Transport for NSW

# Environmental control map guideline

June 2023





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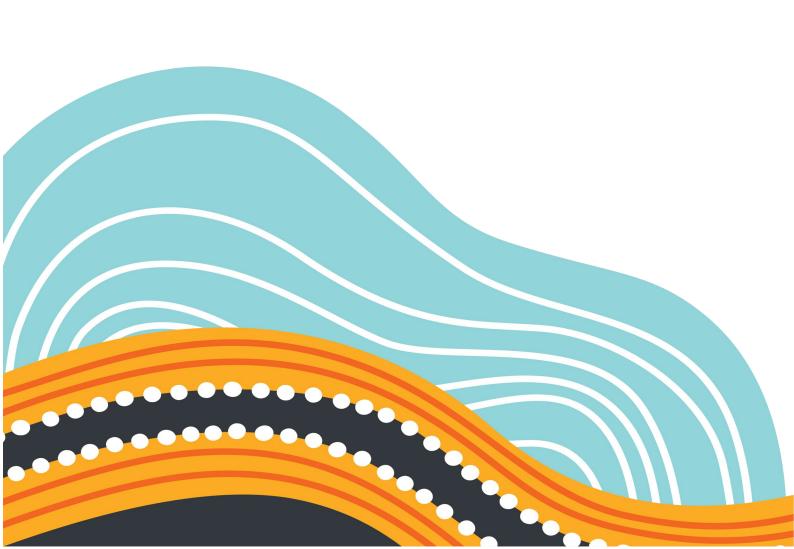
# **Acknowledgement of Country**

Transport for NSW acknowledges the traditional custodians of the land on which we work and live.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



### **Document control**

Document owner	Senior Manager, Assurance and Performance Improvement	
Approved by	Executive Director, Environment and Sustainability	
Branch / division	Environment and Sustainability / Safety, Environment and Regulation	
Review date	June 2025	
Superseded documents	DMS-SD-015/9.0 - Guide to Environmental Control Map	

### **Versions**

Version	Date	Amendment notes
3.0	Dec 2009	Updated to reflect restructure of P&E group and document owner
4.0	Jul 2010	Reformatted for TCA transition and revised governance structure.
5.0	Nov 2011	Reformatted for Transport Projects transition and revised governance structure.
6.0	Apr 2013	Section 7 updated – replaced the ECM examples with better examples.
7.0	Apr 2015	Updated to be published to TfNSW website
8.0	Apr 2016	Annual Review, TSR under Section 3 updated; changed also made to reflect the change in organisation structure.
8.1	Dec 2018	Rebranded to IP.
8.2	Aug 2019	DMS update
9.0	Dec 2019	DMS-SD-015/9.0 - Guide to Environmental Control Map reviewed, no changes.
10.0	June 2023	Reviewed, rebranded, new document number and title changed to Environmental control map guideline

# Related policy and supporting information

- Transport Environment and Sustainability Policy
- Environment & Sustainability Management Framework

# Contacts and further information



Email: environmentandsustainability@transport.nsw.gov.au

Internal Transport users: Environmental Management (SharePoint)

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# 1. Purpose and scope

An environmental control map (ECM) is a document prepared to assist in the construction planning and delivery of projects delivered on behalf of Transport for NSW (Transport). An ECM identifies the location of physical protection measures, work method controls and monitoring requirements to minimise the impact of project activities on the environment and community in and adjoining a specific work area.

Detailed construction methodologies are generally not advanced at the planning approval stage of a project and are only developed once a preferred delivery partner is selected and detailed design and construction planning commences. An ECM allows for a focused risk assessment of the environmental and community impacts of specific work areas and activities, and is a practical document to assist the delivery partner in implementing environmental plans and policies.

This document provides guidance in relation to the development of an ECM.

# 2. Definitions

Term	Definition
Delivery partner	Contractor carrying out tasks and activities on behalf of Transport.
ECM	Environmental control map
EIA	Environmental impact assessment
EMR	Environmental Management Representative (Approval under Division 5.1 of the <i>EP&amp;A Act</i> ), Environmental Representative (Approval under Division 5.2 of the <i>EP&amp;A Act</i> ). For the purposes of this document, these terms may be used interchangeably. The EMR is independent to Transport
Transport Environment and Sustainability Representative	<ul> <li>This includes:</li> <li>Environment and Sustainability Officer</li> <li>Senior Environment and Sustainability Officer</li> <li>Environment and Sustainability Manager</li> <li>Senior Manager Environment and Sustainability</li> <li>Within Rail Development and Delivery Projects.</li> </ul>
Transport	Transport for NSW

# Environmental control map development

The purpose of an ECM is to document the environmental and community controls to be applied to project activities and work areas. An ECM details specific control measures identified in the EIA and onsite management actions identified as part of construction work method and risk assessments. The ECM must specify:

- Where environmental controls are located and how they are utilised.
- Where and when environmental monitoring is to occur.
- How environmental control measures are communicated to project personnel.

An ECM represents the practical application of environmental controls, statutory compliance and licence requirements (if applicable) at the work site. An ECM is the culmination of a project's environmental impact and risk assessment processes. An ECM should be a concise 'statement of action' and not a 'plan for further action'.

If required by Transport, the delivery partner appointed to a project must prepare ECM/s. The delivery partner must use an experienced environmental practitioner to assist with its preparation. It should be drafted using a computer-based software drawing or graphical tool such as Geographic Information System (GIS), Computer Aided Design (CAD) or use electronic aerial photographs from spatial information datasets.

In accordance with relevant conditions of approvals or control measures, ECMs must be prepared and implemented prior to construction commencing for a project or component of a project and as a part of the detailed construction work method planning. They must be endorsed by the project Environmental Management Representative (EMR) (where relevant) or a Transport Environment and Sustainability (E&S) representative prior to the works commencing.

ECMs for a project are to be reviewed or updated regularly as the nature of the work site or work activity substantially changes. ECMs are to be placed in site sheds or other central and visible locations for reference by all project personnel.

ECMs should be used in project inductions, toolbox talks work site set-up, reviewing ongoing environmental performance, included as information in tender documents to subcontractors where applicable and in support of ancillary environmental approvals (i.e. council, Department of Planning and Environment, etc.).

# 4. Content of an environmental control map

An ECM should contain the following information (where relevant):

- Worksite layout and boundary including entry/exit points and internal roads.
- North point, legend, scale, names of major roads and landmarks.
- Key project traffic routes within and adjacent to the worksite and key traffic management measures (traffic controllers, cueing zones, warning signs, etc).
- Location of:
  - nearest noise sensitive receivers
  - monitoring equipment (e.g. dust, noise, vibration monitors)
  - site offices
  - worker car parking and any parking restrictions
  - spill containment and clean-up equipment
  - stormwater drainage and watercourses leading to/from the worksite
  - worksite waste management facilities
  - environmentally-sensitive areas (e.g., threatened species, critical habitat, contaminated areas, etc.)
  - known heritage (Aboriginal and non-Aboriginal) items.
- Location and type of erosion and sediment control measures including size/capacity of sediment basins and stabilised site entry points.
- Dust control measures.
- Vegetation and trees to be protected.
- Vegetation and trees to be removed with actions required prior to removal.
- Restrictions on certain activities (e.g., rock breaking and driven piling).
- Key project stages and timeframes for the works, contact details (including after hours) for key staff (including contractor's environment manager and environmental management representative (if applicable) and/or Transport E&S representative).
- Hours of work applicable to the worksite (including deliveries and any restrictions on high-noise generating activities).
- Construction Response Line number (1800 775 465).
- Transport Project Infoline number (1800 684 490).
- Stop work requirements for unexpected finds, incident response and notifications. Refer to relevant guidelines (i.e. Transport's *Environmental incident procedure* (EMF-EM-PR-0001) and *Unexpected Heritage Finds Guideline* (DMS-SD-115).
- Key environmental risk issues and the specific mitigation measures.
- Dcument control and approval details.

- 5. Examples of environmental control maps
- 5.1 ECM example 1

incidents are avoided.



# ECM 1 OF 4: Environmental Control Map Mitigation Measures

General
Misc Construction Controls to Avoid Environmental Incidents
OOHW as approved by TfNSW and standard working hours throughout 2020.
No works to be undertaken outside of these hours without prior approval from TfNSW.
Fatigue monitored to ensure environmental & safety

Pre-mobilisation Inspection for all plant and equipment.
Licensed Asbestos Contractor Class A for removal of
Friable Asbestos and Class B for Bonded Asbestos.

Plant and equipment to be operated by a trained

competent and authorised person only.

Environmental Risks		
Impact	L*C	
Noise Pollution	[M]	
Water Pollution	[M]	
Air Quality	[L]	
Chemical Spills	[L]	
Waste and Resource	[M]	
Flora & Flora	[L]	
Housekeeping	[M]	
Traffic Management	[M]	
Heritage	[L]	

### INCIDENT PROCEDURE

Assess risks and take measures to prevent further damage



Contact and advise supervisor



Supervisor to contact Environmental Coordinator, Communications Manager and Project Manager



Advise the Client's contract representative and HSE Manager



Complete investigation and record incident in JHET

All Environmental incidents to be reported immediately to I&P Project Manager and Environmental Representative and entered into INX within 4 hours of the incident

Proje		
Project Title	Name	Contact No.
Next Rail Project Manager		
Next Rail Construction Manager		
Next Rail Alliance Environmental Manager		
I&P Project Director		
I&P Senior Environment & Planning Manager		
Next Rail Environment and Planning Manager		
Next Rail Community Engagement Manager		
Next Rail Site Supervisor		
Next Rail Project Superintendent		
EPA Pollution Hotline		131 555
WIRES – Animal rescue		1300 094 737
Transport Project Information Line		1800 684 490
TfNSW 24 Hour Urgent Complaint Line Emergency – Fire and Rescue		1800 775 465
		000

### **Working Hours**

### **Standard Working Hours**

Mon – Fri → 0700Hrs to 1800Hrs

Sat - Sunday & Public Holidays\*  $\rightarrow$  0700Hrs to 1800Hrs

\*COVID Working Hours: The NSW Government have amended working hours for projects. Weekend work now mimics standard construction hours.

# ALL HOURS OUTSIDE OF THESE TIMES AND ON PUBLIC HOLIDAYS ARE TO BE CONSIDERED AS OOHW

High noise and vibration generating activities (including rock breaking and jack hammering) must be carried out in continuous blocks, not exceeding 3 hours each, with minimum respite period one hour between each block.

Contamination	
Controls / Actions	Responsibility
Unidentified Contamination – Upon identification/suspicion of contaminants, work will cease and a Hygienist will be engaged to investigate.	Site Personnel
The Substation site is an area of known asbestos contamination, all work should be undertaken in accordance with JHG Asbestos Management Plan.	Senior Project Manager Site Engineer Site Supervisor

Noise Manageme	nt
Controls / Actions	Responsibility
No works to occur outside standard construction hours, unless otherwise approved by TfNSW.	Senior Project Manager Site Engineer Site Supervisor
Implementation of TfNSW's Construction Noise & Vibration strategy.	Senior Project Manager Site Engineer Environmental Representative
Comply with OOHW conditions of approval.	Senior Project Manager Site Engineer Site Supervisor
<b>Waste and Resource Con</b>	sumption
Prevent waste being blown or washed outside of areas controlled by Next Rail.	Site Supervisor
Waste generated from workers consumables to be disposed of in bins.	Site Supervisor
All waste, including any spoil generated by potholing works contained within the sucker truck/liquid waste bins, will be removed from site as liquid waste and disposed of at licensed facilities.	Environmental Representative
All waste will be classified and managed in accordance with the NSW Environment Protection Agency (EPA)	Project Engineer Environmental Representative

	Air Quality Management	
	Avoid works during unfavourable weather conditions, i.e. high wind periods.	Senior Project Manager Site Supervisor
	'Plant/equipment will cease where excessive emission of black smoke from the responsible plant/equipment is observed'.	Site Supervisor
	Prevent mud and dirt being tracked onto sealed road surfaces.	Site Supervisor
	Work areas to be serviced by water cart if required.	Site Supervisor
	Slower driving is encouraged across dusty surfaces to minimise potential for dust generation.	Site Supervisor
Soil and Water Manage		ement

Slower driving is encouraged across dusty surfaces to minimise potential for dust generation.	Site Supervisor	
Soil and Water Management		
Appropriate erosion and sediment controls will be installed in accordance with Blue Book for stormwater/rail corridor drains (as required). Monitor the sediment and erosion controls – repair and reinstate where these are damaged.	Site Supervisor Environmental Representative Senior Project Manager	
Implement erosion and sediment controls as per Erosion and Sediment	Site Supervisor	

	<b>lext</b> Ro
Control Measures (see ECM 2, 3 and 4).	
Water will not be discharged unless approved. If required, all water discharge will be carried out in accordance with TfNSW Water Discharge & Guidelines.	Project Engineer Environmental Representative
Chemical Storage	е
Chemicals, fuels and oils to be stored in the securely bunded area within the storage area.	Project Engineer Site Supervisor
Bunds to be of sufficient capacity to contain 110% of the volume of the largest container. Bunded areas must	Project Engineer
have sufficient cover to prevent ingress of rain.	Site Supervisor
Spill kits and absorbent material to be located in the site supervisor's ute and in compound area.	Site Supervisor
Refuelling / Servici	ng
Spill kits to be located in close proximity to refuelling operations.	Site Supervisor
Only minor servicing activities are to be undertaken on site. >20m from drainage lines.	
Ground protection measures such as drip trays and plastic sheeting must be installed prior to servicing activities.	Site Personnel
Prevent the discharge of pollutants to stormwater. Undertake regular checks of equipment to ensure leaks and spills are rectified and cleaned immediately.	Site Supervisor Site Personnel
Flora and Fauna Manag	gement
If encountered, leave fauna alone and contact Supervisor, Environmental Rep and Senior Project Manager.	Site Personnel
No Vegetation to be trimmed or removed without prior approval. If required, vegetation pruning or removal	Site Supervisor
will be subject to additional approval and undertaken in accordance with TfNSW's guidelines.	Environmental Representative
Wildlife Information, Rescue and Education Service (WIRES) will be contacted to relocate fauna offsite and to a suitable habitat area.	Environmental Representative

Heritage

Site Supervisor

TfNSW Unexpected Heritage Find Procedure 4TP-SD-115 will be

implemented in case of any unexpected

aboriginal or non-aboriginal heritage

item is found on sit

# Next Rail

# Environmental Control Map -

### ECM 2 OF 4: Community Engagement



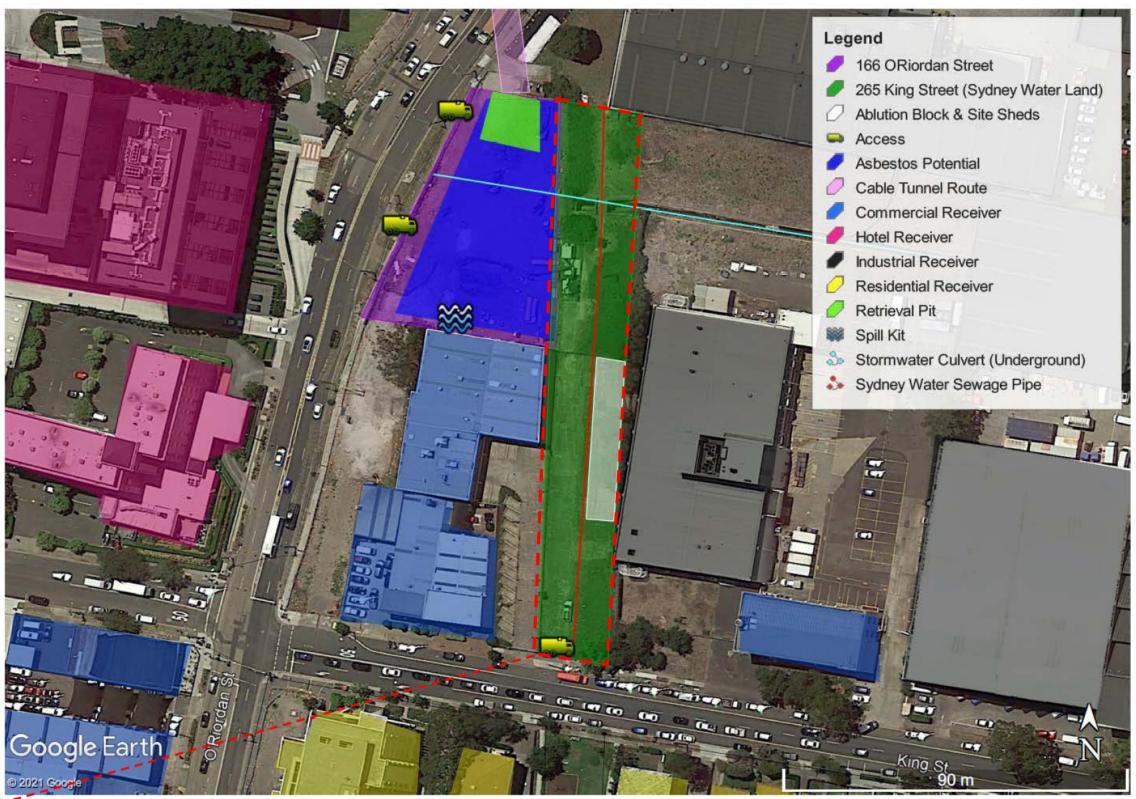


Community Engagement		
Access to local businesses and residential properties would be maintained at all times (unless affected property owners have been consulted and appropriate alternative arrangements made).	Site Supervisor	
Communication would be provided to the community, local residents and businesses to inform them of changes to parking, pedestrian access and/or traffic conditions including vehicle movements and anticipated effects on the local road network relating to site works.	Community Manager	
Heavy vehicle movements required as part of construction of the Proposal near Mascot Public School would be restricted during peak times and school zone hours. It may also be necessary to undertake other construction activities, such as concrete pours, crane lifts and delivery of oversized materials, outside standard construction hours to minimise traffic disruption	Site Supervisor Community Manager Senior Project Manager	
The community would be kept informed of construction progress, activities and impacts in accordance with the Community Liaison Management Plan to be developed prior to construction.	Community Manager	
Traffi	c Management	
Safe exit and entry to the site is maintained at all times, pedestrian signage advising pedestrians of alternative routes must be erected prior to works.	Site Supervisor	
Works must be undertaken in accordance with the approved CTMP for the combined worksite. The CTMP has been developed in consultation with TfNSW, Sydney Coordination Office, Bayside Council, State Transit Authority and the Taxi Council.	Site Supervisor Community Manager Environmental Manager Senior Project Manager	
Controls should be reviewed regularly to ensure there are no additional traffc hazards that aren't being addressed.	Site Supervisor Senior Project Manager	

### **Environmental Control Map –**

### ECM 3 OF 4:





### 265 King Street:

- Works must conform to executed Sydney Water Contract, in particular:
  - o Access must be maintained for servicing of telecommunications tower and Sydney Water Assets
  - o No equipment >1000kg can be stored in the area, in particular over the sewage pipe which runs through the middle of the site.
  - Site access via vehicles is limited to maintenance and servicing of the ablution and site compound areas.
  - Condition report to be conducted at the conclusion of works and prior to handback of licence agreement.

### **Erosion and Sediment Controls (ESC):**

All erosion and sediment controls are to follow the requirements of the Blue Book Managing Urban Stormwater, Volume 1, 4<sup>th</sup> Edition, March 2004.

These ESC measures are included for the project site and are illustrated in this Plan as follows:

- Appropriate erosion and sediment controls to be placed over stormwater/rail corridor drains (as required).
- All temporary stockpiling of materials will take place away from drains.
- Contamination investigation Excess soil will be collected in a clean plastic lined bag and sent to the laboratory for soil sampling. After classification laboratory testing, it will be disposed at licenced facility.
- All spoil generated as a result of hydraulic excavation and will be contained within a sucker truck and liquid waste bins and will be disposed of as liquid waste at an appropriately licenced facility.
- All temporary stockpiles to be covered and weighted down with plastic sheeting to prevent wind and water erosion. This includes the provision of ground sheets. Stockpiles not to exceed 2 metres in height where practical.
- Any material delivered to site or excavated material to be reused as fill would be neatly stockpiled only in the designated stockpile location until required. Materials may be stored in 'Bulka Bags' or covered skip bins (cover is essential for preventing ingress of rainwater) or standard stockpiles may be created (refer ECM).
- Where standard stockpiles are to be established, they would be covered with impermeable material such as builder's plastic and a sandbag bund will be created to prevent erosion and sedimentation where they are to remain in-situ for longer than 24hours and at the close of site at the end of each shift.
- Where appropriate, geofabric would underlay the stockpile to facilitate easier site clean-up upon removal of the stockpile.
- ✓ If any groundwater encountered during proposed works, groundwater will be managed in accordance with the requirements of the Waste Classification Guidelines (EPA, 2014) and TfNSW's Water Discharge and Reuse Guideline (TfNSW, 2019).
- Street sweeper to be used as required to minimise mud tracking.
- Water will be used for dust suppression as required.

### Demobilisation

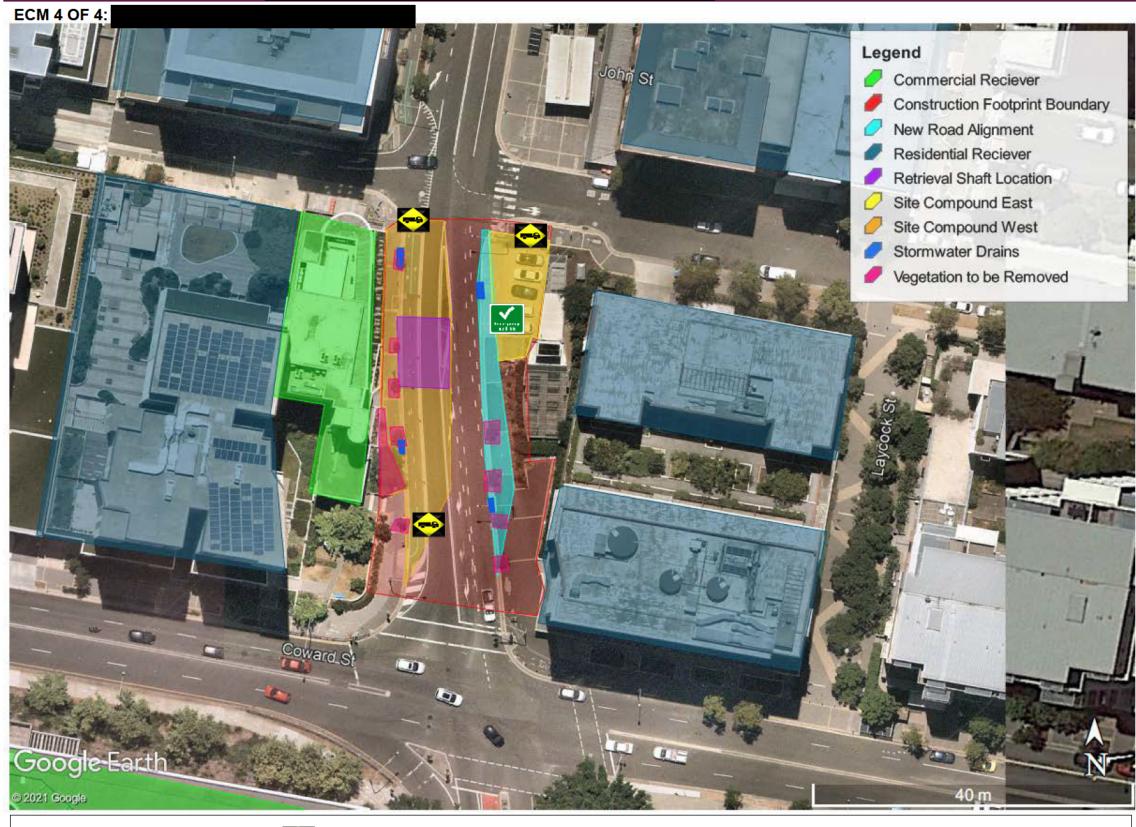
- Removal of ESC items.
  - Controls to stabilise and reinstate all areas

### Monitoring of ESC Controls

Periodic monitoring of the effectiveness of the ESC to be undertaken throughout the day, as part of weekly environmental inspections, prior to unfavourable weather conditions and after heavy rainfall events (>10mm in 24 hour period).

### **Environmental Control Map –**





### **Erosion and Sediment Controls (ESC):**

✓ All erosion and sediment controls are to follow the requirements of the Blue Book *Managing Urban* Stormwater, Volume 1, 4<sup>th</sup> Edition, March 2004.

These ESC measures are included for the project site and are illustrated in this Plan as follows:

- Appropriate erosion and sediment controls to be placed over stormwater/rail corridor drains (as required).
- All temporary stockpiling of materials will take place away from drains.
- Stormwater drains to be protected during works, but protection must be removed prior to rainfall events to allow free flow of water and control flooding potential.
- Where appropriate, geofabric would underlay the stockpile to facilitate easier site clean-up upon removal of the stockpile.
- Street sweeper to be used as required to minimise mud tracking.

### Demobilisation

- Removal of ESC items.
- ✓ Controls to stabilise and reinstate all areas

### **Monitoring of ESC Controls**

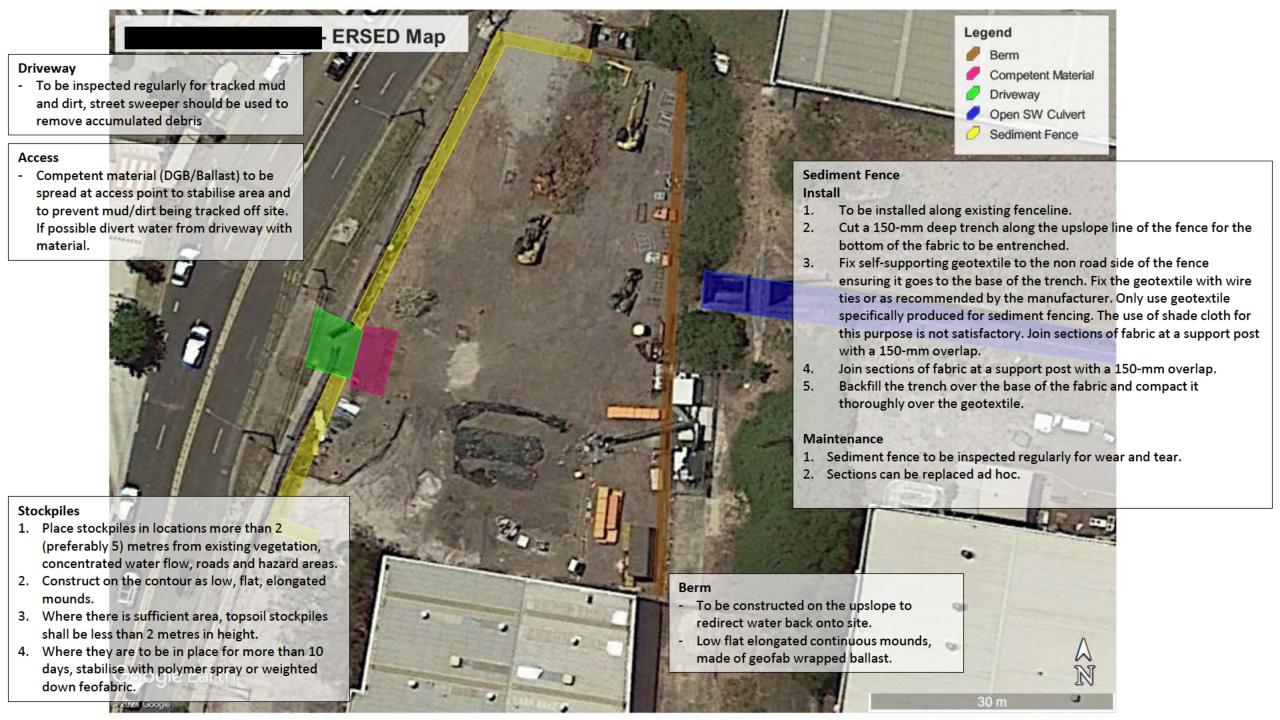
Periodic monitoring of the effectiveness of the ESC to be undertaken throughout the day, as part of weekly environmental inspections, prior to unfavourable weather conditions and after heavy rainfall events (>10mm in 24 hour period).

Access

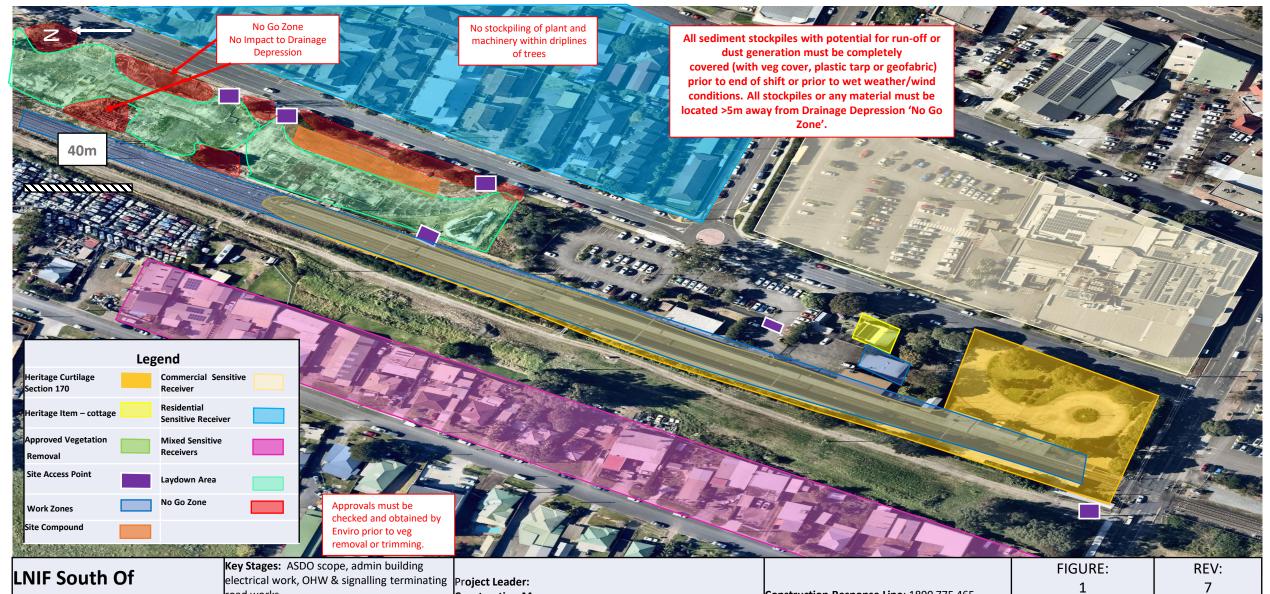


Spill Kit





# 5.2 ECM example 2



Wollongong -**Dapto- Environmental Control Map** 

road works.

Time frame: WE36 onwards

Hours of Work:

Standard Construction Hours 0700 – 1800 Mon- Fri

0800-1300 Sat & Approved OOHW

Construction Manager: Snr Enviro Advisor: TfNSW Snr Mngr Env & Sus: TfNSW Snr Env & Sus Officer: Community Engagement:

Construction Response Line: 1800 775 465 **Transport Project Delivery Office:** 1800 684 490

Pollution Response: 131 555 WIRES: 1300 094 737



Date Updated: 7/02/2023 **OFFICIAL** 



Dapto- Environmental Control Map

Hours of Work:

Date Updated: 7/02/2023

Standard Construction Hours 0700 - 1800 Mon- Fri

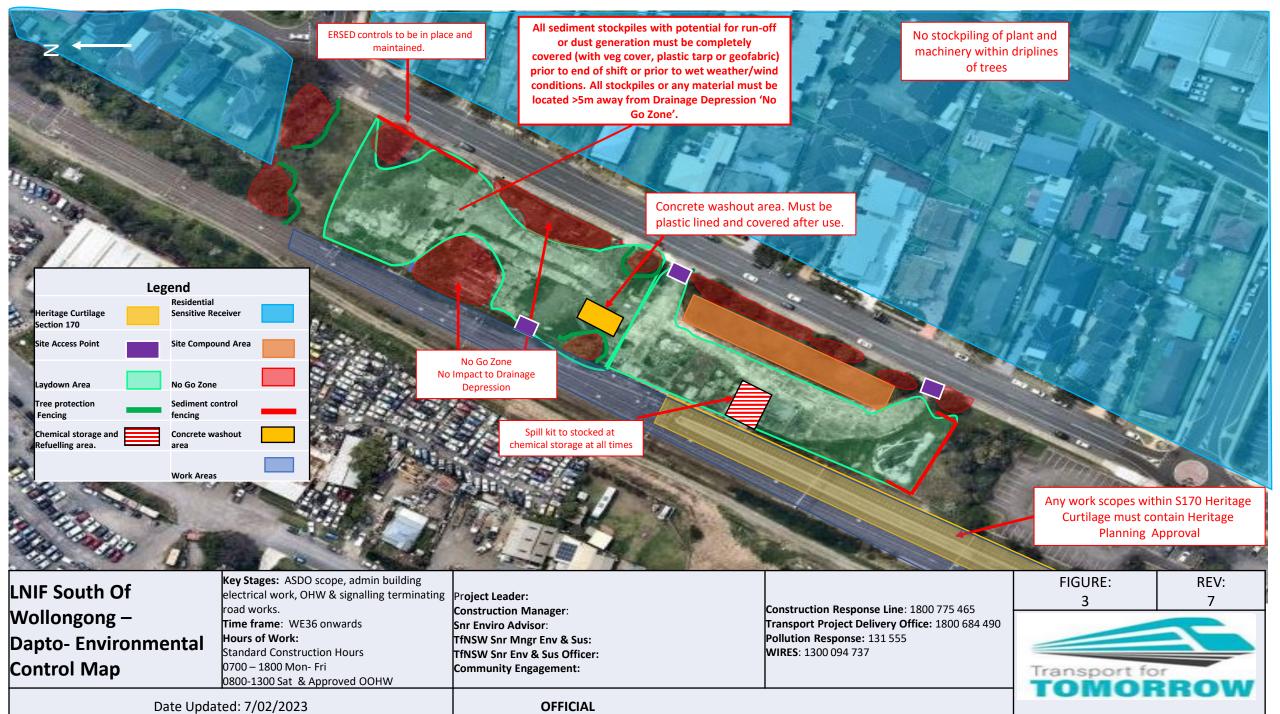
0800-1300 Sat & Approved OOHW

TfNSW Snr Mngr Env & Sus: TfNSW Snr Env & Sus Officer: Community Engagement:

**OFFICIAL** 

Pollution Response: 131 555 WIRES: 1300 094 737





Project Contacts		
Project Title	Name	Number
Project Leader		
Construction Manager		
TfNSW Snr Manager Enviro & Sustainability		
Snr Enviro Advisor		
TfNSW Snr Enviro & Sustainability Officer		
Community Engagement		
Construction Response Line		1800 775 465
Transport Projects Delivery Office Infoline		1800 684 490
Pollution Incident Response Line		131 555
WIRES		1300 094 737
Emergency		000 or 112

Project Contacts		
Working Hours		
	7:00AM to 6:00PM – Monday to Friday	
Standard Construction Hours	8:00AM to 1:00PM Saturday	
Out of Hours	Out of Hour works must have prior approval from TfNSW	

Heritage Management		
Controls/Actions	Responsibility	
Dapto Railway Station Group including its platform buildings and platforms is of local heritage significance, listed on the TAHE Section 170 Heritage and Conservation Register. Care must be taken to not damage any of these items.	All personnel	
Vehicle operators to remain alert at all times to avoid damaging heritage items.	Site personnel	
Immediately report any damage to heritage items to Environmental Representatives	Site personnel	
The heritage fabric of the platform should be protected against accidental damage during construction by installing hoarding/flagging tape.	Site personnel	
TfNSW Unexpected Finds Procedure 4TP-SD-115 will be implemented in case of any unexpected finds. Works must cease and may only recommence if approval is granted by TfNSW Heritage	·	

Contamination		
Controls/Actions	Responsibility	
Unidentified Contamination-upon identification/suspicion of contamination, works will cease and a Hygienist/ Contaminated Consultant will be engaged to investigate	Site Personnel	
Traffic Control (if required)		
Controls/Actions	Responsibility	
As per Traffic Control Plan	Site Supervisor Project Manager	
Signage and traffic control devices will be instated to alert motorists and pedestrians to works	Site Supervisor Project Manager	

motorists and peacetrians to norms	. roject manager	
Noise Management		
Controls/Actions	Responsibility	
	Project Manager	
No works to occur outside standard construction	Project Supervisor	
hours unless otherwise approved by TfNSW	Site Supervisor	
	Project Manager	
Implementation of TfNSW's Construction Noise &	Project Engineer	
Vibration Strategy V4	Environmental Representative	

Waste & Resource Management	
Controls/Actions	Responsibility
Waste generated by works/consumables to be disposed of in bins onsite	Site Supervisor
All waste will be classified and managed in accordance with the NSW Environment Protection Authority (EPA) Waste Classification Guidelines (2014) and disposed to a licenced facility. Waste receipts to be provided to T4T's Environment Manager	Project Engineer Environmental Representative

Visual	
Controls/Actions	Responsibility
Construction lighting to be positioned to minimise light spill to surrounding receivers.	Site Supervisor

Air Quality Management	
Controls/Actions	Responsibility
Dust Control; work areas to be serviced by water cart when required.	Site Supervisor

Document number MTMS2S-T4T-DAP-EN-ECM-000001 Rev 6

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**Environmental Control Map Mitigation Measures** 



Soil & Water Management		
Controls/Actions	Responsibility	
and reinstate where these are damaged. Install	Site Supervisor Project Engineer Environmental Representative	
• •	Project Engineers Environmental Representatives	

Chemical Storage		
Controls/Actions	Responsibility	
•	Site Supervisor Project Engineer	
	Site Supervisor Project Engineer	
Spill kits and absorbent material to be located on site	Site Supervisor	

Fuelling & Servicing	
Controls/Actions	Responsibility
The operator must be in attendance at all times during the fuelling process	Site Supervisor
Ground protection measures such as drip trays and plastic sheeting must be installed prior to activities.	Site Personnel
Prevent discharge of pollutants to stormwater. Undertake regular checks of equipment to ensure leaks and pills are rectified and cleaned immediately.	Site Supervisor Site Personnel

Flora & Fauna Management	
Controls/Actions	Responsibility
If encountered, leave fauna alone and contact Supervisor, Environmental Representatives. Contact WIRES in the event of injured wildlife	Site Personnel
No vegetation to be trimmed or removed without prior approval. If required, vegetation pruning/removal will be subject to additional approval and undertaken in accordance with TfNSW's guidelines.	Site Supervisor Environmental Representatives
•	Site Supervisor Project Engineer
repair and reinstate fencing where these are	Site Supervisor Project Engineer Environmental Representative

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