have impacted on public infrastructure such as clogging the drainage system.
- **Infrastructure Protection Bonds** - Cover the cost of repairing damages to the public thoroughfare, public space, verge or street trees that may result from private construction works (see below).

The Cities of Wanneroo and Kwinana calculate bonds as 5% of the contractual value of the works and impose them on a performance basis. Where the issues are not satisfactorily addressed, the City will 'call in' the security bonds. Successful implementation of a bond system requires inhouse training in the reason for and administration of the bonds, as well as the employment of compliance officers in inspection and reporting.

As noted in the WALGA Guidelines (2024):

The City of Kwinana adopted an Infrastructure Protection Bonds System as part of its asset protection goals. Proponents of all construction works valued at over \$20,000 are required to pay a bond to the Council as part of their building approval application prior to commencing works. The bond is intended to cover the cost of repairing damages to the public thoroughfare, public space or street trees that may result from private construction works. The bond system intends to improve the management of stockpiles and building materials, and to prevent footpath encroachment, traffic vision issues, verge covering and damage to roads.

Prior to releasing the bond, site inspections are undertaken by Council officers to assess any impacts or damages.

A building completion report is compared with the pre-inspection report, and if the site condition is deemed acceptable upon the completion of works the City will refund the bond. If damage is identified the City may retain costs from the bond for repairs. The City has experienced less damage and has reported greater compliance from builders and developers since the introduction of its Infrastructure Protection Bonds System.

Not all builders adhere to the City's protocols however, leading to mismanagement of some sites. In 2024, only "Notice of Completion (BA7)" inspections were being conducted

due to resourcing constraints. The City of Kwinana is aiming to have dedicated officers undertake regular Infrastructure Protection Bonds System inspections during the construction period ([City of Kwinana 2024](#)).

In the City of Stirling, a verge permit is required for any building or demolition work on the adjacent property regardless of material being stored on the verge. The permit enables the City to monitor the use of the verge, thereby minimising the damage and disruption to the surrounding area. While the City notes there are no fees associated with the verge permit, a refundable bond is required (between \$1,000 and \$4,000 depending on works and the presence of a verge tree) as well as fees to pay for inspections (\$200) by City officers.

The City of Melville also operates a system of refundable verge bonds. Their Building Permit Fee Schedule suggests it is only applicable to applications over \$20,000 and is in the order of \$2,000 (including a non-refundable \$100 inspection fee). However, it is unusual for the City to not agree to refund the bond on the basis of poor sediment management.

Since 2017, the City of Subiaco has applied Infrastructure and Verge Protection Bonds to all land development sites to ensure the city's assets are not damaged as a result of private development and construction. The bond also serves as a mechanism to prevent the migration of sediment onto road reserves and into drains from urban development activities. The refundable bond for residential development is \$3000. All commercial developments are assessed individually with the final bond amount determined upon application. The City's standard residential bond is based on the surrounding asset replacement value, which includes, but is not limited to, roads, footpaths, kerbing, drainage infrastructure and street trees. Pre-development images are taken of the site and adjacent surrounds and kept with the licence and development file. The bond is to be paid following approval and prior to the issue of a Building Licence/ Permit. After building works are complete, a Notice of Completion – BA7 and a Bond Refund Application must be submitted. Prior to releasing the Infrastructure and Verge Protection Bond, site inspections are undertaken to determine if damage has occurred as a result of the approved development works, and if there are any reinstatement requirements or unauthorised works that have been undertaken on Council land. One of the site inspection criteria is that all sediment must be contained within the boundary lines. The process is outlined in the city's [Verge Policy Management Guidelines](#).

4.2.5 Industry education

The Shire of Augusta Margaret River gazetted their *Erosion and Sediment Control Local Law 2019* (which includes provision for infringements). At this time, they developed a sediment and erosion control 'toolbox' to guide landowners on best practice sediment and pollutant management. The Shire has also made a commitment to ongoing engagement and education for the construction industry to improve management practices, with an emphasis on behavioural change, and with the overall aim of putting sediment management at the "forefront", as a key part of the everyday activity at building and development site. Shire staff involved concluded some good progress was made by builders during 2021 when there was ongoing monitoring for compliance with the new ESC Local Law by Shire staff (WALGA, 2024).

The WALGA Guidelines also note that "Having the new ESC Local Law helped staff as they knew they could enforce a clean up effort. Furthermore it meant that the industry and the community started to understand what the Shire was concerned about. Approximately \$7500 has been received by the Shire in paid fines which can now be used to fund additional street sweeping, drainage maintenance works and/or education and awareness to reduce the impacts of sedimentation in local waterways."

The DWER, in partnership with WALGA recently refreshed its Authorised Officer Training under the Environmental Protection Act. Local Government Officers were invited to participate in the revised training course during 2025. Training includes both theory and practical exercises and

covers the *Environmental Protection Act*, evidence collection, intelligence, and inspection planning, assessing and managing risk, compliance and enforcement tools and interview techniques. Training resources related to Authorised Officer Powers and Responsibilities are contained within the *Environmental Protection Act 1986* (EP Act Manual) and Unauthorised Discharges Regulations - Authorised Officers (UDR Manual).

Education is also required to increase awareness within the community about sediment management. For example, the Town of Cambridge introduced a community feedback initiative called 'Report It', where residents are able to inform the Town of Cambridge of issues of concern they observe in their neighbourhood or local area, including those related to construction sites such as dust, sand drift and sediment loss from building sites.

Sediment Snapshot Pilot Trial

A pilot trial in the Perth South West region in 2023 brought together stakeholders from State and local government interested in maintaining drainage assets and water quality to undertake a '[Sediment Snapshot](#)'. Its aim was to: raise awareness, educate and increase understanding of the issue; collect baseline data; determine the scale of local and regional sediment pollution and barriers to best practice ESC implementation; and seek and commit to solutions, including local and sub-regional priority actions and priority areas for improving industry practice and compliance and enforcement action to prevent sedimentation of waterways and wetlands.

This involved developing new tools and undertaking multiple site inspections over one week in early winter to gauge the scale of sediment pollution occurring in the region. Results demonstrated significant movement of sand and sediment across urban development areas, and little compliance with legislative requirements for sediment control. The findings point to a need for changed and improved practices, greater awareness, clearer and more consistent regulations, and increased compliance inspections. Improving three key industry practices, namely, effectively covering soil and sand stockpiles, minimising vehicular tracking of sand from site to road and improving poor sand delivery practices, will provide the most rapid change with the least effort.

SERCUL's Annual Nutrient Survey

Unless there are measures in place to prevent or contain erosion, stop sediment entering stormwater drains or to remove it once there, sediment will release excess phosphorus and nitrogen into the river system and wetlands, which can lead to eutrophication and algal blooms (SERCUL 2023).

Each year the thirty Local Governments of the Perth Region are given the opportunity to take part in the Annual Nutrient Survey – an initiative of the Phosphorus Awareness Project (PAP). Score Cards are produced for the local governments that respond to the survey which scores them on their overall level of nutrient Best Management Practice and their performance in six areas – nutrient monitoring, fertiliser applications, nutrient management, water quality monitoring, development control (including sediment control) and nutrient education. Recommendations are also provided that, if implemented, will help local governments achieve a high level of nutrient best management practice (see [Fertilise Wise – SERCUL](#)).

4.2.6 Key resources

The [Sediment Task Force](#) has published numerous educational [resources](#) for land developers, builders, local government and the community on how to improve sediment management practices. This includes local sediment research and initiatives, Information Sheets (to help Western Australian builders, land developers, Local Government Officers, homeowners and

residents prevent water pollution by keeping soil on site), on-site checklists, signage artwork, best practice case-studies and presentations from Local Government Forums in 2019 and 2024.

Sediment Task Force member organisations also have produced educational resources which include sediment control measures to support industry such as:

- [Master Builders Association WA Smart Waste Guide](#): A guide for commercial and residential builders, subcontractors and clients in metropolitan Perth and Peel regions. Includes sediment control to 'lead the way in environmental responsibility and stay ahead of environmental regulation'.
- Master Builders Association of WA: [Sediment Control for Building sites](#) brochure.
- Master Builders Association WA Perth Now newsclip 'Home in WA' – Informs builders they need to keep Perth's waters pollution free by managing sediment and litter on sites so sediment entering waterways does not affect plants and wildlife downstream from building sites [Waste Authority - 540 5th December 2015](#).
- HIA WA 2024 EnviroNews Article - [WALGA's Environment Newsletter](#), published by the Sediment Task Force and HIA WA. HIA recommends Local Governments consider reducing required fill levels within the verge.
- <https://www.perthnrm.com/blog/2024/06/04/dont-curb-your-enthusiasm-for-sustainable-subdivision-design/>
- Swan River Trust [Sediment and Erosion Project Final Report](#) (April 2014).
- [Building sites fact sheet](#) – Keep Australia Beautiful Council WA 2011.

5 CONCLUSIONS

The following summarises the key issues identified from the review of current State and local government approaches for the control of sediment as part of the land development process across Australia and makes recommendations for improved sediment management practices to assist in the implementation of an ESC program in the Swan Canning catchment.

5.1 Key Issues

The key issues identified from the review of ESC programs as they relate to Western Australia are considered to be:

- Lack of awareness in industry of the need for ESC measures.
- Significant variability in the way ESC outcomes are achieved.
- Lack of enforcement or compliance.

These are explained in more detail below.

5.1.1 *Lack of awareness in industry of the need for ESC measures*

A common issue faced by ESC programs is a lack of awareness across the development and construction industry of the need for ESC measures. This includes the drivers (waterway and infrastructure protection and sustainable materials use) as well as the actions required to be undertaken to manage sediment at various scales and stages in the land development process. There is limited visibility of the International Erosion Control Association (ICEA) Australasia's Best Practice Erosion and Sediment Control document (which are recognised as best practice guidelines by most other states but previously cost nearly \$500 to purchase – can now be downloaded for free [Publications - International Erosion Control Association](#)), or agreement of the types of actions that are required to adequately manage soil erosion, sediment runoff, sand drift and dust from land development sites in WA.

This is exacerbated by the perception that ESC is not really required in WA, as the risk of wind-borne erosion is considered to be much greater on the Swan Coastal Plain than that from water (rainfall) ("it never rains here"). This can also result in confusion when actions are linked to stormwater management practices rather than the need to manage (what is often categorised as) dust.

A complicating element is the breadth of disciplines that make up the "industry" (i.e development (consulting) planning, engineers, project managers, site supervisors, contractors, and local government executives, planners, engineers, asset managers, environmental officers, and compliance officers). This makes it difficult to engage with all the necessary stakeholders across all project phases and develop a common understanding of the problem, causes, risk of environmental harm, diversity of controls/ESC measures, solutions and responsibilities.

5.1.2 *Significant variability in the way ESC outcomes are requested*

There is also significant variability in the way ESC outcomes are required/requested. In some instances, the requirement is linked to the planning and development approvals system; however other mechanisms include the *Environmental Protection Act 1986* and bonds or local laws made under the *Local Government Act 1995*. Furthermore, there is a lack of consistency in terminology (as noted above), with some requiring action to manage dust and others referring to ESC. This leads to confusion across the industry about what they need to do and why.

There are also issues with the implementation of each approach as outlined in the table below.

Table 1: Mechanisms for the control of sediment and dust as part of the planning and development system in WA

Head of power	Mechanism	Comment
<i>Environmental Protection Act 1986</i>	Unauthorised Discharge Regulations (UDRs)	Onus of proof is on the Government. LG officers often unaware of their power to issue infringements. DWER's Environment Watch hotline notes that "nuisance dust" is to be managed by the local government.
<i>Local Government Act 1995</i>	Local law	The process for preparation and adoption is significant. Infringements under local laws will vary according to the phrasing of the local law. Likely to be most effective if specific to sediment and dust. Fines under the Local Government Act are not able to be issued "on the spot" and are not considered to be significant.
<i>Planning and Development Act 2005</i>	Local planning scheme provisions	The provisions of a local planning scheme are read as law, so this mechanism is highly effective as infringements can be issued on the spot. However, the current Model Scheme Text does not contain a clause that would support ESC compliance (such as the CoW DSP2 Clause 80B). The inclusion of an appropriate clause would require an amendment to be proposed to a local planning scheme that would require support from the WAPC.
<i>Planning and Development Act 2005</i>	Conditions of subdivision	The WAPC standard condition only refers to it being imposed on advice of DBCA in reference to being adjacent to the Swan and Canning Rivers. This is likely to narrow the use of the condition and require support from WAPC for wider application.
<i>Planning and Development Act 2005</i>	Conditions of development	This requires an appropriate condition to be included in development approvals. Consideration should be given to the wording of the condition – need for implementation of the ESC measures (so can clearly issue the fine if they are absent) but also need to be able to issue if they are not working adequately. It should be noted that single residential development is usually exempt from the requirement for a development application.
<i>Local Government Act 1995</i>	Bonds	Able to be applied on all applications for works. Bonds for civil engineering defects periods are likely to be effective for cleaning up impacts on drainage systems from subdivision construction, but this doesn't extend to waterways or downstream systems. Usually only inspected when request for return of bond, when the site is likely to be clean. Requires significant financial management systems including audit of holding and use.
<i>Building Act 2011</i>	Building licence	Can include requirements but it is not common practice and would require compliance checks. It has also been suggested that current verge widths and development setbacks are not sufficient to enable sufficient storage of all building materials required, which makes the installation of sediment fences impractical and can result in imported building sand being wholly or partially deposited on roads.

It should be noted that the effectiveness of the above mechanisms is reliant on the level of compliance monitoring and enforcement.

5.1.3 *Lack of enforcement or compliance*

The lack of awareness often results in the issue not being raised at appropriate times in the planning and development approval process, leading to poor implementation of sediment controls or mechanisms that require action. This includes a failure to raise the issue during the design process and/or apply appropriate approval conditions and/or undertake sufficient audits or inspections while works are progressing.

The requirement for ESC and/or dust management, including preventing tracking of sediment from site by vehicles onto roads, regular inspections and a maintenance program for sediment controls installed on site needs to be a consideration that is raised at all stages of the planning and development process by both the developer and regulator. 'Pre-start' or 'Start-up Meetings' with developers and builders at the planning phase of subdivision, commercial and residential building applications prior to the commencement of all new subdivision developments, regular progress meetings and toolbox meetings are examples of how this may be achieved. This increases awareness across the project team and improves the likelihood of action.

Key actions should include:

- For subdivision:
 - Discussion with the local government prior to lodgement and approval about the need for ESC and dust management – either initiated by the proponent or requested by the local government. Note the issue is being monitored by local government and non-compliance may be associated with issuing of infringements.
 - Condition of subdivision requiring an ESC and dust management plan recommended by local government planning department and supported by the DPLH (WAPC).
 - Preparation of separate management plan or recognition of need for ESC and dust management to be addressed in the construction management plan and urban water management plan for subdivisional works (noting different ESC actions are required for land clearing, earthworks/construction and the defects period).
 - Implementation of effective ESC and dust control strategies by developer that are maintained throughout construction and the 12month defects period.
 - Regular monitoring of implementation by local government during construction and defects period including practical completion inspection. Where poor practice is observed, discuss requirements and potentially call in the defects bond.
- For development
 - Discussion with local government prior to lodgement and approval about the need for ESC and dust management – either initiated by the proponent or requested by the local government. Note the issue is being monitored by local government and non-compliance may be associated with issuing of infringements and may include the use of stop-work notices or equivalent.
 - Condition placed on the development approval requiring an ESC and dust management plan be prepared, endorsed by LG and implemented by the proponent.

- Review and approval of ESC and dust management plan – preferentially this is done prior to approval but would likely require a policy or change to DA process to specifically require this to be submitted with the application.
- Implementation of effective sediment control strategies by developer that are maintained throughout construction.
- Regular monitoring of ESC implementation by local government during construction and final inspection. Where poor practice is observed, discuss requirements and potentially request a bond.
- For single residential development (no DA)
 - Apply a condition on the building licence/permit regarding the need to manage materials on site so that nothing discharges to the street or apply a verge/infrastructure bond that includes loss of sediment from the site and impacts on the downstream drainage system as reasons for non-return of the bond.
 - Share information with the granted licensee on ESC best practice measures that can be applied by their builder, tradespersons and contractors to achieve the above requirements and provide advice where necessary.
 - Local government regularly monitors ESC implementation during construction and final inspection.

The successful implementation of the above process requires local governments to have developed and implemented the appropriate enforcement mechanisms and processes. This requires political and senior management support for on-ground compliance actions to be undertaken, which also requires allocation of sufficient resources including access to skilled/knowledgeable people to work with industry and issue penalties when required.

5.1.4 Other considerations

There is a perception that implementation of ESC will increase the cost of housing (both financially and in time for development) in a time of “housing crisis”. It is recognised that anything that increases the cost of housing is currently criticised and is unlikely to receive sufficient political support.

There are few incentives for action. The current level of an infringement under the Local Government Act and EP Act is low (although those under the Planning and Development Act are more effective) and the cost of cleaning sediment out of the drainage system and WSUD assets seems to be accepted by many local governments, as demonstrated by recurring annual local government budgets for ‘sediment clean-up’. The Sediment Task Force has also noted that a truckload (10 tonnes) of building sand only costs around \$600 in 2025 (B Scallan 2025), so it is often cheaper to purchase replacement sand than invest in and maintain erosion and sediment control treatments/methods.

5.2 Recommendations

Please Note – this is not a legal review, and it is recommended that legal advice is obtained on the best regulatory approach for WA.

However, it is considered that the following mechanisms could provide an effective framework in WA. This requires:

1. Clarity on what is required, when and why including common language and terms, as well as how – which instruments are used at each stage.
2. Education – of both industry and local government

3. Effective compliance – application of enforcement mechanisms and site inspections/audits of compliance.

5.2.1 *Clearly outline the preferred approach to manage the issue*

Develop a clear framework that outlines why, what and when, how and who:

- Why is ESC and dust management required? Clarify the use of terms and combine ESC with dust management.
- What do I need to do and when? – for both the local government and industry at each stage of the planning and development process. What mechanisms are to be used to require action, noting that a range of mechanisms will be required to address the different stages of the planning and development process?
- What management practices are required for ESC and dust at each stage of the planning and development process, who is responsible and what is required to demonstrate compliance?

The mechanisms that appear to be the most successful are:

- A clear provision (clause) in the local planning scheme similar to the City of Wanneroo DPS No 2 Clause 80B. This provides support for compliance activities associated with any planning approval (which includes subdivision and anything requiring a DA).
- Bonds for infrastructure protection – required as part of defects liability periods (applied on a performance basis) and for building (works).

However, while a standardised approach is preferred, each local government should develop the approach that most suits their existing processes and risk tolerance.

Some learnings from other States are that:

- Stakeholders value clear guidelines provided by State Government, which help them understand and implement effective sediment control measures.
- The availability of resources and support from State Government for local government and industry assists in the creation of consistent approaches.
- On-ground support from local government that builds relationships and helps to educate industry is critical to improve and maintain good practice.

5.2.2 *Develop an education campaign*

Foster collaboration between State and local governments, industry bodies and community groups to share resources, expertise and best practices relevant to WA. Develop a range of tools that assist both local government and industry to understand the “why, what and when”. Explore the use of Geographic Information Systems (GIS), remote sensing, and Artificial Intelligence to create easy tools for compliance assessment. Consider opportunities to partner with other programs targeted at the development and building industries.

Share the tools with all parts of the industry through relevant industry bodies and host workshops, field days and joint inspections. Support local governments to form more trusted relationships with the development, construction and building industries.

Support ongoing upskilling of local government officers, as it is noted that they are then able to assist in building knowledge across the industry. This could include something similar to the Queensland officer swap program and HLW’s Erosion and Sediment Control Management Systems Review.

Develop information that is community-facing and undertake a community education campaign that could include or be linked to other campaigns such as the [Snap, send, solve app](#), which allows the community to easily report issues they see.

Support research into new sediment control techniques and technologies and encourage the adoption of innovative practices.

5.2.3 *Improve compliance*

Increase resources dedicated to enforcement and monitoring of soil erosion, sediment runoff, sand drift and dust control measures. This includes employing dedicated compliance officers, as has been done by the City of Wanneroo and conducting regular site inspections to ensure adherence to construction, water, site, ESC and dust management plans.

Support local governments to establish a system for ongoing monitoring of ESC compliance and create a database for sharing relevant information, such as enforcement notices, monitoring results, and best practice guidelines. This will improve transparency and accountability.

Adopt an “engage, educate, enforce” compliance model similar to that of the ACT EPA, which incorporates skills development, overcomes known barriers, identifies motivators for attitudinal and behavioural change to enhance the likelihood of the required transformational improvement in industry practice.

Appendix A Additional examples of ESC program and tools being used in Queensland and New South Wales

All examples below provided by DBCA.

Queensland

Brisbane City Council

Brisbane City Council's ESC compliance program achieves over an 80% average compliance rate for inspected major private works. This equates to \$10 per tonne of sediment prevented from entering waterways (HLW, 2019).

hlw.org.au/resources/downloads/water-by-design/erosion-and-sediment-control/reports-1/237-water-by-design-the-case-for-best-practice-erosion-and-sediment-control-compliance-2019-update/file

Brisbane City Council's Erosion and Sediment Control officers interpret plans relating to erosion and sediment control in a legislative and regulatory context, in accordance with the current International Erosion Control Association (IECA) standards and undertake investigations and compliance enforcement actions.

For any project assessed as having a 'high' risk according to their Erosion Hazard Assessment form, Brisbane City Council requires an ESC inspection certificate is completed and held on site for inspection by Brisbane City Council officers until all exposed soil areas are permanently stabilised against erosion. ESC inspection certificates require evidence that a suitably qualified professional has reviewed the ESC construction and implementation for a project and can verify that the construction is in accordance with the certified design, meets current industry best practice techniques and will effectively mitigate sediment migration from the project site.

[erosion-sediment-control-inspection-certification-march-2015.pdf.coredownload.pdf](#)

Townsville City Council

Townsville City Council's ESC compliance program is coordinated by their Sediment Control Unit. Signage on Compliance Officer's vehicles - "Your sediment won't be a DIRTY LITTLE SECRET anymore >> MORE PATROLS< LARGER FINES_CHECK YOUR SITE - is raising awareness of the issue and the councils' commitment to ensuring compliance with ESC regulations.

An Erosion Hazard Assessment form (EHA) must be completed and lodged by land developers and builders with Townsville City Council for any Development Application that will result in soil disturbance. This may include:

- Material Change of use;
- Reconfiguration of a lot;
- Operational works.

All sites are considered based on an assessment of risk. The EHA determines whether that risk is 'low', 'medium' or 'high' by using a series of questions based on best practice principles. The front page of the EHA form describes what an EHA is, when it is required, and certification requirements. The back page of the EHA form provides technical notes and a list of potential site 'hazards' that can affect the potential for erosion and sediment pollution. These questions determine whether a site's risk is 'low', 'medium' or 'high' in terms of environmental hazard. Applicants need to engage a suitably qualified person in ESC to prepare an ESC Program and Plan and supporting documentation in accordance with the requirements of the Planning Scheme.

A copy of the City's Erosion Hazard Assessment and Supporting Technical Notes is available at [SC6.4.8.14 - Form A - EHA Form and Technical Notes.pdf](#)

Development approvals issued by the Townsville City Council can contain soil erosion and sediment control (SESC) conditions that limit earthworks to the period outside of the higher risk months that align with the 'wet season'. For development approvals with this condition applied, the period of works is dependent on the risks associated with the site and this can vary between the months of April to November. At the end of this period, earthworks that are underway must cease, be suitably stabilised and made safe. If earthworks are proposed to occur during the higher risk months between November to April, amended SESC plans must be submitted to Council as part of an application for a Certificate of Compliance and approved prior to earthworks commencing or resuming.

Townsville City Council has been encouraging ESC certification and subsidising erosion and sediment control (ESC), planning and policy and water sensitive urban design (WSUD) training courses in their region for many years. They partner with accredited providers to ensure local industry can deliver best practice water quality management outcomes for the community.

For the last 14 years, Townsville City Council has funded a unique training for land developers to teach cutting-edge sediment and erosion control techniques for Townsville's Dry Tropics. Development companies of all sizes send their people to complete the training, new Council staff participate and other Reef Guardian Councils across the region are invited to send staff. Small local development and earthworks businesses also attend the training. As awareness of the training and expected standards has grown, attendees are increasingly coming from far across the region to take advantage of the low-cost opportunity to embed the best approaches in their development plans.

Townsville City Council is one of 20 organisations across the Dry Tropics who have come together to form the Dry Tropics Partnership for Healthy Waters — sharing data and knowledge to grow the collective awareness of best practices for protecting waterway environments. In 2024, Townsville City Council was assessed against the [Urban Water Stewardship Framework](#) developed by the Queensland Government, and thanks in part to the success of its sediment and erosion control training, received an 'Achieving Best Practice' grade in the Developing Urban category. They also received an 'Above Best Practice' for collaboration with industry and community to develop better capacity to manage stormwater runoff. The Urban Water Stewardship Framework (the framework) is a tool for assessing and reporting on the level of practice applied to key aspects of urban land use management relative to water quality risk.

https://www.qld.gov.au/data/assets/pdf_file/0030/547842/urban-water-stewardship-framework-factsheet.pdf

[Townsville recognised for sediment and erosion control](#)

Sunshine Coast City Council

An example of a pro-active and comprehensive approach by Local Government is the Sunshine Coast Council, identified by the International Erosion and Control Association of Australasia (IECA) as the leader in best practice erosion and sediment control in South East Queensland. The Council are the recipient of IECA awards for the outstanding work by their Construction Management and Waterways Protection Taskforce (CMWPT), established in 2021 to partner, educate and implement erosion and sediment control across the region. The aim of the CMWPT is to improve construction management practices and levels of compliance regarding erosion and sediment control resulting in improvements in waterways, wetlands and ocean health.

The Sunshine City Council's Taskforce has facilitated a comprehensive education program for all parts of the construction sector, working with the industry to reduce the potential for erosion and minimise site run-off. It has been monitoring and educating all parts of the construction sector and

working with the industry to ensure residential builders, contractors and developers are aware of their legislated environmental responsibilities.

The Council's Inspection Team targets construction hotspots throughout the Sunshine Coast region and responds to reports from concerned community members. The compliance inspection program also focuses on high-risk sites such as developments located near waterways and environmentally sensitive areas. To date, the team has completed 574 building site inspections and education sessions across 121 unique building companies and conducted 186 inspections and education sessions for large civil sites, across 26 unique civil contractors.

The Sunshine City Council's Environment Levy has supported the construction of their Regional Erosion and Sediment, Education and Trial (RESET) site, a purpose-built ESC facility designed to assist the construction, development, agricultural and environment industries in improving ESC management, practice and understanding and investigate solutions. The site demonstrates and supports:

- current ESC practices, products and techniques
- how products work under rainfall pressures on various soil types
- research and innovation by trialling new methods to minimise erosion, manage drainage and capture sediment.

The RESET site supports the Council's commitment to develop a comprehensive urban and regional erosion and sediment control program, through their Environment and Liveability Strategy, and the Corporate Plan objective to maintain 'A Healthy Environment'.

Sunshine City Council's Manager for Development Services, Patricia Jensen, believes their Construction Management and Waterways Protection Taskforce has been a catalyst for positive change in the construction sector, improving the industry's environmental performance and that the following three key components are behind the success of this taskforce:

- Engagement with industry – developers, builders, contractors and consultants.
- Education to a range of internal and external stakeholders to enable them to succeed.
- Measuring performance and development of metrics, so progress can be tracked and ongoing momentum ensured.

New South Wales

Great Lakes Council and Greater Taree City Council

These two councils undertook a 'corporate-style' seven-step process review to identify areas for improvement in erosion and sediment control practices and this in itself was an effective tool for engaging with senior management and outdoor staff. As the actions from the review were implemented there was a focus on working with outdoor staff and tracking performance through regular internal audits. This simple yet effective tool had a multiple purpose of maintaining the high profile of best practice erosion and sediment control, assisting staff with new policies and procedures and tracking improvements in performance.

To embed the improvements, Great Lakes Council have developed an Environmental Management System for erosion and sediment control practices as a way of documenting the controls that have been put in place and outline how these improvements will be maintained in the long term. The EMS is divided into sections on training, communication, operational controls, checking and management review. The actions outlined in the EMS were developed with the people responsible for the activities for example, Human Resources provided input to the section on training. This collaborative approach to developing the EMS will ensure that the system developed is consistent with Council's existing systems and therefore there being more chance of

the EMS being implemented. The EMS establishes targets which will be monitored and used as indicators of its success. The approach described in this case study could be effectively applied across councils who are facing the challenging task of raising the bar in the area of erosion and sediment control.

<https://www.coastalconference.com/2011/papers2011/Prue%20Tucker%20Full%20Paper.pdf>

City of Newcastle

The City of Newcastle requires compulsory environmental awareness signage is installed at all building sites. Their new sign will include a QR code and inform: 'All workers have a responsibility to PREVENT POLLUTION; Erosion and sediment controls must be installed and maintained to be effective; Stockpiles must be properly contained; Allowing soil, sand, sediment, cement slurry, paint and rubbish to enter the stormwater system is polluting; You can be fined up to \$30,000'.

The requirement to erect and maintain the sign is a condition of all Development Applications that involve construction or building work, including new dwellings, unit developments, shop fit-outs, swimming pools, and additions and alterations. The sign must be erected in a conspicuous location on or adjacent to the property boundary so it is clearly visible to the public.

The sign aims to increase builders' and sub-contractors' awareness of their legal responsibilities to prevent water pollution, and at the same time increase public vigilance in reporting pollution incidents. Builders obtain their sign by presenting Development Application receipts to either the City of Newcastle, the Master Builders Association Newcastle (MBA) or the Housing Industry Association (HIA) Newcastle.

This program is semi-effective however, as English is a second language for some contractors and the onus is on the building site supervisor or builder to purchase and erect the sign, so it is visible before site works commence. This is not always the case and Council resources for monitoring for compliance with this regulation and ESC compliance in general is limited (per comms. City of Newcastle Officer, B Scallan, 2025).

Lake Macquarie City Council

Lake Macquarie City Council requests of industry that 'the minimum standard of erosion prevention and sediment control planning required for a development is categorised by the total area of soil surface, which will be exposed. This includes areas of cut and fill, vegetation removal, driveways and access ways. Minimisation through effective prevention and control management is required for all development. This should be through a treatment train approach that utilises various devices in sequence'.

Lake Macquarie City Council employ an Erosion and Sediment Control Officer and have produced a series of 11 ESC Management Fact Sheets.

[Erosion and sediment control - Lake Macquarie City Council](#)



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