

Ms Deanne Forrest
M12 Project Director
Transport for NSW
PO Box K659
Haymarket NSW 1240

24/11/2021

Dear Ms Forrest

M12 Motorway (SSI-9364)
Approval of Early Works Environmental Management Plan

I refer to your submission dated 1 November 2021 requesting approval of the Early Works Environmental Management Plan (Rev G, dated 12 November 2021) and associated Sub-Plans under Condition A24 of the project approval.

I note that the early works will facilitate the construction of a temporary roundabout on Elizabeth Drive, Badgerys Creek, and that the plans submitted have been (where required):

- prepared in consultation with EES Group and Council;
- reviewed by Transport for NSW, and no issues have been raised;
- endorsed by the Environmental Representative; and
- contain the information required by the conditions of approval.

As nominee of the Planning Secretary, I approve the following documents under Condition A24:

Document	Revision and date
Early Works Environmental Management Plan	Rev G, 12 November 2021
Site Establishment Management Plan	Rev G, 12 November 2021
Flora and Fauna Management Sub Plan	Rev E, 1 November 2021

You are reminded that if there is any inconsistency between the approved documents and the conditions of approval, then the requirements of the conditions of approval will prevail.

Please ensure that you make the plans and this approval letter publicly available on the project website.

If you have any questions, please contact Lee McCourt on 8289 6969.

Yours sincerely



Jake Shackleton

Director – Infrastructure Management

As nominee of the Planning Secretary

Early Works Environmental Management Plan

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys Creek

November 2021



Transport for New South Wales

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Document control

File Name	M12PPW-CPB-EDR-EN-PLN-000003_G_S3_EWEMP
Title	M12 Temporary Roundabout Early Works Environmental Management Plan
Document Number	M12PPW-CPB-EDR-EN-PLN-000003

Approval and authorisation

Plan reviewed by:	Plan reviewed by:
David Bone	Simon Lendrum
Associate Director – EMM Consulting	Environmental Site Representative – CPB Contractors
Date: 15/11/2021	Date: 15/11/2021
Signed 	Signed 

Details of Revision Amendments

Document Control

The Project Manager is responsible for ensuring that this document is reviewed and approved. The Project Environmental Site Representative is responsible for updating this document to reflect changes to environmental, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Manager before being distributed / implemented.

Revision history

Revision	Date	Description
A	16/08/2021	First draft for TfNSW review
B	03/09/2021	Second draft for TfNSW review
C	30/09/2021	Third draft for TfNSW review
D	21/10/2021	Fourth draft for TfNSW review and ER
E	25/10/2021	Address ER comments
F	05/11/2021	Address DPIE comments
G	12/11/2021	Address DPIE comments

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SafeWork NSW	~	131 050
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Position / Organisation	Name	Phone
Department of Planning, Industry and Environment	Lee McCourt (post approvals) Alex McGuirk (Compliance)	02 8289 6969 0427 749 597

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Glossary/Abbreviations

Abbreviation	Expanded text
ACD	Asbestos Contaminated Dust and Debris
ACM	Asbestos Containing Material
ARCP	Asbestos Removal Control Plan
ARSR	Amendment Report to the Submissions Report
ASO	Aboriginal Site Officer
CMS	Complaints Management System
CoA	Conditions of Approval
Compliance Audit	Verification of how implementation is proceeding with respect to a Early Works Environmental Management Plan (EWEMP) (which incorporates the relevant approval conditions).
Construction	Includes all activities required to construct the Critical State Significant Infrastructure (CSSI) as described in the documents listed in Condition A1, including commissioning trials of equipment and temporary use of any part of the CSSI, but excluding Low Impact Work which is carried out or completed prior to the approval of the CEMP, works approved under a Site Establishment Management Plan, demolition of acquired residential houses, structures and sheds, and works specified in Appendix B (Early Works) and approved under an environmental management plan(s) in accordance with NSW CoA A24 (EWEMP).
CPB Contractors	CPB Contractors Proprietary Limited
CSSI	Critical State Significant Infrastructure
dB(A)	Decibels using the A-weighted scaled measured according to the frequency to the human ear
DAWE	Department of Agriculture, Water and Environment
DEC	NSW Department of Environment and Conservation, now EES
DECC	Commonwealth Department of Environment and Climate Change, now DAWE
DES	Director Environment Sydney
DPC Heritage	Department of Premier and Cabinet (Heritage)
DPIE	Department of Planning, Industry and Environment
EAP	Environmental Audit Program
Early Works	Works specified in Appendix B of the Infrastructure Approval which are required to be approved under an Early Works Environmental Management Plan required under Condition A24.
EWEMP	Early Works Environmental Management Plan
EWFFMP	Early Works Flora and Fauna Management Sub-plan

Abbreviation	Expanded text
Ecologically sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992).
EIS	Environmental Impact Statement
EEC	Endangered Ecological Community
EES	Environmental, Energy and Science (a part of NSW DPIE)
EMM	Environmental Management Measure as outlined in the Project EIS documentation
EMS	Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental Assessment Documentation	Collective reference to the M12 EIS, Submissions Report and Amendment Report and supplementary reports as detailed in NSW CoA A1
Environmental event	A report-only event, non-compliance, regulatory action or environmental incident
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental incident	An environmental incident is an event or set of circumstances, as a consequence of which pollution (air, water, noise, or land) or an adverse environmental impact has occurred, is occurring, or is likely to occur. Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items and adverse community impacts. An unexpected find that is not managed in accordance with relevant procedures / guidelines is also considered an environmental incident
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental policy	Statement by an organisation of its intention and principles for environmental performance.
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
Environmental Representative (ER)	A suitably qualified and experienced person independent of Project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance.

Abbreviation	Expanded text
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EPA	NSW Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPBC CoA	Federal Conditions of Approval under the EPBC Act
EPL	Environmental Protection Licence
ESCP	Erosion and Sediment Control Plan
ESM	TfNSW Environment and Sustainability Manager
Environmental Site Representative (ESR)	An authorised contact person employed by the CPB Contractors responsible for communications with TfNSW, DPIE Compliance and the EPA on all environmental matters.
EWMS	Environmental Work Method Statement
Highly Noise Affected	Where noise affected management level represents the level above which there may be some community reaction to noise, determined as the exceedance of NMLs.
Highly Noise Intensive Work	Works which are defined as annoying under the Interim Construction Noise Guideline (DECC, 2009) including: <ul style="list-style-type: none"> • Use of power saws, such as used for cutting timber, rail lines, masonry, road pavement or steel work • Grinding metal, concrete or masonry • Rock drilling • Line drilling • Vibratory rolling • Bitumen milling or profiling • Jackhammering, rock hammering or rock breaking • Impact piling.
Hold point	Is a verification point that prevents work from commencing prior to approval from TfNSW and the CPB Contractors
Infrastructure Approval	Approval (SSI 9364) for carrying out of the M12 Project under Section 5.19 of the <i>Environmental Planning and Assessment Act 1979</i> subject to specific CoA as detailed in Schedule 2 of the approval.
Investigation	The process by which the cause(s) of an environmental incident is examined and identified.
ISCA	The Infrastructure Sustainability Council of Australia who issues IS Ratings valuating sustainability across the construction phases for the Project
Minister, the	Minister of the NSW Department of Planning, Industry and Environment (or delegate)

Abbreviation	Expanded text
MNES	Matters of Environmental Significance
NCR	Non-conformance report
Non-compliance	A failure to comply with any condition of approval (CoA), revised environmental management measure (REMM), licence condition (where applicable), permit or any other statutory approval relevant to the activity and/or area where the activity occurs
Non-conformance	Failure to conform to the requirements of Project system documentation including this CEMP or supporting documentation.
Notifiable Event	Any environmental incident, report-only event or non-compliance that triggers a specific statutory requirement to notify a regulatory authority.
NSW CoA	NSW Conditions of Approval
NTU	Nephelometric Turbidity Unit
OCS	Overarching Communication Strategy
OEH	NSW Office of Environment and Heritage, now EES
OOHW	Out-of-hours work
Primary CoA/REMM	CoA that are specific to the development of this Plan
Principal, the	TfNSW
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
Pollution	Pollution (including air pollution, water pollution, noise pollution and land pollution) as defined in the dictionary to the POEO Act
Pollution incident	Has the same meaning as defined in the dictionary to the POEO Act.
Project, the	M12 Motorway Project
QA	Quality Assurance
RAP	Registered Aboriginal Party
Regulatory action	Any formal regulatory response from an environmental regulator including but not limited to penalty notices, clean-up notices, prevention notices, official cautions, show cause notices and formal warnings.
REMM	Revised Environmental Management Measures
Report-only event	An environmental incident or unexpected find resulting from circumstances outside the scope of controls and of an activity.
ROL	Road Occupancy Licence
SAP	Sensitive Area Plan
SEAR's	Secretary's Environmental Assessment Requirements
Secondary CoA/REMM	CoA that are related to, but not specific to, the development of this Plan

Abbreviation	Expanded text
Secretary	Secretary of the NSW Department of Infrastructure, Planning and Environment, or delegate
SEMP	Site Establishment Management Plan
Significant incident	An environmental incident that is likely to receive a classification of C3, C2 or C1, OR the history of the project, past performance and/or previous regulatory interest, indicate the project is likely to receive a penalty notice or be subject to prosecution, and therefore requires escalation to the Secretary and other TfNSW senior management.
TECs	Threatened Ecological Communities
TfNSW	Transport for New South Wales (formerly Roads and Maritime Services)
Unexpected find	An unexpected discovery such as a heritage item, threatened species, contamination, asbestos or hazardous substance.
Work	Any physical work to build or facilitate the building of the CSSI, including low impact work, environmental management measures and utility works. However, it does not include activities that inform or enable detailed design of the CSSI and generate noise that is no more than 5 dB(A) above the rating background level at any sensitive receiver.
WSIA	Western Sydney International Airport
WSIP	Western Sydney Infrastructure Plan

1 Introduction

1.1 Background

Transport for New South Wales (TfNSW) is planning to construct and operate the M12 Motorway (the Project) to provide direct access between the Western Sydney International Airport (WSIA) at Badgerys Creek and Sydney's motorway network. The M12 Motorway will run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for about 16 kilometres and is expected to be opened to traffic prior to opening of the WSIA.

The Project will be constructed in three separate stages under four separate construction contracts:

- M12 West (construct only contract) – between The Northern Road, Luddenham and about 250 metres east of Badgerys Creek
- M12 Central (construct only contract) – between about 500 metres west of South Creek and the Western Sydney Parklands at Cecil Road, Cecil Park
- M12 East (construct only contract) – Elizabeth Drive connections, south of Cecil Park
- M12 East (design and construct contract) – the M7/M12 interchange.

The Project is subject to an approval under Division 5.2 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as Critical State Significant Infrastructure (CSSI) (SSI-9364). The Project is also a controlled action under Section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), requiring a separate approval from the Australian Minister for the Environment.

An Environmental Impact Statement (EIS) was prepared to describe and assess the Project and recommend management measures to address impacts. The EIS was exhibited by the NSW Department of Planning, Industry and Environment (DPIE) for 34 days from 16 October 2019 to 18 November 2019 to give the community and stakeholders the opportunity to provide comment.

In accordance with Section 5.17 of the EP&A Act, the Secretary requested TfNSW to provide a response to submissions on 29 November 2019 to address the identified issues. Due to design developments since the exhibition of the EIS an Amendment Report has been developed to assess the impacts of these amendments. The Amendment Report was exhibited by DPIE for 14 days from 21 October 2020 to 4 November 2020. Following exhibition of the Amendment Report an Amendment Report to the Submissions Report (ARSR) was developed to address the identified issues.

Approval for the Project under the EP&A Act was granted by the Minister for Planning on 23 April 2021. The framework for the approval of the Project allows for certain works to occur at early stages, to prepare the Project site for future construction and facilitate its timely delivery. These works have been defined as Early Works in Appendix B of the Infrastructure Approval and are the subject of this Early Works Environmental Management Plan (EWEMP).

Approval for the Project under the EPBC Act was granted by the Federal Minister for the Environment on 3 June 2021. A detailed description of the Project as it relates to Early Works is provided in Section 2 of this EWEMP.

1.2 Purpose of this EWEMP

This Early Works Environmental Management Plan (EWEMP or Plan) and associated Early Works Flora and Fauna Management Plan (EW FFMP) and Site Establishment Management Plan (SEMP) provides a management system to ensure that TfNSW establish and maintain best practice controls to manage potential environmental impacts during Early Works.

The strategies defined in this EWEMP have been developed to address the NSW and Commonwealth Conditions of Approval (CoA) and the management measures presented in the Environmental Assessment Documentation applicable to Early Works.

This EWEMP has been prepared to outline and describe how the NSW Minister for Planning's CoA and the Federal Minister for the Environment's CoA will be complied with during Early Works.

This EWEMP is consistent with:

- NSW Minister's Infrastructure Approval dated 23 April 2021 and Federal Minister for the Environment Approval dated 3 June 2021.
- The CPB Contractors Contract Specifications
- TfNSW Guidelines
- Environmental Management Plan Guideline – Guideline for Infrastructure Projects (DPIE, April 2020)
- AS/NZS ISO 14001: Environmental Management Systems (EMS)
- ISO 9001: Quality Management Systems
- AS/NZS 4801: Safety Management Systems.

The purpose of this EWEMP is to provide a structured approach to the management and minimisation of environmental risks and issues during Early Works. The EWEMP outlines the requirements, controls and management procedures that provide an overall approach to the Early Works. It also details Early Works requirements and directs CPB Contractors and suppliers regarding specific measures that will be adopted for their work. Implementing this EWEMP effectively will ensure that TfNSW, and suppliers to the Project meet regulatory and policy requirements in a systematic manner and continually improve environmental performance.

The EWEMP provides:

- A description of activities to be undertaken during Early Works
- Details of environmental policies, guidelines and principles to be followed
- Details of internal auditing
- A program for analysis of the key environmental risks arising from Early Works
- Details of how the Early Works component of the Project will be undertaken to meet the performance outcomes stated in the Environmental Assessment Documentation (see glossary) and to manage the identified risks
- An inspection program detailing the activities to be inspected and frequency of inspections
- A protocol for managing and reporting any incidents and non-compliances with the NSW and Federal approvals and with statutory requirements

- Procedures for rectifying non-compliances during compliance auditing, incident management or at any time during Early Works
- A description of the roles and environmental responsibilities for TfNSW, construction personnel and their relationship with the independent Environmental Representative (ER)
- Details of training, inductions and awareness programs for construction personnel working on the Early Works, in relation to environmental and compliance obligations
- A mechanism for periodic review and update of the EWEMP and associated plans and programs, ensuring continual improvement.

This EWEMP will be available to all CPB Contractors personnel and sub-contractors via the Project document control management system and onsite. The EWEMP will be available for public inspection on the Project website (refer to Section 5.5.4). Confidential information, which may include the location of threatened species, Aboriginal objects or places and personnel contact details, will be removed from all documents before being made available to the public.

1.3 Scope of Works

This EWEMP has been developed for the construction of a temporary roundabout off Elizabeth Drive along the northern boundary of the Western Sydney International Airport (WSIA) frontage, to the west of the proposed permanent airport access road. The project includes a tie in from the roundabout into WSIA on Commonwealth land.

The package of work is shown in Figure 5 of Appendix B of the Infrastructure Approval, and the Early Works footprint is shown in Figure 2.2 of this EWEMP.

1.4 Conditions of Approval

This EWEMP provides a consistent approach to address the requirements of both the State and Federal approvals in a single document. The requirements of the State conditions relevant to the development of this EWEMP are shown in Table 1-1. These are defined as “primary CoA” and specifically related to the EWEMP. Secondary CoA relevant to, but not specific to the development of this Plan, have been listed in Appendix A1. A cross reference is also included to indicate where the CoA is addressed in this Plan or other Project management documents.

If a proposed action has the potential to significantly impact on Matters of National Environmental Significance (MNES) or the environment of Commonwealth land it must be referred to the Australian Minister for the Environment. As the Project has potential to significantly impact on listed threatened species or communities (Section 18 and Section 18A of the EPBC Act) the Project is considered a controlled action under the EPBC Act and is therefore subject to Commonwealth CoA's. The requirements of Federal conditions and where they are met in this EWEMP is shown in Table 1-2.

Table 1-1: NSW CoA relevant to the EWEMP

No.	Requirement	Reference
A24	Before undertaking early works specified in Appendix B , the Proponent must prepare an Early Works Environmental Management Plan . The Plan must include:	This plan

No.	Requirement	Reference
A24 (a)	a description of the activities to be undertaken and the scheduling and duration for each activity;	Section 2
A24 (b)	a site establishment management plan for any proposed construction ancillary facilities (excluding minor construction ancillary facilities established under Condition A20) consistent with the requirements of Condition A16 ;	Appendix B1 Section 2.2
A24 (c)	figures illustrating the proposed location(s) of the early works and the closest sensitive receiver(s);	Appendix B1 Figure 2-2 Appendix A4
A24 (d)	a flora and fauna management sub-plan (prepared in consultation with the EES) which includes - (i) details of the measures to avoid and minimise disturbance to native vegetation, and other habitat of native flora and fauna species, (ii) details of the proposed management and mitigation measures for the affected species listed in Table 3 , (iii) procedures for undertaking pre-clearing surveys for native fauna, including surveys by a suitably qualified and experienced ecologist to determine the presence of native fauna in the area impacted by the early works, and procedures and measures to manage their relocation, and (iv) unexpected finds protocol for flora and fauna;	Appendix B2
A24 (e)	details of measures to avoid and minimise noise and vibration, soil, water and air quality impacts; and	Appendix A8 Section 5.6
A24 (f)	unexpected finds procedures for heritage and contamination	Appendix B3, B4
A25	The Early Works Environmental Management Plan required under Condition A24 must be endorsed by the ER and then submitted to the Planning Secretary for approval at least one (1) month before the commencement of the early works specified in Appendix B . The early works specified in Appendix B must not commence until the environmental management plan is approved. The environmental management plan must be implemented for the duration of the early works which are the subject of the plan. Nothing in this condition prevents the Proponent from preparing individual environmental management plans for one or more of the early works specified in Appendix B .	Section 1.9
A16	Before establishment of a construction ancillary facility(ies) (excluding minor construction ancillary facilities established under Condition A20), the Proponent must prepare a Site Establishment Management Plan which outlines the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facility(ies). The Site Establishment Management Plan must be prepared in consultation with the relevant council(s) and relevant State government agencies. The Plan must be endorsed by the ER and then submitted to the	Appendix B1

No.	Requirement	Reference
	Planning Secretary for approval one (1) month before the establishment of the construction ancillary facility(ies). The Site Establishment Management Plan must detail the management of the construction ancillary facility(ies) and include:	
A16 (a)	a description of activities to be undertaken during establishment of the construction ancillary facility(ies) (including scheduling and duration of work to be undertaken at the site);	Appendix B1
A16 (b)	figures illustrating the proposed site layout and the location of the closest sensitive receiver(s);	Appendix B1
A16 (c)	a program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of site establishment work;	Appendix B1
A16 (d)	details of how the site establishment activities described in subsection (a) of this condition will be carried out to: (i) meet the performance outcomes stated in the documents listed in Condition A1 , and (ii) manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; and	Appendix B1
A16 (e)	a program for monitoring the performance outcomes, including a program for noise monitoring consistent with the requirements of Condition C14 .	Appendix B1
A34	For the duration of Work until the commencement of operation, or as agreed with the Planning Secretary, the approved ER must:	Section 1.11 Section 5.1.1 Section 7.2
A34 (i)	Consider any minor amendments to be made to the CEMP, CEMP Sub-plans, Construction Monitoring Programs, Site Establishment Management Plans and Early Works Environmental Management Plan that involve updating or are of an administrative nature and do not increase impacts to nearby sensitive receivers, and ensure they are consistent with the terms of this approval and the documents approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval	
C14	The Construction Noise and Vibration Monitoring Program must include, but not be limited to:	Appendix B1
C14 (a)	noise and vibration monitoring at representative residential and other locations (including at the worst- affected residences), subject to property owner approval, to confirm construction noise and vibration levels;	Appendix B1
C14 (b)	noise monitoring during the day, evening and night time periods throughout the construction period, covering the range of activities (including worst-case construction noise levels) being undertaken;	Appendix B1
C14 (c)	method and frequency for reporting monitoring results; and	Appendix B1
C14 (d)	procedures to identify and implement additional mitigation measures where monitoring indicates noise and/or vibration levels in excess of noise and vibration criteria.	Appendix B1

Table 1-2: Commonwealth CoA relevant to the EWEMP

No.	Requirement	Reference
5	For the protection of protected matters the approval holder must:	
5 (a)	Implement conditions A24 of Part A, Schedule 2 and C4, C5, C8, C9 and C10 of Part C, Schedule 2 of the State Infrastructure approval, where they relate to monitoring, managing, avoiding, mitigating, recording, or reporting on, impacts to protected matters.	This EWEMP Appendix B2 Appendix A8
5 (b)	Implement biodiversity conditions E2 to E10 of Part E, Schedule 2 of the State Infrastructure approval where they relate to monitoring, managing, avoiding, mitigating, offsetting, recording, or reporting on, impacts to protected matters.	Appendix B2
6	The approval holder must notify the Department in writing of the date of commencement of the action within 10 business days after the date of commencement of the action.	Section 1.8
8	The approval holder must maintain accurate and complete compliance records.	Section 7.3.4
9	If the Department makes a request in writing, the approval holder must provide electronic copies of compliance records to the Department within the timeframe specified in the request. <i>Note: Compliance records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the Department's website or through the general media.</i>	
10	The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must:	
11	The approval holder must notify the Department in writing of any: incident affecting protected matters; non-compliance with the conditions; or non-compliance with the commitments made in plans required in accordance with conditions 5a or 5b. The notification must be given as soon as practicable, and no later than 2 business days after becoming aware of the incident affecting protected matters or non-compliance. The notification must specify:	Appendix A5
11 (a)	any condition which is or may be in breach	
11 (b)	a short description of the incident affecting protected matters and/or non-compliance	
11 (c)	the location (including co-ordinates), date, and time of the incident affecting protected matters and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.	

No.	Requirement	Reference
12	The approval holder must provide to the Department the details of any incident affecting protected matters or non-compliance with the conditions or commitments made in plans required in accordance with conditions 5a or 5b as soon as practicable and no later than 10 business days after becoming aware of the incident affecting protected matters or non-compliance, specifying:	Appendix A5
12 (a)	any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;	
12 (b)	the potential impacts of the incident affecting protected matters or non-compliance; and	
12 (c)	the method and timing of any remedial action that will be undertaken by the approval holder.	
16	The approval holder must:	Section 1.10
16 (a)	submit plans electronically to the Department for information;	
16 (b)	unless otherwise agreed to in writing by the Minister, publish each plan on the website within 20 business days of the date:	
	i. that the plan was approved under the State Infrastructure approval, if the plan requires approval under the State Infrastructure approval; or	
	ii. that the plan was finalised and provided to the NSW Planning Secretary, if the plan is required for information under the State Infrastructure approval.	
16 (c)	exclude or redact sensitive ecological data from plans that are to be published on the website or provided to a member of the public; and	
16 (d)	keep plans published on the website for the period for which this approval has effect, or as otherwise agreed by the Department in writing.	

1.5 Revised Environmental Management Measures

The primary and secondary requirements of the Revised Environmental Management Measures (REMM) presented in the EIS and updated in the ARSR relevant to the development of this EWEMP are listed in Appendix A8.

1.6 TfNSW QA Specification G36 and G38

The primary TfNSW QA Specification requirements relevant to the development of this Plan are listed in Table 1-3. Note that TfNSW QA Specification requirements relevant to Biodiversity (including G40 Clearing and Grubbing) are listed in the EWFFMP and provided in Appendix B2.

Table 1-3: TfNSW QA Specification G36 and G38 requirements relevant to the development of this Plan

QA Specification Reference	Requirement	Reference
G36 3.1	The EWEMP must be prepared in accordance with (SSI- 2018/9364) State and Federal Conditions of Approval (CoA) and DPIE guidelines to outline how the performance outcomes, commitments and mitigation measures specified in the EIS, EIS Submissions Report, Amendment Report and Amendment Report Submissions Report will be implemented and achieved during all stages of the works. The Principal will obtain approval of this EWEMP from the DPIE	This EWEMP
G36 3.1	The EWEMP and associated management plans must contain: (a) standard and generic management systems and processes; and, (b) management and mitigation measures that generally apply to the Works under the Contract	Section 3.1 Section 3.2 Section 5.6
G36 3.1	The EWEMP and associated construction management plans must be: (a) used as the base for environmental requirements; (b) amended to suit project and Site specific conditions and details; and, (c) amended to address any comments by the Principal, Environmental Representative, regulatory authorities and/or the DPIE.	This EWEMP Section 1.3 Section 4.4 Section 1.11
G36 3.1	Any departures or changes made to the EWEMP must be submitted to the Principal and Environmental Representative for approval prior to commencement of any construction works on Site. Construction Contractor will remain responsible for the amendments and changes to the provided EWEMP as well as the time required to obtain approval for the amendments and changes	Section 1.9 Section 1.11

QA Specification Reference	Requirement	Reference
G36 3.1	<p>Submission of the amended EWEMP and associated Management (Sub-) Plans must comply with the following procedure:</p> <ol style="list-style-type: none"> 1. Submit draft EWEMP to TfNSW. 2. Allow 10 working days for review and comment on EWEMP by TfNSW 3. Address TfNSW comments and resubmit the amended draft EWEMP to TfNSW for review. 4. Allow 10 working days for second review (of amended draft EWEMP) by TfNSW. This step can be repeated as many times as necessary until all of TfNSW's comments have been addressed to the satisfaction of the TfNSW. Construction Contractor will not be entitled to claim for additional costs or an extension of time for completion to satisfactorily address the comments on the draft EWEMP or subsequent amended draft EWEMP(s). 5. Following endorsement from TfNSW, submit the amended draft EWEMP to the Environmental Representative for review and comment. All submissions to the Environmental Representative must also be provided to the TfNSW. Allow a minimum 10 working days each time the Environmental Representative is required to review the EWEMP. 6. Repeat Steps 3 to 5 until the Environmental Representative approves the amended EWEMP. 7. Submit the final approved amended EWEMP to TfNSW for release of the Hold Point. 	Section 1.11
G36 3.1	<p>EWEMP and Management (Sub-) Plan submission and re-submissions must be provided in the following formats:</p> <ol style="list-style-type: none"> (a) 1 copy in MS Word version original document; (b) 1 copy in Word version with tracked changes showing edits or markups since previous submission; (c) 1 copy in Word version updated clean version, no track changes; (d) 1 copy in final with all appendices; and, (e) a spreadsheet i.e. comments tracking register showing how the Principal's and other input parties' (e.g. councils, Environmental Representative and Planning Secretary) comments have been addressed and status – Open / Closed. <p>Construction Contractor must respond to all issues and comments raised by TfNSW and other parties, in the above described spreadsheet at every stage of review. To aid in the approval process for the amended EWEMP and all supplementary (Sub) Plans, provide the tabulated responses for each issue or comment to TfNSW when submitting the revised EWEMP.</p>	<p>Section 1.10</p> <p>Section 1.11</p>

QA Specification Reference	Requirement	Reference
G36 3.2.2	The EWEMP must identify Construction Contractor's obligations under environmental legislation that are relevant to the Work Under the Contract, including those listed in Annexure G36/M.	Section 3
G36 3.2.3	Environmental objectives and targets within the EWEMP must be implemented by Construction Contractor for the Works under Contract. The objectives and targets required by the EWEMP are to be captured in Construction Contractors Environmental Management System with a commitment to continuous improvement.	Section 3
G36 3.2.4	Prepare and implement Environmental Work Method Statements as part of the Work Under the Contract	Section 3.3.2
G36 3.3	Provide sufficient resources, including site personnel, for the effective implementation of EWEMP for the duration of the Work Under the Contract.	Section 5.1.3
G36 3.3.1	A full-time Environmental Site Representative (ESR) must be included in the EWEMP who will be the authorised contact person for communications with TfNSW, DPIE Compliance and the EPA on all environmental matters.	Section 5.1.3
G36 3.3.4	Engage and retain a suitably qualified, experienced and licenced Ecologist for the duration of the relevant WUC to provide expert advice on biodiversity related issues. The Ecologist must have qualifications and experience in fauna identification and handling, botany, environmental science, landscaping or bush regeneration and experience in identifying weeds and other plant species.	EW FFMP
G36 3.4	The ESR must ensure that environmental and sustainability requirements are adequately taken into account in the selection of subcontractors, and that all subcontractors comply with the requirements of the EWEMP.	Section 5.1.3
G36 3.5.1	Ensure that all your staff (including plant operators and truck drivers) and subcontractor personnel working on the Site behave in a courteous and professional manner when in dialogue with any community member or environmental regulatory enforcement officer	Section 5.1.3 Section 5.3
G36 3.5.2	The EWEMP must include a site-specific environmental induction and training plan that describes the minimum level of training, experience and/or qualifications required for staff and subcontractors working on the Site, the names of the persons to be trained, the proposed frequency of training and the procedures for training	Section 5.3

QA Specification Reference	Requirement	Reference
G36 3.6	The EWEMP must include a procedure for notifying and seeking approval from TfNSW, all relevant Authorities and the community, in advance of any proposal to work outside of the working hours identified in the Conditions of Approval.	Section 5.4.2
G36 3.7	Construction Contractor must, as a minimum, comply with the requirements of the NSW State Government and TfNSW guidelines, policies and reference documents in relation to community relations obligations	Section 5.5
G36 3.7.1	Construction Contractor must immediately notify the TfNSW of any visit to the Site by the EPA and/or other Government Agencies.	Section 7.1.4
G36 3.7.3	Construction Contractor must provide a Complaints Management System to facilitate community enquiries and manage complaints during construction and for a minimum of 12 months following the Completion	Section 5.5.3
G36 3.8	<p>The EWEMP must include details of:</p> <ul style="list-style-type: none"> • key emergency response personnel, their respective responsibilities and contact details • emergency services • communication strategy • incident response procedures • hazardous materials on site. <p>Construction Contractor must induct all staff and subcontractors working on the Site about the potential environmental emergencies, and provide training in implementing the relevant environmental safeguards and risk mitigation measures.</p>	<p>Section 5.1.3</p> <p>Section 5.5</p> <p>Section 5.3.1</p>
G36 3.9	The EWEMP must include procedure(s) to monitor and measure environmental performance and to evaluate compliance with QA Specification G36	Section 7

QA Specification Reference	Requirement	Reference
G36 3.11	Maintain legible environmental records of all environmental activities associated with Work Under the Contract to demonstrate compliance with Construction Contractors Environmental Management System and this EWEMP	Section 7.3 Section 7.3.5 Section 7.5 Section 7.6
G36 3.12	Develop a documented process to periodically review the effectiveness and proper implementation of the EWEMP. The management review process must identify opportunities for continual improvement of your environmental management processes and practices, and ensure that Construction Contractors Environmental Management System and EWEMP remain relevant to the Work Under the Contract	Section 7
G36 4.2.3	An Unexpected Contamination Finds Procedure must be included in the EWEMP	Appendix B3
G36 4.3	Manage chemicals, dangerous goods and other potential contaminants in accordance with current requirements in Worksafe NSW Guidelines and Codes of Practices for Chemicals	Appendix A8
G36 4.4	Implement all air quality mitigation and monitoring strategies outlined in the EWEMP to minimise the impact of dust, offensive odour, and other air pollutants on the surrounding environment, including adjacent properties and sensitive places. All reasonably practicable measures must be implemented to minimise and manage the emission of dust and other air pollutants during the Works Under Contract	Appendix A8
G36 4.6	Implement all noise control mitigation and monitoring strategies outlined in the EWEMP to minimise the impact of noise from operations on adjacent properties.	Appendix A8
G36 4.7	Implement all measures to prevent damage to adjacent public utilities, structures and buildings resulting from construction vibration	Appendix A8
G36 4.8	Implement all requirements outlined in the EWFFMP Plan to provide effective environmental controls to protect all native flora and fauna from the impact of early works activities.	Appendix A8
G36 4.9	Implement the management and mitigation measures outlined in the EWEMP to manage areas of the Site identified as Aboriginal heritage sites in the Environmental Assessment documents.	Appendix A8

QA Specification Reference	Requirement	Reference
G36 4.9	Implement the Unexpected Aboriginal Heritage Finds Procedure outlined in the EWEMP.	Appendix B4
G36 4.10	Implement the management and mitigation measures outlined in the EWEMP to manage areas of the Site identified as non-Aboriginal heritage items in the Environmental Assessment documents.	Appendix A8
G36 4.10	Implement the Unexpected Non-Aboriginal Heritage Finds Procedure outlined in the EWEMP.	Appendix B4
G36 4.11	Implement waste management measures outlined in the EWEMP to manage and minimise the generation of waste and encourage the reuse of materials.	Appendix A8
G36 4.13	Prepare environmentally Sensitive Area Maps using a high resolution aerial imagery and include all Works Under Contract, station markers at minimum of 500 metre intervals, a north point, a scale bar and be prepared at a scale of 1:5000, unless otherwise agreed by the Principal.	Appendix A4
G36 4.14	<p>Manage and report environmental incidents, including “pollution incidents”, in accordance with the EWEMP, the TfNSW “Environmental Incident Classification and Reporting Procedure” and TfNSW “Environmental Incident Report”.</p> <p>Notify TfNSW verbally immediately and in writing within 8 24 hours, of any pollution incidents which have been reported to the EPA under Part 5.7 of the POEO Act. The notification must include the date, time, location and nature of the incident.</p>	Section 6 Appendix A5
G36 4.15	Locate and manage ancillary facilities (refer to Specification TfNSW G2) in accordance with the Site Establishment Management Plan in the EWEMP to minimise impacts on the environment and the community.	Appendix B1
G36 4.16	Prior to Completion, restore any areas disturbed by you (such as areas for ancillary facilities, material storage, access and haul roads and the provision of TfNSW’s project accommodation) to a condition similar to that existing before disturbance, unless authorised otherwise by TfNSW	Appendix A2

QA Specification Reference	Requirement	Reference
G36 5.1	If surveillance, inspection or audit indicates that the environmental controls are not in place or are not properly maintained as required by the EWEMP, TfNSW may conduct a EWEMP compliance audit at 24 hours' notice; otherwise TfNSW will give at least five (5) days' notice that a EWEMP compliance audit is to be conducted and will advise on the scope of this audit.	Section 7.3.5
G38 2.1.1	Soil and water management measures will form part of the EWEMP. The EWEMP will identify all risks relating to soil erosion, and pollution caused by sediments and other materials, and will describes how these risks will be addressed during construction.	Appendix A8 Section 3.3.4
G38 2.2.1, 2.2.2, 3.1.1 (i) – (xxi)	Prepare and implement an Erosion and Sediment Control Plan (ESCP) for the Work Under the Contract. Include in the ESCP a procedure for assessing the performance of the control measures implemented and for addressing inspection reports from the Principal, EPA, your Environmental Site Representative (ESR) and the Environmental Representative (ER).	Section 3.3.4
G38 3.2	Establish erosion control and sediment capture measures, and maintain them regularly, to divert offsite stormwater, manage onsite stormwater runoff and stabilise stockpiles in accordance with RMS Technical Guideline EMS-TG-010: Stockpile Site Management and the BLUE BOOK guidelines. Design, establish, operate and decommission all stockpiles in accordance with the RMS Draft Stockpile Management Procedures, 2011. Manage stockpiles in accordance with RMS Stockpile Site Management Guideline, RMS G36 and RMS R178. Include a Stockpile Management Sub-Plan in your ESCP which includes, but is not limited to: (i) Identification of locations of stockpile sites; (ii) Quantities and types of different materials to be stockpiled; (iii) Measures to ensure separation of different materials; (iv) Controls to protect stockpiles from stormwater runoff; (v) Stabilisation of stockpiles left for more than 20 days; and (vi) Identification of and procedures for the control of other material you propose to use which may pose environmental risk e.g. recycled bedding sand, lime, gypsum, stabilised sand etc.	Appendix A8 Section 3.3.4

QA Specification Reference	Requirement	Reference
G38 3.4	Do not extract water from waterways for the Works. Water may be extracted from your construction sediment detention basins for construction purposes. Use stormwater, recycled water or other water sources instead of potable water for construction where available and practicable e.g. for dust control. Where relevant, describe in the ESCP the proposed water source(s) intended for use for construction activities	Section 3.3.4
G38 3.5, 3.6.2	Prepare a procedure for all identified dewatering activities as part of the ESCP Dewatering, for the purpose of this Clause, is any activity that involves the removal of stormwater or infiltrated groundwater from any location on Site (including from dams, ponded areas and sediment basins) and the subsequent reuse or discharge of that water. Offer water required to be removed from dams on private property to the property owner in the first instance, otherwise it is your responsibility to use or dispose of legally. Gambusia holbrooki (Mosquito Fish) and other exotic aquatic life may inhabit dams. If dewatering any dams, take suitable measures as required by your suitably qualified ecologist to prevent any exotic aquatic life being transferred into other waterways and to suitably cater for other aquatic fauna. Design and construct suitable temporary drainage systems to suit the Works in accordance with <i>RMS Technical Guideline: Temporary Stormwater Drainage for Road Construction</i> .	Appendix A8
G38 4	Keep daily records of rainfall at the site in millimetres. Inspect all disturbed areas and revegetated/stabilised areas together with all permanent and temporary erosion and sediment control works as soon as practicable but within 3 hours (during normal work hours and days) or within 24 hours (outside normal work hours and days, including industry rostered days off and public holidays) after the start of all rainfall events exceeding 10mm and during periods of prolonged rainfall. Rectify any issue revealed by such inspections immediately and clean, repair and augment these works as required, to ensure effective control thereafter. Provide written and photographic evidence to the Principal of the Site's permanent and temporary erosion and sediment control works after each of these events. Keep a register of all inspections performed and of maintenance or repairs carried out	Section 7.3 Section 7.3.5 Section 7.5 Section 7.6

1.7 Sustainability

The Sustainability Policy describes CPB Contractors commitment to continual improvement in environmental and sustainability performance and compliance with applicable legal requirements. The Sustainability Policy will be displayed on the Project website, the site office, and communicated to all staff, contractors and other interested parties via inductions and ongoing awareness programs.

TfNSW places high importance on ensuring key sustainability outcomes during the delivery of the Project are achieved. Addressing sustainability requirements will be an ongoing process throughout the life cycle of the Project.

Governance, monitoring, reporting and corrective action processes applicable to sustainability will be detailed in the CPB Contractors management system.

Delivery of the Early Works for the Project will be in accordance with relevant objectives, targets and initiatives outlined in the Sustainability Strategy 2019 – 2023 (Roads and Maritime, 2019). Key initiatives outlined in Sustainability Strategy 2019 – 2023 that are relevant to Early Works are listed in Table 1-4.

Table 1-4 Key initiatives of Sustainability Strategy 2019 – 2023 relevant to Early Works

Focus Area	Key initiative
Energy and carbon management	Educating and raising awareness in employees, contractors and our supply chain regarding the need for increased energy efficiency and reductions in carbon emissions.
	Using solar panels to power roadside signage, alert and messaging systems when cost effective and fit for purpose.
Climate change resilience	Consulting and partnering with key stakeholders to reduce vehicle carbon emissions and supporting new technologies to reduce road transport carbon emissions.
	Minimising the carbon impacts associated with vegetation clearance by reducing project footprints where possible.
Air quality	Actively monitoring and minimising non-road diesel emissions from our activities.
	Ensuring non-road diesel plant and equipment used in our activities comply with relevant EU or US EPA emissions standards.
Resource use and waste management	Identifying where there is potential to recover and reuse materials on site.
	Substituting non-renewable materials with recycled or reused materials where they are fit for purpose, cost effective and affordable.
	Managing waste to minimise transport related risks and impacts by using local disposal facilities where feasible and appropriate
	Maximising the use of non-potable water in preference to potable water where feasible.

Focus Area	Key initiative
Pollution control	Fostering a proactive reporting culture that promotes transparency in managing and reporting incidents internally and with regulators.
	Keeping our roads and waterways clean through litter and debris collection and removal.
Biodiversity	Minimising impacts by applying best practice approaches to unavoidable habitat loss (e.g., following pre-clearing processes, establishing exclusion zones and careful management of weeds and pathogens).
	Avoiding the spread of weeds, pests and diseases outside of our sites through appropriate management of mulch and vegetation wastes generated, reused or removed from our sites.
Sustainable procurement	Where possible, procuring from small and medium-sized enterprises Aboriginal businesses and Australian disability enterprises by including such requirements in procurement strategies and policies.
	Supporting local suppliers to minimise haulage distances of construction materials when feasible.

1.8 Consultation

Consultation with relevant stakeholders and Government agencies is not required to be undertaken as part of the development of this EWEMP. However, DAWE will be notified of the commencement of Work within 10 business days.

The Early Works Flora and Fauna Management Plan (EWFFMP) was consulted on with the Environment, Energy and Science (EES) Group in accordance with the requirements of the NSW CoA C24(d).

In accordance with NSW CoA A5, where a CoA requires consultation with identified parties, details of the consultation undertaken, matters raised by the parties, and how the matters were considered will accompany the strategies, plans, programs, reviews, audits, protocols and the like submitted to the Secretary. This information is detailed within the EWFFMP in Appendix B2.

Consultation with the community, relevant stakeholders and agencies by TfNSW and its Early Works Contractors will continue throughout Early Works where required. The approach to community consultation is documented in the Project's Overarching Communication Strategy (OCS) that will be developed in accordance with NSW CoA B1. Where relevant, the outcomes of this consultation will be documented in subsequent revisions of the EWEMP (refer to Section 1.6 and Section 7.7).

1.9 EWEMP endorsement and approval

This EWEMP has been reviewed by the TfNSW Project Manager and the Environment and Sustainability Manager and endorsed by the ER prior to submission to the Secretary of the Department of Planning Industry and Environment (DPIE) in accordance with NSW CoA A25.

The EWEMP will be submitted to the Secretary for approval no later than one month prior to commencement of Early Works, in accordance with NSW CoA A25. Additionally, TfNSW will notify

DPIE in writing of the date of Early Works commencement at least one month prior to that date in accordance with NSW CoA A36. This is only required if another package of Early Works (Section 3) has not commenced prior to the Works within the scope of this EWEMP

The EW FFMP prepared under NSW CoA A24(d) and the SEMP prepared under NSW CoA A24(b) and A16 will also be endorsed by the ER and submitted to the Secretary for approval no later than one month prior to commencement of Early Works, in accordance with NSW CoA A25.

Early Works will not commence before approval of the EWEMP, EWFFMP and SEMP by the Secretary in accordance with NSW CoA A25.

In addition, in accordance with Commonwealth CoA 16, TfNSW will submit the EWEMP, EWFFMP and SEMP electronically to DAWE for information.

1.10 EWEMP submission requirements

The EWEMP, EWFFMP and SEMP submission and re-submissions must be provided to TfNSW in the following formats:

- 1 copy in MS Word version original document
- 1 copy in Word version with tracked changes showing edits or mark-ups since previous submission
- 1 copy in Word version updated clean version, no track changes
- 1 copy in PDF final version with all appendices
- a spreadsheet i.e. comments tracking register showing how the Principal's and other input parties' (e.g. councils, Environmental Representative and Planning Secretary) comments have been addressed and status – Open / Closed.

1.11 EWEMP revision

The Early Works environmental management system review process described in Section 7.7 ensures that environmental documentation is updated as required.

The EWEMP will be reviewed:

- Following reportable environmental incidents
- On identification of new risks, including risks identified during risk register updates
- When non-compliances are identified
- Following environmental audits that identify matters that require attention
- In response to Project change (including modifications)
- Within one month of any of the above occurrences, or as otherwise agreed with the Secretary
- As part of a continuous improvement process.

Should the review process identify any issues or items within the environmental documentation that require updating, it is the responsibility of the CPB Contractors ESR (or delegate) to update the EWEMP as applicable.

The updated EWEMP will be submitted to TfNSW for review. Following a review period of 10 days by TfNSW, all comments made by TfNSW on the updated EWEMP must be addressed by the CPB Contractors, before resubmitting the EWEMP for a second review. Following endorsement from TfNSW, the updated EWEMP will be submitted to the ER for review and comment. All submissions to the ER must also be provided to the TfNSW Environment and Sustainability Manager. A minimum 10 working day review period may be required each time the ER is required to review the EWEMP. The final approved and updated EWEMP will then be submitted to TfNSW for release of the Hold Point.

TfNSW and/or the CPB Contractors must respond to all issues and comments raised by TfNSW and other parties in a spreadsheet at every stage of review. To aid in the approval process for the updated EWEMP, EW FFMP and/or EW SEMP, the CPB Contractors must provide the tabulated responses for each issue or comment to TfNSW when submitting the revised EWEMP.

Any revisions to the EWEMP will be endorsed by the ER. In accordance with NSW CoA A34(i) the ER can approve minor changes to the EWEMP, including those that:

- Are editorial in nature e.g. staff and agency/authority name changes
- Do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- Do not compromise the ability of the Project to meet approval or legislative requirements.

Amendments to the EWEMP which are not considered minor (based on the items above), will be forwarded to the Planning Secretary for approval and copies provided to the agencies required to be consulted in the preparation in the EWEMP (refer Section 1.8). The EWEMP will also be made available to DAWE upon request.

Revised versions of the EWEMP will be made available through the document control process described in Section 7.6.2. Revised versions of the EWEMP will be made available on the website in accordance with NSW CoA B10.

1.12 EWEMP distribution

This EWEMP will be made available to all site personnel and sub-contractors via the Project document control management system. One controlled hard copy of the EWEMP and supporting documentation will be maintained by the Project Environmental Site Representative (ESR) at the Project office.

Registered copies and revised documents will be distributed to the following personnel:

- Project Manager
- Project Environmental Site Representative
- Construction Manager
- Quality Manager
- Communications Manager
- Environmental Representative (Independent)
- TfNSW Project Manager
- TfNSW Environment & Sustainability Manager.

2 Early Works Description

2.1 Project Description

The construction of the temporary roundabout will occur on Elizabeth Drive along the WSIA frontage to the west of the proposed permanent airport access road and extend approximately 200 metres along Elizabeth Drive within the existing road corridor.

The construction of the temporary roundabout will include:

- Installation of site perimeter fencing
- Installation of site sediment and erosion controls and pollution management measures
- Vegetation clearing on the Elizabeth Drive road verge at the WSIA frontage. This includes approximately 0.5ha removal of Cumberland Plain Woodland Threatened Ecological Community (TEC) within the Early Works footprint
- Excavation of existing pavement
- Earthworks (cut and fill) for the required levelling of the site
- Laying of new pavement including densely graded base and asphalt layers
- Hardstand designated parking areas on the North and South sides of Elizabeth Drive work zones (within road corridor – i.e. boundary fence limits)
- Staff amenities, including office accommodation, two 12 x 3m site sheds, 1 x small ablution block setup within the road corridor, i.e. adjacent to the fence
- Line marking and installation of appropriate signposting
- Reinstatement of site including the removal of ancillary infrastructure and temporary pollution management controls.

The overall duration of works is anticipated to take approximately 5-6 months.

2.2 Ancillary facilities

Ancillary facilities will be established to support site-based construction personnel during Early Works. As required by CoA A16 and CoA A24(b), before undertaking Early Works, a Site Establishment Management Plan (SEMP) for any proposed construction ancillary facilities (excluding minor construction ancillary facilities established under CoA A20) must be prepared to outline the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facility(ies).

One Early Works Ancillary Facility (AF10), is proposed to be utilised as part of the Early Works program. Two (2) Minor Ancillary Facilities are also required to support the Temporary Roundabout Works at Elizabeth Drive, Badgerys Creek.

2.2.1 Ancillary Facility AF10

The existing compound currently used for The Northern Road Stage 5 (TNR 5) project will be utilised for M12 Early Works. AF10 is identified by TfNSW within the Amendment Report Submissions Report March 2021 as AF10 and forms part of the documents listed in NSW CoA A1.

AF10 is located at the western extent of the Project, and adjoins the eastern verge of The Northern Road in Luddenham (refer to Figure 2). Site access to AF10 is via the existing access point off The Northern Road and Littlefields Road. No changes to the existing access arrangements at this location are required. The nearest receiver to AF10 is located approximately 108m from the nearest point of the Ancillary Facility. No changes to the layout or proposed operation of the existing ancillary facility are proposed as a result of its utilisation as AF10 for the M12 Temporary Roundabout Early Works.

2.2.2 Minor Ancillary Facilities

Two (2) Minor Ancillary Facilities are also required to support the Temporary Roundabout Works at Elizabeth Drive, Badgerys Creek and are located within the Early Works footprint as shown on Figure 2-2. The Minor Ancillary Facilities comprising of two (2) site sheds (12m x 3m) for lunch room/office and self-contained amenities and two (2) lockable shipping containers for storage of hand tools, small mechanical equipment and erosion control supplies. Access to and from the Early Works footprint and the Minor Ancillary Facilities, will be off Elizabeth Drive and have restricted 'left in, left out' traffic movements. No private roads will be used for access to the site. The site facilities are approximately 474m from the nearest dwelling.

The Minor Ancillary Facilities have been assessed under NSW CoA A20 as detailed in Table 2-1.

Table 2-1 Minor Ancillary Facilities Assessment against NSW CoA A20

Condition Reference	Condition	Assessment
A20	Lunch sheds, office sheds, portable toilet facilities, and the like, can be established and used where they have been assessed in the documents listed in Condition A1 or satisfy the following: (a) are located within or adjacent to the construction boundary	The two Minor Ancillary Facilities are located within the Early Works construction boundary. Refer to Figure 2-2.
	(b) have been assessed by the ER to have - (i) minor amenity impacts to surrounding residences and business, after consideration of matters such as compliance with the <i>Interim Construction Noise Guideline</i> (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and	<p><i>Traffic and Access:</i></p> <p>Access to and from the Early Works footprint Minor Ancillary Facilities will be via left-in, left-out from Elizabeth Drive. No private roads will be used for access to the site. The facilities have been located to minimise the need for heavy vehicles to travel through residential areas. Any potential traffic and transport impacts will be managed in accordance with the environmental management measures listed in Table 6 3 of the EWSEMP.</p> <p><i>Dust and Odour:</i></p> <p>There is potential for air quality impacts at the Minor Ancillary Facility during site establishment works due to:</p> <ul style="list-style-type: none"> Dust as a result of ground disturbance (earthworks), vegetation clearing and grubbing, removal and/or stockpiling of topsoil

Condition Reference	Condition	Assessment
		<ul style="list-style-type: none"> Emissions due to the use of plant, machinery and vehicles Dust due to the storage of equipment Dust due to storage of materials Dust due to vehicle access on hardstand. <p>It is not anticipated that there will be any odour generated as a result of the establishment or operation of the Minor Ancillary Facilities.</p> <p>Any potential air quality impacts will be managed in accordance with the environmental management measures listed in Table 6.3 of the EWSEMP.</p> <p><i>Visual Impacts:</i></p> <p>The Early Works footprint Minor Ancillary Facility will be constructed in a manner that minimises the visual impacts of the site. Lighting may be required at night to illuminate vehicle parking areas and/or provide security at the Early Works footprint Minor Ancillary Facility. Urban design and visual amenity environmental management measures are listed in Table 6.3 of the EWSEMP.</p>
	(ii) minor environmental impact with respect to waste management, soil, water and flooding, and	<p><i>Waste Management</i></p> <p>There will be minor resources i.e. power, water fuel etc. used for site establishment works at the Minor Ancillary Facilities as the site sheds will be temporary in nature i.e. floated and lift into place. It is not anticipated that any waste materials will be generated from the installation of the temporary structures.</p> <p>Any potential waste impacts will be managed in accordance with the environmental management measures listed in Table 6.3 of the EWSEMP.</p> <p><i>Soil and Water</i></p> <p>Given limited earthworks required for site establishment required at the Minor Ancillary Facilities, soil and water quality impacts are considered minor with the use of standard mitigation measures in place. A site-specific Erosion and Sediment Control Plan has been prepared for the site and is included as an appendix of the EWSEMP.</p>

Condition Reference	Condition	Assessment
		<p><i>Flooding</i></p> <p>Based on the existing flood mapping, there is potential for localised flooding within the existing road drainage system. There is no formal road drainage at the location of the proposed Minor Ancillary Facilities. The Minor Ancillary Facilities will be positioned out of the existing drainage alignments to ensure that water flow is not impeded. Access installed to the facilitate access will not impede water flow within the existing drainage lines.</p>
	(iii) no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval.	<p><i>Heritage</i></p> <p>There are no heritage items or potential heritage items that have been identified within the footprint of the Early Works where the Minor Ancillary Facilities are to be located</p> <p>Any potential heritage impacts will be managed in accordance with the environmental management measures listed in Table 6 3 of the EWSEMP.</p> <p>If any unexpected heritage items (including human remains) are encountered, works potentially affecting the find will cease immediately and the Unexpected Heritage Finds Procedure (Appendix B4 of the EWEMP) will be followed.</p> <p><i>Biodiversity</i></p> <p>Native vegetation has been mapped within the boundary of the Early Works footprint facility.</p> <p>Patches of Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion and Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion are located within the Early Works footprint. No threatened fauna or flora species have been recorded within the Temporary Roundabout footprint.</p> <p>Vegetation to be removed from the Early Works footprint is required for the construction of the temporary roundabout and associated road works and utilities adjustments.</p> <p>Accordingly, site establishment works will not directly harm habitat for threatened species, communities or populations.</p>

Condition Reference	Condition	Assessment
		The Minor Ancillary Facilities will be located in cleared areas with no additional clearing of native vegetation required for the establishment of the Minor Ancillary Facilities.

In accordance with NSW CoA A21, boundary screening has been erected around AF10 where required for the duration of Early Works. The boundary screening will be provided in the form of chain wire fencing and screening cloth to minimise visual impacts to sensitive receivers in accordance with NSW CoA A22. In accordance with NSW CoA A23 and B7, signs will be displayed at the entrance of the Early Works footprint and the AF10 ancillary facility that displays the following information:

- The CSSI name: M12 Motorway
- Application number: SSI- 9364
- A 24- hour telephone number for the registration of complaints and enquiries about the CSSI: 1800 517 155
- A postal address to which written complaints and enquires may be sent:
 - Transport for NSW (M12 Motorway), PO Box 973, Parramatta, NSW, 2124
- An email address to which electronic complaints and enquiries may be transmitted: m12motorway@transport.nsw.gov.au.

The SEMP must be prepared in consultation with the relevant council(s) and relevant State government agencies. The Plan must be endorsed by the ER and then submitted to the Planning Secretary for approval one (1) month before the establishment of the construction ancillary facility(ies).

2.3 Early Works Activities and Schedule

Early Works activities is expected to begin in Quarter 4 of 2021 and conclude in Quarter 2 2022. Should the Overarching Construction Environmental Management Plan be approved during the course of Early Works activities, this EWEMP would continue to be implemented until Early Works activities are complete.

Additional Early Works activities (to be carried out by others and not covered by this EWEMP) relating to the Project are detailed in Appendix B of the Infrastructure Approval and are subject to separate Early Works Management Plans. These include:

- Relocation of electrical infrastructure along Luddenham Road and Elizabeth Drive, and the installation of a new Sydney Water pipeline along Elizabeth Drive, in the vicinity of Western Sydney International Airport. These works will be carried out under an EWEMP specific to the work (document reference number: M12PPW-ADAP-ALL-EN-PLN-000060). This EWEMP meets the requirements of NSW CoA A24 and A25. These works are due to commence in Q3 2021
- Protection of high-pressure gas mains in proximity to Elizabeth Drive and within Western Sydney Parklands, and the relocation of secondary gas mains along the northern side of Elizabeth Drive and the west side of Wallgrove Road. These works will be carried out by

Jemena and their sub-contractor Zinfra under an EWEMP specific to the work (document reference number: M12PPW-ADAP-ALL-EN-PLN-000057). This EWEMP meets the requirements of NSW CoA A24 and A25. These works are due to commence in Q4 2021

Early Works site establishment will comprise of:

- Vegetation clearance and earthworks in accordance with the EW Flora and Fauna Management Plan (FFMP) to deliver and site the Minor Ancillary Facilities in the Early Works Footprint
- Installation of hardstand designated parking areas on the North and South sides of Elizabeth Drive work zones (within the Early Works Footprint – i.e. boundary fence limits) and hardstand for staff amenities as described below
- Delivery and siting of office, lunchroom and amenities portable sheds and lockable shipping container tool sheds in the Early Works Project footprint,
- Installation of perimeter fencing, and environmental controls
- Utilization of the existing approved AF10 compound for materials laydown and storage areas, and main site office. No further clearing or vegetation disturbance, earthworks or construction activities are required at AF10.

Temporary stockpiling may be required during Early Works to store excavated material, until it is reused for backfilling upon the completion of the Temporary Roundabout Early Works. Temporary stockpiles will be located within the AF10 footprint. No long term stockpiles in the Early Works area will be allowed. No material will be moved between jurisdictions i.e. from Commonwealth land to NSW land and vice versa. Temporary stockpile sites will include environmental protection measures such as erosion controls to minimise impacts on sensitive receivers from dust.

Any stockpile sites will be established and managed in accordance with a stockpile management procedure, to be informed by the *TfNSW Stockpile Site Management Guideline* (2011).

Small laydown areas for short term temporary placement of material will be located at either end of the Early Works site. These are part of the work zone rather than ancillary facilities. The AF10 compound (asphalted carpark) may be used for storing construction plant and equipment but is not intended to be used for storing of excavated material. If storage of the material at the worksite is required, this will be assessed under the NSW CoA A20 as a Minor Ancillary Facility.

An indicative Early Works activities sequence is provided in Table 2-2; the indicative duration of activities and associated program is outlined in Table 2-3. The Early Works footprint is shown in Figure 2-2.

Table 2-2: Indicative construction sequence

Phase No.	Construction Phase	Early Works Activity	Indicative Plant and Equipment
1	Early works preparation	<ul style="list-style-type: none"> Establishment of a temporary ancillary facility Establish site access Erect temporary fencing around early works construction footprint perimeter Install environmental controls Install safety barriers and traffic control devices for the protection of the work area Remove vegetation from early works construction footprint. 	<ul style="list-style-type: none"> Trucks Light vehicles Generators Crane Bobcat Excavator Chainsaws Mulcher
2	Roundabout works	<ul style="list-style-type: none"> Excavation of existing pavement; Stockpiling of excavated material within road reserve Earthworks to level the site Laying of new pavement Installation of required drainage Line marking and signposting. 	<ul style="list-style-type: none"> Light vehicles Excavator Dump trucks Compactors Bulldozers Graders Water carts Bobcat Vibrating rollers Spray sealing equipment Asphalt paving machines

Phase No.	Construction Phase	Early Works Activity	Indicative Plant and Equipment
			<ul style="list-style-type: none"> • Line-marking plant • Concrete pumps • Concrete trucks • Generators
3	Finishing works	<ul style="list-style-type: none"> • Stabilise the site with ground cover • Removal of temporary environmental controls • Make good the temporary ancillary facility. 	<ul style="list-style-type: none"> • Hydro-mulching equipment • Light vehicles • Excavators • Generators • Dump trucks • Cranes • Water cart • Compactor • Bobcats

Table 2-3: Indicative Early Works program

Phase No.	Early Works Activity	M12 Indicative Early Works Program							
		2021				2022			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Establishment of a temporary ancillary facility				X				
	Establish site access				X				
	Erect temporary fencing around early works construction footprint perimeter				X				
	Install environmental controls				X				
	Install safety barriers and traffic control devices for the protection of the work area				X				
	Remove vegetation from early works construction footprint				X				
2	Excavation of existing pavement;				X				
	Stockpiling of excavated material within road reserve				X				
	Earthworks to level the site				X				
	Laying of new pavement				X				
	Installation of required drainage					X			

Phase No.	Early Works Activity	M12 Indicative Early Works Program							
		2021				2022			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Line marking and signposting.					X			
3	Stabilise the site with ground cover					X			
	Removal of temporary environmental controls					X			
	Make good the temporary ancillary facility.					X			

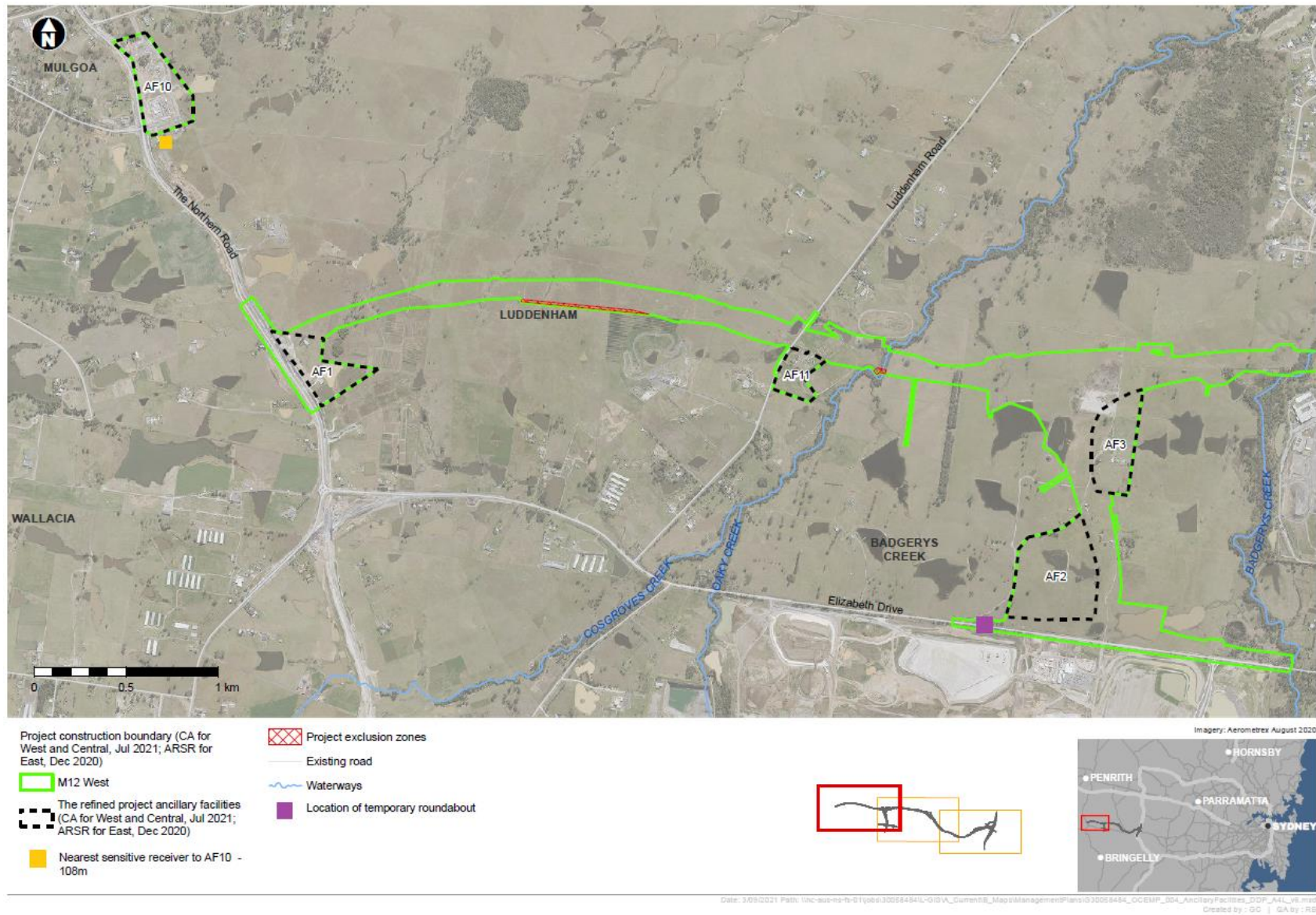


Figure 2-1: Location of AF10

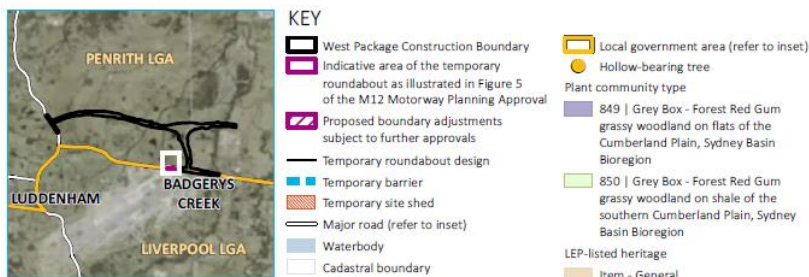


Figure 2-2: Early Works Footprint and Location of Minor Ancillary Facilities

3 Environmental Management Systems Overview

3.1 Environmental Management System

The EWEMP has been prepared in accordance with the overarching environmental management principles outlined in Figure 3-1.

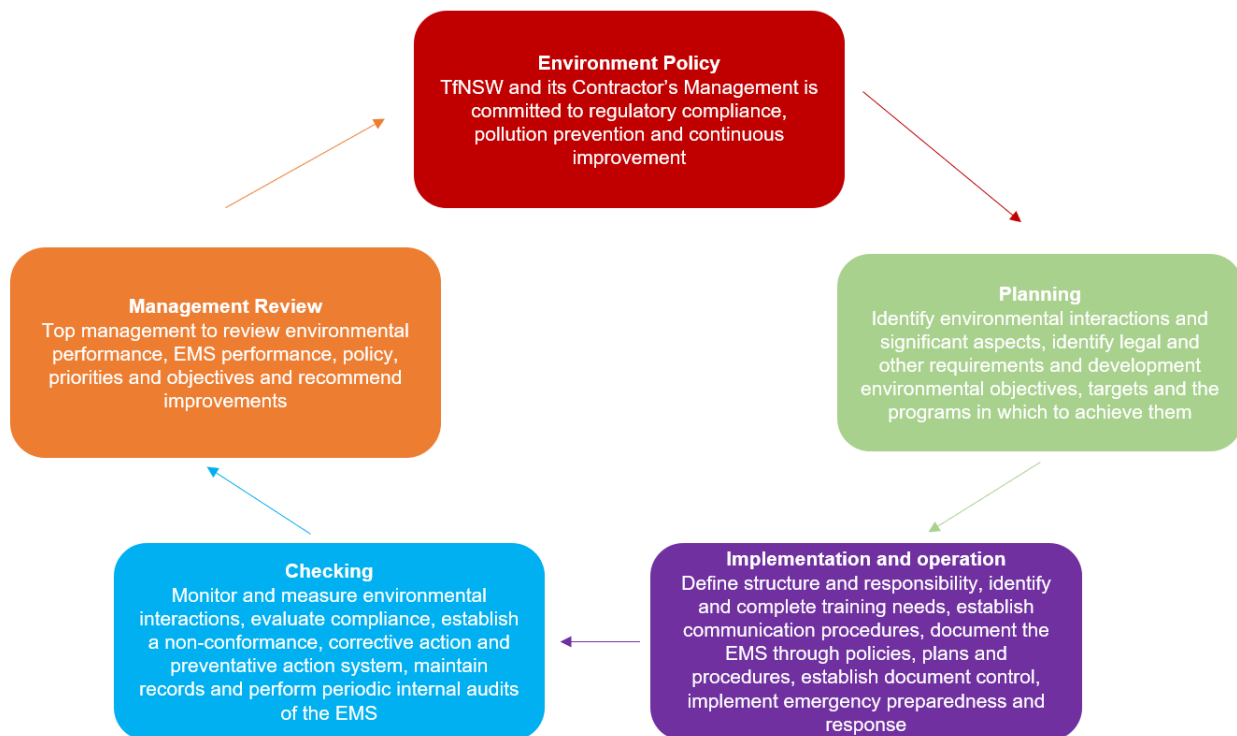


Figure 3-1: Overview of the Project environmental management principles

Source: <http://www.environmentalmanagementsystem.com.au/what-is-an-environmental-management-system.html>.

3.2 Environmental Policies

TfNSW's environmental policy specifies TfNSW's commitment to continual improvement in environmental performance and compliance with applicable legal requirements. CPB Contractors complies with latest version of AS/NZS ISO 14001 and seeks to ensure that this policy, environmental procedures and construction methods are understood, implemented and maintained by personnel at all levels involved with the Project.

Both TfNSW's and CPB Contractors environmental policy will be displayed on the Project website and at the Project site offices and communicated to staff and other interested parties via inductions and ongoing awareness programs (refer to Section 5.3).

The CPB Contractors will also display their environmental policy at their Early Works sites and communicate it to staff and other interested parties through the induction process. The Environmental Policies are provided in Appendix A3.

3.3 EWEMP

This EWEMP is the overarching management plan for a suite of environmental management documents for the Early Works described in Section 2 of this plan, as shown in Figure 3-2 below.

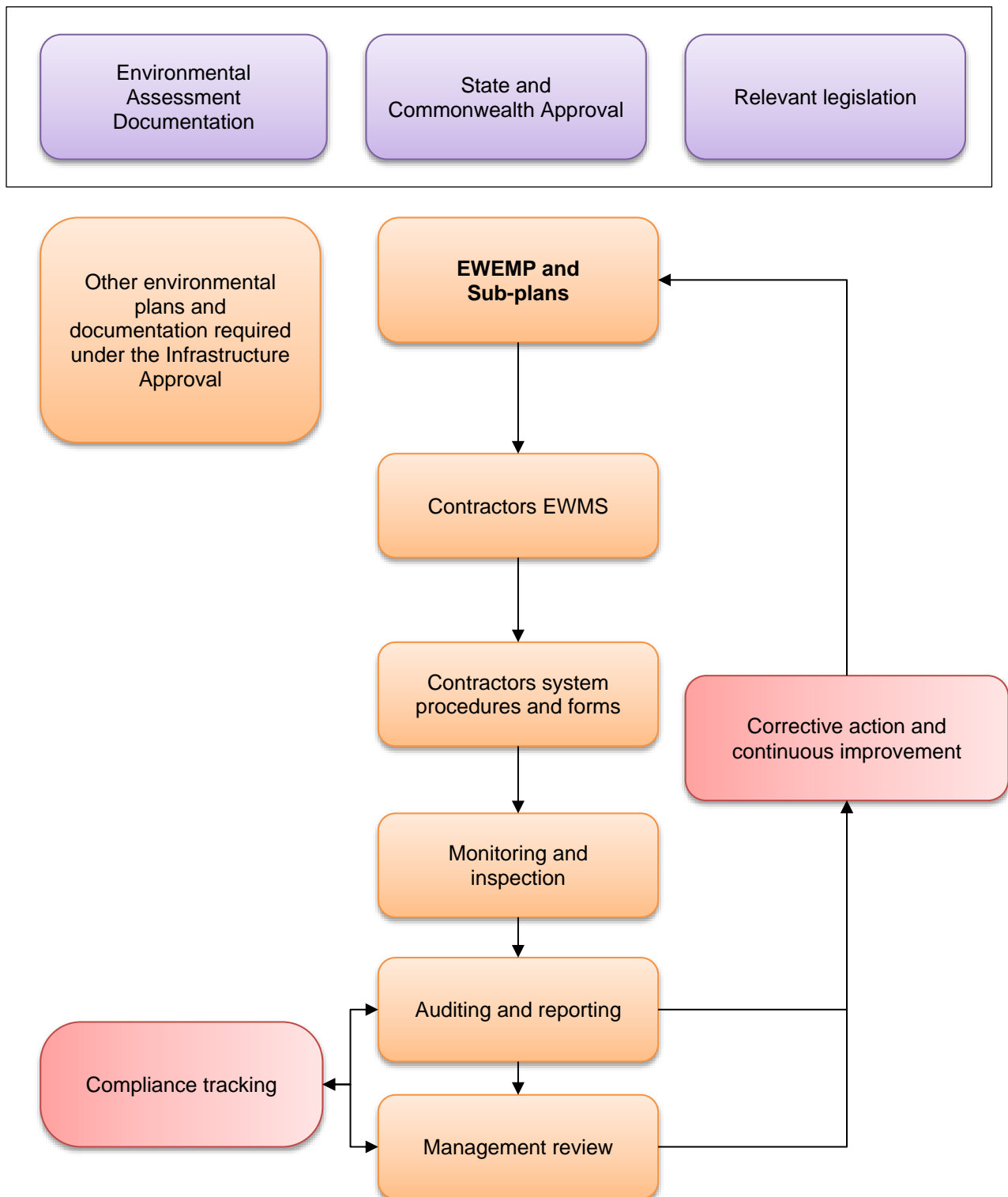


Figure 3-2: Project Environmental Management Document System overview

This EWEMP addresses the requirements of the EMS described in Figure 3-1 in the following sections:

- TfNSW and CPB Contractors Environmental Policies Appendix A2
- Planning Sections 4.1 to 4.3
- Implementation and operation Sections 5.1 to 5.6 and Appendices
- Checking Section 6
- Management review Section 7.7

In addition to the EWEMP plans, additional documentation is required to support the delivery of the Early Works. This documentation is detailed in the following sub-sections.

3.3.1 Environmental Management Sub-plans

Aspect-specific Environmental Management Sub-plans required under NSW CoA A24 support the EWEMP; these documents have been prepared to identify requirements and processes applicable to specific impacts or aspects of the activities described in Section 2. They address requirements of the NSW and Commonwealth Infrastructure Approval and mitigation measures identified in the environment assessment documentation. The Early Works Sub-plans and their approval requirements are identified in Table 3-1. Management of the environmental aspects as required by NSW CoA A24(e) are included within Section 5.6.

Table 3-1: Environmental Management Sub-plans

NSW-CoA Reference	Appendix	Document name	Approval
CoA A24(b) and CoA A16	Appendix B1	Site Establishment Management Plan (SEMP)	Secretary of DPIE approval
CoA A24(d) B1	Appendix B2	Early Works Flora and Fauna Management Sub-plan (EWFFMP)	Secretary of DPIE approval

3.3.2 Environmental Work Method Statements (EWMS) and Work Packs

Environmental Work Method Statements (EWMS) and Work Packs are the main site-based documents to be used by CPB Contractors to identify, manage and control high risk activities that have the potential to negatively impact on the environment, especially in or adjacent to environmentally sensitive areas.

EWMS will be prepared to manage and control high risk activities that have the potential to negatively impact on the environment. EWMS will be prepared by the CPB Contractors Environmental Site Representative and reviewed by the TfNSW Project Manager, TfNSW Environment and Sustainability Manager (or delegate) and ER before commencement of the Early Works activities to which they apply.

EWMS incorporate appropriate mitigation measures and controls. They also identify key procedures to be used concurrently with the EWMS. EWMS are specifically designed to communicate requirements, actions, processes and controls to construction personnel using plans, diagrams and simple written instructions. A template EWMS for use by CPB Contractors is

provided in Appendix A7. Appendix A7 also contains a template EWMS register and template EWMS training register. As a minimum, EWMS will be prepared for the following activities:

- Activities that have the potential to impact on environmentally sensitive areas, including activities directly adjacent to Aboriginal and non-Aboriginal archaeological sites
- Topsoil stripping including temporary stockpiling and disposal of excavated material and protocols for the management of materials containing asbestos
- Activities that involve work in waterways or that pose a risk to receiving water quality, for example:
 - Vegetation clearing and grubbing
 - Activities where construction water may be discharged into natural waterways
 - Construction and operation of concrete wash out areas
 - Construction of temporary waterway crossings.
- Activities that generate high levels of noise and/or vibration (where there are nearby receptors)
- All works in proximity to any utility assets that have vibration and water runoff limits.

The EWMS will include at least the following elements:

- Description of the work activity, including any plant and equipment to be used
- Outline of the sequence of tasks for the activity, including interfaces with other construction activities
- Identification of any environmental and/or socially sensitive areas, sites or places
- Identification of potential environmental risks/impacts due to the work activity
- Mitigation measures to reduce the identified environmental risk, including assigned responsibilities to site management personnel
- Process for assessing the performance of the implemented mitigation measures.

All personnel and sub-contractors undertaking a task governed by an EWMS must participate in training on the EWMS as detailed in Section 5.3, and acknowledge that they have read and understood their obligations by signing an attendance record prior to commencing work.

As outlined in Section 7 of this EWEMP, regular monitoring, inspections and auditing of compliance with the EWMS will be undertaken by Project management, quality and environmental personnel to ensure that all controls are being followed and that any non-conformances are recorded and corrective actions implemented. Where appropriate, improvements will be incorporated following reviews as described in Sections 1.11 and Section 7.7.

The EWMS must be signed by the CPB Contractors Project Manager and Site Environmental Representative and submitted to the appropriate regulatory authority (for high risk activities), the ER and TfNSW for review at least 20 working days prior to commencement of the Works and any Temporary Work referred to in the EWMS. The appropriate regulatory authority, the ER and TfNSW must be advised of any proposed changes to EWMS before the changed work method is adopted. Each EWMS must be submitted to TfNSW under a separate HOLD POINT.

3.3.3 Hold Points

A hold point is a verification point that prevents work from commencing prior to approval from TfNSW and the CPB Contractors. The following hold points will be applicable for the Early Works Project:

- EWMS must be signed by the CPB Contractors Project Manager and Site Environmental Representative, prior to submission to TfNSW
- Approval of Erosion and Sediment Control Plans (ESCP) by TfNSW.

The TfNSW Representative or delegate will be provided with reasonable opportunity to witness any inspections and tests preceding the release of Hold Points. The release of a Hold Point by the TfNSW Representative or delegate will be documented and controlled.

3.3.4 Erosion and Sediment Control Plans (ESCP)

ESCPs are planning documents for managing erosion and sedimentation and show the site layout and the location of erosion and sediment control mitigation on-site. They cover all construction stages from initial vegetation clearing through to rehabilitation when erosion and sediment control are no longer required and are removed. CPB Contractors will be responsible for ensuring that ESCPs will be developed by a person with demonstrated skills and experience in preparing the ESCP in accordance with the 'Blue Book' guidelines (Landcom, 2004) and implemented for Early Works.

ESCPs will be developed by CPB Contractors ESR in consultation with the Superintendent, Site Engineers, Foreman/ Site Supervisor and other relevant site personnel as required. The ESCP must be signed and approved by CPB Contractors ESR, Construction Superintendent and Project Manager before submitting the Plans to TfNSW for review at least 10 working days before disturbance occurs. CPB Contractors / TfNSW must review the Plans before releasing the hold point.

3.3.5 Dewatering Procedure

A dewatering procedure for all identified dewatering activities (i.e. any activity that involves the removal of stormwater or infiltrated groundwater from any location on Site (including from ponded areas and trenches) and the subsequent reuse or discharge of that water), must be prepared as part of the ESCP. This procedure must be approved by the CPB Contractors ESR and include:

- A map showing areas that will require dewatering
- Sequence of steps to determine the best method for dewatering (including on-site reuse hierarchy) and discharge
- Description of onsite water reuse requirements
- A map showing proposed discharge locations for any offsite discharge
- Sampling, testing, recording and monitoring requirements prior to, during and after any dewatering activities take place (these must be in line with POEO Act and Blue Book requirements)
- Design requirements for each offsite discharge location to prevent erosion at the discharge location or in the receiving environment

- Water quality objectives relevant to the type of dewatering activity (refer to Table 7-1). Discharge water quality criteria have been derived from the ANZECC Guidelines for NSW Lowland Rivers and the Blue Book:
 - pH: 6.5-8.5
 - Total Suspended Solids: 50 mg/l
 - Oil and grease: no visual identification
- Description of the water quality treatment techniques to be used
- Measures to prevent potential release and potential disposal of exotic aquatic fauna/ flora and pathogens during dewatering into waterbodies
- Procedures to manage dewatering should construction activities encounter groundwater or contaminated water
- EPA, Fisheries and Water Management Permits (as applicable) and their requirements with respect to site dewatering
- Pumping personnel and risk mitigation strategies
- Animal care and ethics requirements including reference to procedures for fauna (including fish and turtle) capture, storage, relocation and release (if required) through the use of a suitably qualified Early Works Ecologist
- A Permit to Pump that provides a system for ensuring pumping of water does not occur without approval by your Project Manager prior to any water pumping operations.

ESCPs may be produced in conjunction with EWMS to provide more detailed site-specific environmental mitigation measures and will be developed before commencing activities within each catchment for the Early Works.

3.3.6 Stockpile Management Procedure

A Stockpile Management Procedure has been prepared and forms part of the ESCP which includes, but is not limited to:

- Identification of locations of stockpile sites
- Quantities and types of different materials to be stockpiled
- Measures to ensure separation of different materials
- Controls to protect stockpiles from stormwater runoff particularly any acid sulphate materials
- Stabilisation of stockpiles left for more than 20 days
- Identification of and procedures for the control of other materials proposed for use which may pose environmental risk e.g. recycled bedding sand, lime, gypsum, stabilised sand etc.
- Stockpile monitoring and testing requirements (e.g. pH for stockpiles containing potential or actual acid sulfate).

3.3.7 Tannin Management Procedure

A Tannin Management Procedure has been prepared and forms part of the ESCP. The procedure must outline how stockpiling of mulch on Site will be used and managed to reduce the risk of tannin leachate from mulch flowing into waterways, and include this within the ESCP.

3.3.8 Sensitive Area Plans (SAP)

Early works are located amongst and in proximity to sensitive areas and sites. To assist pre-construction planning and on-site construction management, these site constraints are shown on Sensitive Area Plans (SAPs), which include:

- Mapped areas of the following Threatened Ecological Communities (TECs)
- Known locations of threatened flora and fauna species
- Threatened fauna habitat
- Noise sensitive receivers, specifically residential and commercial receivers
- Known heritage locations.

SAPs for the Early Works are presented in Appendix A4. The SAPs will be a working element of this EMP and will be revised throughout Early Work to reflect true ground conditions and the most up-to-date information available on sensitive sites. SAPs will be used in conjunction with EWMS to help identify key risk areas and to promote ongoing communication with construction personnel. Updated SAPs will be used to inform the next stage of construction activities.

3.3.9 Site Establishment Management Plan

As required by CoA A24(b), before undertaking Early Works, a SEMP for any proposed construction ancillary facilities (excluding minor construction ancillary facilities established under CoA A20) consistent with the requirements of CoA A16 must be prepared.

The SEMP details the management of the ancillary facilities and includes:

- A description of activities to be undertaken during construction (including scheduling of construction)
- Figures illustrating the proposed site layout and locations of the closest sensitive receivers
- A program for ongoing analysis of the key environmental risks arising from the site establishment activities, including an initial risk assessment undertaken before the commencement of site establishment works
- Details of how the site establishment activities will be carried out to:
 - Meet the performance outcomes stated in the Environmental Assessment documentation
 - Manage the risks identified in the risk analysis
- A program for monitoring the performance outcomes, including a program for construction noise monitoring of site establishment activities.

A SEMP has been prepared for the establishment of the Minor Ancillary Facilities and the SEMP is provided in Appendix B1.

3.3.10 Environmental system, procedures, forms and other documents

The Project Environmental Management System procedures, forms and other documents provide instructions and records related to both environmental and non-environmental activities throughout the Project.

Early Works specific procedures will be developed by the CPB Contractors as required. TfNSW will review the CPB Contractors documentation to confirm consistency with the requirements of this

EWEMP and specifications. A register of relevant environmental procedures and forms is in Appendix A3.

4 Planning

4.1 Environmental aspects and impacts

Potential environmental impacts associated with Early Works are identified in Table 4-1.

Table 4-1 Potential environmental impacts associated with Early Works

Environmental Aspect	Potential impact
Biodiversity	<ul style="list-style-type: none"> Removal of vegetation, trees and fauna habitat from the Early Works footprint. About 0.5 ha of Cumberland Plain Woodland threatened ecological community will require removal. This vegetation is classified as woodland fauna habitat in the M12 Motorway EIS biodiversity assessment. This area of vegetation has also been identified as grey headed flying fox habitat. Noise and vibration impacts to fauna. Removal of threatened species as a result of clearing activities
Traffic and access	<ul style="list-style-type: none"> Site traffic resulting in changes/disruptions to local traffic movements Traffic-related safety incidents during work (workers and road users) if management measures are not implemented.
Noise and vibration	<ul style="list-style-type: none"> Road traffic noise due to vehicle movements/haulage routes Noise associated with physical works and type of plant and equipment proposed.
Air quality	<ul style="list-style-type: none"> Dust associated with excavation including from exposed surfaces, spoil stockpiles or backfilling trenches Exhaust emissions from equipment, machinery and construction vehicles.
Non-Aboriginal heritage	<ul style="list-style-type: none"> Luddenham Road is a locally listed heritage item. Post and rail fencing associated with the original road is not expected within the scope of this Early Works footprint. Unexpected impacts on unknown heritage items (e.g. archaeological items) during work.
Aboriginal Heritage	<ul style="list-style-type: none"> No Aboriginal heritage sites are in proximity to the works Unexpected finds during utility relocation/adjustment works.
Soils and water	<ul style="list-style-type: none"> Erosion of soils resulting in offsite sedimentation Potential disturbance, handling and disposal of contaminated material
Flooding	<ul style="list-style-type: none"> Potential impacts on construction activities due to flooding

Environmental Aspect	Potential impact
Socio-economic, land use and property	<ul style="list-style-type: none"> All work would be completed within TfNSW land (road reserve / acquired properties)
Landscape character and visual amenity	<ul style="list-style-type: none"> Minor and temporary adverse visual and landscape character impacts during work on site (e.g. vegetation clearing, trenching, stockpiling of materials, parking/use of construction plant and vehicles, fencing etc.) Light spill from out-of-hours works during construction.
Hazard and risk	<ul style="list-style-type: none"> Transport and storage of hazardous substances and dangerous goods Potential strikes of existing underground utilities Risk of bushfires Potential asbestos containing material finds during excavation.
Resource use and waste management	<ul style="list-style-type: none"> Increased demand on water supply for dust suppression during works Impacts associated with unexpected waste volume or types.
Sustainability	<ul style="list-style-type: none"> Emissions of greenhouse gases as a result of construction activities
Cumulative impacts	<ul style="list-style-type: none"> Noise, amenity and traffic related impacts associated with other construction sites in proximity to the works

Where relevant, the requirements from any CPB Contractors Specifications, CoA and REMMs will be incorporated into the environmental risk assessment, particularly in developing the agreed activity specific site controls.

The CPB Contractors Environmental Representative are responsible for ensuring environmental risks of Early Works are identified and included in the risk register and appropriate mitigation measures implemented throughout Early Works (refer to Section 5.1.3).

Where new risks are identified, these will be included in the risk register, assessed and control measures put in place to eliminate or minimise the level of risk. Monitoring and review of the effectiveness of control measures will be carried out during weekly environmental inspections and may include consultation with site personnel involved in managing the identified risks.

4.1.1 Noise and Vibration Impact Statement

A Noise Screening Assessment (Appendix A10) has been undertaken to determine whether a Noise and Vibration Impacts Statement (NVIS) in accordance with NSW CoA E40 is required to be prepared.

An NVIS is required for any work that may exceed the NML outside of standard hours (i.e. out of hours works), or where receivers will be Highly Noise Affected (defined by the *Interim Construction Noise Guideline* (ICNG) (EPA, 2009) as the point above which there may be strong community reaction to noise, nominated as 75 dB(A) ($L_{Aeq(15 \text{ minutes})}$).

The noise screening assessment has been undertaken for the closest sensitive and is discussed in Section 4.1.2.

Should a NVIS be required, this will be prepared by the CPB Contractors in liaison with TfNSW and provided to the ER prior to the commencement of the nominated work.

As required by NSW CoA E41, if the potential vibration criteria exceedance is to occur more than once or extend over a period of 24 hours, sensitive receivers will be provided with a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the sensitive receiver.

As required by NSW CoA E39 any noise generating work in the vicinity of potentially-affected community, religious, educational institutions, noise and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) resulting in noise levels above the NMLs must not be timetabled within sensitive periods, unless offers of other reasonable arrangements have been made to the affected institutions and are implemented at no cost to the affected institution.

4.1.2 Noise Screening Assessment

The Early Works may result in potential noise and vibration impacts through the use of heavy machinery. The nearest residential receiver to the project is located approximately 474m from the Early Works boundary.

The nearest residential receiver to the two Minor Ancillary Facilities is approximately 474m.

The nearest residential receiver to AF10 is approximately 108m.

The noise screening assessment (Appendix A10) is summarised in Table 4-2. The assessment assumes a worst case noise impact scenario for plant and equipment for undertaking site establishment and construction of the temporary round about at the façade of the nearest residential receiver.

The scenarios utilised for the screening assessments adopt a conservative approach, with the assumption that all equipment will be in use at the same time. The nearest receiver to AF10 is located approximately 108m from the nearest point of the ancillary facility. As the facility is currently also utilised for the TNR5 project, the M12 staffing levels and operations are not predicted to exceed the TNR5 staffing levels and will generally be indistinguishable from the TNR5 noise levels during combined use.

The results of the assessment indicate the predicted noise levels will not go above the RBL + 5dB(A) for the majority of the works during out of hours works conducted at night (with the exception of asphalt wearing course). The calculated Sound Pressure Level is less than 75 dB(A) for any of the assessed scenarios. In accordance with NSW CoA E40 an NVIS will not be required for works that occur within standard construction hours and approved extended hours. However, the noise screening assessment indicates that NMLs will be exceeded in OOHW periods assuming the same plant and equipment would be used. It is noted that a specific screening assessment would be undertaken based on actual plant and equipment to be used in an OOHW scenario.

Table 4-2: Potential Highly Noise Affected exceedances for the Temporary Roundabout Early Works

Noise Management Level (NML) exceedance ($L_{Aeq(15min)}$ (dBA))					
	Noise Management Level (RBL+10dB(A))	Site Establishment		Temporary Roundabout Works	
		Calculated Sound Pressure Level $L_{Aeq(15minute)}$	Level above Noise Management Level (NML) (dB(A))	Calculated Sound Pressure Level $L_{Aeq(15minute)}$	Level above Noise Management Level (NML) (dB(A))
Day ¹	44	34	0	34	0
Day ² (Approved extended hours)	44	34	0	34	0
Out-of-hours work					
Morning ³ Shoulder	39	29	0	29	0
Day ⁴	39	29	0	29	0
Evening ⁵	39	29	0	29	0
Evening ⁶ shoulder	39	29	0	29	0
Night ⁷	36	26	0	26	0

¹ Daytime period is the standard construction hours of 7:00 am to 6:00 pm Monday to Friday and 8:00 am to 1:00 pm Saturday.

² Approved extended hours include Saturday from 1:00 pm to 6 pm

³ Morning shoulder period is 6:00 am to 7:00 am Monday to Friday. Where the morning shoulder RBL is higher than the daytime RBL, the daytime RBL was adopted.

⁴ Daytime OOH period is 7:00 am to 8:00 am and 1.00pm to 6.00pm Saturdays and 8:00 am to 6:00 pm Sunday and Public Holidays.

⁵ Evening period is 7:00 pm to 10:00 pm Monday to Friday and 6:00 pm to 10:00 pm Saturday, Sunday and Public Holidays

⁶ Evening shoulder period is 6:00 pm to 7:00 pm Monday to Friday. Where the evening shoulder RBL is higher than the evening RBL, the evening RBL was adopted.

⁷ Night-time period is 10:00 pm to 6:00 am Monday to Friday, 10:00 pm to 7:00 am Saturday and 10:00 pm to 8:00 am Sunday and Public Holidays.

4.1.3 Cumulative screening assessment

The residential receiver for both the temporary roundabout Early Works (refer to Section 2.2) and the Elizabeth Drive Early Works is the same. Therefore, should both Early Works be carried out at the same time, a worst-case scenario noise estimate has been undertaken by adding up the calculated sound pressure level for each of the Early Works, the results are outlined in Table 4-3.

The cumulative screening assessment indicates that if both Early Works were to occur simultaneously, there may be a noticeable impact on the Elizabeth Drive receiver however, they would not be highly noise affected.

There will be no cumulative impact at AF10 as works will be completed prior to Early works commencement hence there will be a major reduction in workforce. As the facility is currently also utilised for the TNR5 project, the M12 staffing levels and operations are not predicted to exceed the TNR5 staffing levels and will generally be indistinguishable from the TNR5 noise levels during combined use.

Table 4-3: Cumulative Noise assessment for Elizabeth Drive Early Works residential receiver

Noise Management Level (NML) exceedance ($L_{Aeq(15min)}$ (dBA))					
	Noise Management Level (RBL+10dB(A))	Site Establishment		Utility, Property and Service Adjustment	
		Calculated Sound Pressure Level $L_{Aeq(15minute)}$	Level above Noise Management Level (NML) (dB(A))	Calculated Sound Pressure Level $L_{Aeq(15minute)}$	Level above Noise Management Level (NML) (dB(A))
Day	44	34	0	34	0
Day (Approved extended hours)	44	34	0	34	0
Out-of-hours work					
Morning Shoulder	39	29	0	29	0
Day	39	29	0	29	0
Evening	39	29	0	29	0
Evening shoulder	39	29	0	29	0
Night	36	26	0	26	0

Early Works will occur during standard construction hours or approved extended hours where possible, however some works may be required outside these hours. Should out of hours works be required, a NVIS would be developed in accordance with NSW CoA E40. Construction hours as approved in the NSW CoA are provided in Section 5.4.1.

Works outside of standard construction hours or approved extended hours may be needed for activities such as the delivery of oversize items. Works outside of these hours will be permitted providing they meet the requirements of NSW CoA E36 or if they are undertaken as per the Out-of-Hours Work Protocol (as per NSW CoA E37) with the prior approval of the Planning Secretary.

Activities that result in high noise impacts will be subject to respite periods as outlined in NSW CoA E37 and NSW CoA E45-E47.

Any noise and vibration impacts during Early Works will be managed in accordance with the environmental management measures listed in Appendix A8 of the EWEMP.

4.2 Regulatory requirements and compliance

4.2.1 Legislation

A register of legal requirements for the Early Work is contained in Appendix A1. This register will be maintained by the CPB Contractors. The CPB Contractors will review the register at regular intervals, such as during management reviews (refer to Section 7.7), and update with any applicable changes. Any changes made to the legal requirements register will be communicated to the wider project team, including sub-contractors where necessary, through toolbox talks, specific training and other methods detailed in Section 5.3.2 of this EWEMP.

4.2.2 Approvals, permits and licences

A number of approvals, permits and licenses have and/or will be obtained for Early Works. The following approvals and licences have been or will be obtained by TfNSW:

- Infrastructure Approval under Part 5, Division 5.2 of the EP&A Act – SSI 9364 granted by the Minister for Planning on 23 April 2021
- A Commonwealth controlled action approval from the Department of Agriculture, Water and the Environment (DAWE) under Part 8 of the EPBC Act – EPBC 2018/8286 granted by the Minister for Environment on 3 June 2021.

The CPB Contractors will obtain the following licences, approvals or exemptions:

- Road Occupancy Licence (ROL) under Section 138 of the *Roads Act 1993*
- An aquifer interference approval under the *Water Management Act 2000* if Early Works requires intersection of a groundwater source if required
- Exemptions to allow hot works to be undertaken on Total Fire Ban days as detailed under Section 99 of the *Rural Fires Act 1997*
- Specific Resource Recovery Exemptions, where determined.

Environmental approvals, permits and licences applicable under the legislation are also noted within the register in Appendix A1.

All necessary licences, permits and approvals required for the development of the Early Works will be obtained and maintained as required throughout the life of the Project. No condition of the Infrastructure Approval removes the obligation for TfNSW or CPB Contractors to obtain, renew or comply with such necessary licences, permits or approvals except as provided under Section 5.23 of the EP&A Act.

4.3 Environmental and sustainability objectives and targets

Environmental objectives and targets have been established as a means of assessing environmental performance during Project delivery. The objectives and targets have been developed with consideration of the key issues identified through the environmental assessment and risk assessment process. The objectives and will assist in monitoring whether Project commitments are being met. The performance of the Project will be monitored against the objectives and targets and documented in monthly reports (refer to Section 7.2) and as part of the management review (refer to Section 7.7).

Environmental objectives and targets for the Project are provided in Table 4-4.

Table 4-4: Environmental and sustainability objectives and targets

Objective	Target	Measurement tool
Carry out the work in accordance with environmental approvals	<ul style="list-style-type: none"> Full compliance with statutory approvals 	Audits, reporting, management reviews
Compliance with all legal requirements	<ul style="list-style-type: none"> No regulatory infringements (PINs or prosecutions) No formal regulatory warning 	Audits, reporting, management reviews
Implement a rigorous and comprehensive EMS that meets the requirements of AS/NZS ISO 14001	<ul style="list-style-type: none"> Address non-conformances and corrective actions within specific timeframes 	Audits, management reviews
Engage with the affected and broader community, minimise complaints and respond to any complaints within a suitable timeframe	<ul style="list-style-type: none"> Disseminate regular Project updates and other information through the Project website and other tools identified in the Community Communication Strategy Record and respond to complaints within the timeframe specified in the Community Communication Strategy 	Review complaints register, reporting, audits
Continuously improve environmental performance	<ul style="list-style-type: none"> Capture and disseminate lessons learnt from environmental incidents to minimise repeat issues Update of the aspects and impacts register, legal register and environmental induction where required 	<p>Audits, reporting, management reviews</p> <p>Revisions of management plans in response to incidents or non-conformance reports (NCRs)</p> <p>Risk register</p>
Implement sustainability initiatives on the Project	<ul style="list-style-type: none"> Adopt sustainability leadership and continual improvement Integrate governance, environmental, social and economic considerations into decision-making processes within the Project Enhance positive environmental, social and economic outcomes wherever possible, while minimising adverse impacts, resource use and embodied impacts Apply relevant key initiatives from the Sustainability Strategy 2019-2023 (RMS, 2019) 	Audits, reporting, management reviews

4.4 Existing Environment

4.4.1 Elizabeth Drive, Badgerys Creek

The Environmental constraints relevant to the Elizabeth Drive Early Works are demonstrated in Appendix A4.

The existing environment is characterised by semi-rural residential development to the north of Elizabeth Drive, and the development of Western Sydney International Airport along the southern verge of Elizabeth Drive. Badgerys Creek, a fourth order stream, flows from south to north at the eastern extent of the Early Works boundary.

Existing vegetation is generally classified as woodland or cleared grassland, with woodland communities including small, isolated patches of the Threatened Ecological Communities listed under the BC Act; Cumberland Plain Woodland in the Sydney Basin Bioregion, River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions, and Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions. Woodland communities offer habitat to a number of threatened flora and fauna species, and contain specific fauna habitat features for threatened species, including hollow bearing trees and foraging habitat for Grey-headed Flying-fox. These environmental values are shown on the Sensitive Area Plans provided in Appendix A4.

One Aboriginal heritage site, Potential Archaeological Deposit (PAD) BWB sitting on a prominent hillock and low ridge overlooking South Creek is located directly north of the Early Works footprint.

Further, one non-Aboriginal heritage site, the McGarvie Smith Farm assessed as being of State Significance, abuts the northern boundary of Early Works. During a field survey on 14 November 2017, a number of farm buildings, silo, concrete remnants, timber posts, sheds, dams, earth ditches and other features were noted. None of the buildings are located within the Early Works Footprint.

The impact of construction of the Project on PAD BWB and the McGarvie Smith Farm sites were assessed by the EIS, which determined that both sites will be directly harmed by the Project, which will result in a loss of value. The Early Works are not expected to impact either heritage sites.

One residential sensitive receiver is located about 425 metres north of the western extent of the Early Works footprint, on the northern side of Elizabeth Drive.

5 Implementation and operation

5.1 Resources, roles, responsibilities and authority

The key environmental management roles and responsibilities for Early Works are described below. The general structure of these roles is shown in Figure 5-1. The CPB Contractors will provide sufficient resources to implement the requirements of this EWEMP.

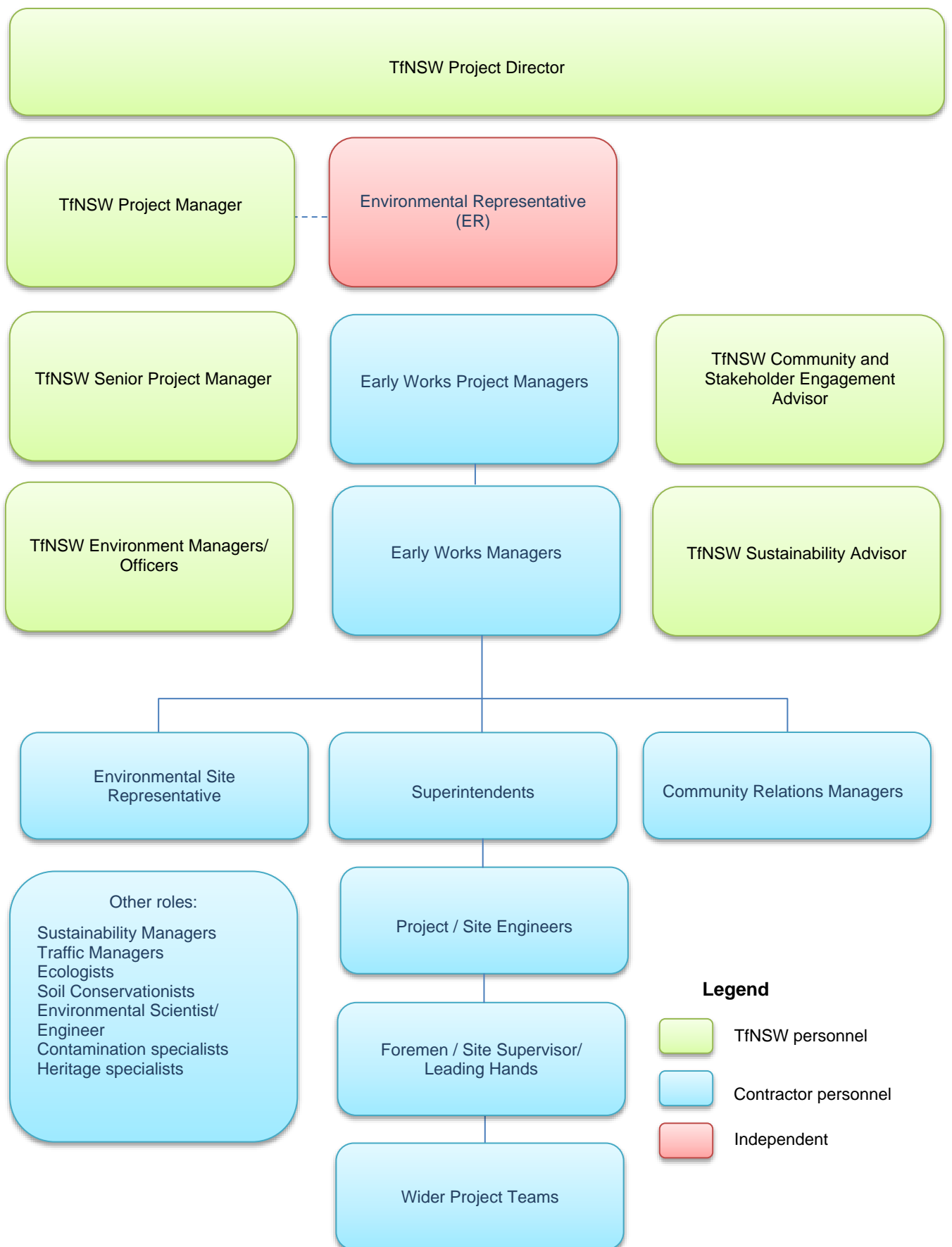


Figure 5-1: Project organisation structure

5.1.1 Independent Environmental Representative (ER)

The environmental responsibilities of the ER during Early Works are detailed in NSW CoA A34 and include:

- Receive and respond to communication from the Secretary in relation to the environmental performance of the Project
- Consider and inform the Secretary on matters specified in the terms of the Infrastructure Approval
- Consider and recommend to TfNSW any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community
- Review documents identified in NSW CoA A9, A13, A16, A24, C1, C4 and C11 and any other documents that are identified by the Secretary, to ensure they are consistent with requirements in or under the Infrastructure Approval and if so:
 - Make a written statement to this effect before submission of such documents to the Secretary (if those documents are required to be approved by the Secretary) or
 - Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Secretary/Department for information or are not required to be submitted to the Secretary/Department).
- Regularly monitor the implementation of the documents listed in NSW CoA A9, A13, A16, A24, C1, C4 and C11 to ensure implementation is being carried out in accordance with the document and the terms of the Infrastructure Approval
- As may be requested by the Secretary, help plan, attend or undertake audits of the Project commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under NSW CoA A38 and A41
- As may be requested by the Secretary, assist the Department in the resolution of community complaints
- Assess the impacts of minor ancillary as required by NSW CoA A20
- Consider any minor amendments to be made to the CEMP, CEMP Sub-plans, Construction Monitoring Programs, SEMP and EWEMP that involve updating or are of an administrative nature, and are of an administrative nature and do not increase impacts to nearby sensitive receivers, and ensure that are consistent with the terms of the Infrastructure Approval and the documents approved by the Secretary and, if satisfied such amendment is necessary, approve the amendment, (this does not include modification to the Infrastructure Approval)
- Prepare and submit to the Planning Secretary and other relevant regulatory agencies, for information, an ER Monthly Report providing the information set out in the ER Protocol under the heading “Environmental Representative Monthly Reports.” The ER Monthly Report must be submitted within seven (7) days following the end of each month for the duration of the ER’s engagement for the Project.

The CPB Contractors will:

- Facilitate ER Inspections (refer to Section 7.1.3)
- Notify the ER of any environmental incidents such that the ER can meet the requirements of NSW CoA A35 and identify any incident with significant off-site impacts on people or the biophysical environment which will be reported to the Secretary

- Provide the ER with all information and documents, allow the ER to attend meetings and audits of this Plan and access such premises as may be necessary or reasonably required by the ER to allow the ER to perform its functions under the Project Approval
- Update this Plan to address any relevant requirements and recommendations of the ER
- Review and analyse the cause of any non-conformances raised by the ER and develop a plan of corrective action to minimise the likelihood of recurrence
- Comply with the lawful requirements of the ER, so as to allow the ER to discharge any functions under the Planning Approval.

5.1.2 TfNSW roles

The roles and responsibilities of TfNSW personnel, relevant to Early Works, are outlined in Table 5-1.

Table 5-1: Roles and responsibilities of TfNSW personnel

Role	Responsibilities
TfNSW Project Director	<ul style="list-style-type: none"> • Evaluate and advise on high risk compliance issues relating to the CPB Contractors and TfNSW environmental requirements • Provide the CPB Contractors management with environmental advice and/or directions, in consultation with TfNSW environmental staff.
TfNSW Delivery Manager	<ul style="list-style-type: none"> • Evaluate and advise on high risk compliance issues relating to CPB Contractors and TfNSW environmental requirements; • Review and endorse documentation to be submitted to the Secretary of DP&E and the Federal Minister of DoEE for approval; • Have oversight of the review and approve any environmental management plans for the Project or related activities that are not required to be approved by the Secretary of DP&E in consultation with TfNSW environmental staff and the ER; and • Provide CPB Contractors management team with environmental advice and/or directions, in consultation with TfNSW environmental staff.
TfNSW Senior Project Manager	<ul style="list-style-type: none"> • Evaluate and advise on high risk compliance issues relating to the CPB Contractors and TfNSW environmental requirements • Review and endorse documentation to be submitted to the Secretary of DPIE and the Commonwealth Minister of the Environment for approval • Have oversight of the review and approve any Environmental Management Plans for the Project or related activities that are not required to be approved by the Secretary of DPIE in consultation with TfNSW environmental staff and the ER • Provide the CPB Contractors management with environmental advice and/or directions, in consultation with TfNSW environmental staff.

Role	Responsibilities
TfNSW Project Managers	<ul style="list-style-type: none"> • Evaluate and advise on compliance with TfNSW environmental requirements • Review and approve any Environmental Management Plans for the Project or related activities that are not required to be approved by the Secretary of DPIE • Provide the CPB Contractors staff with environmental advice and/or directions, in consultation with TfNSW environmental staff.
TfNSW Environment Manager/ Officers	<ul style="list-style-type: none"> • Review any Environmental Management Plans and related documents prepared for the Project • Review and consider minor project refinements that are consistent with the Project environmental assessment in accordance with the TfNSW EP&A Act Part 5.1 environmental assessment procedure • Monitor the environmental performance of the Project in relation to TfNSW requirements • Provide guidance and where appropriate, monitor compliance with DPIE post approval document submission requirements.

5.1.3 CPB Contractors Roles

The environmental responsibilities of CPB Contractors are provided in Table 5-2.

Table 5-2: CPB Contractors Roles and Responsibilities

Role	Responsibilities
Project Manager	<ul style="list-style-type: none"> • Ensure all works comply with relevant regulatory and Early Work requirements, including compliance with the approvals, licence for scheduled development work, REMMs, TfNSW specifications • Ensure the requirements of this EWEMP are fully implemented, and in particular, that environmental requirements are not secondary to other construction requirements • Endorse and support the TfNSW and CPB Contractors environmental policy attached at Appendix A2 of the EWEMP • Liaise with TfNSW, ER and other government authorities as required • Participate and provide guidance in the regular review of the EWEMP and supporting documentation • Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this EWEMP • Ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements • Ensure that complaints are investigated to ensure effective resolution • Stop work immediately if an unacceptable impact on the environment is likely to occur

Role	Responsibilities
	<ul style="list-style-type: none"> • Point of contact in the event of an environmental site emergency • 24-hour person of contact for environmental regulatory authorities.
Construction Manager	<ul style="list-style-type: none"> • Plan Early Works in a manner that avoids or minimises impact to environment • Ensure the requirements of this EWEMP are fully implemented • Ensure construction personnel manage construction works in accordance with statutory and approval requirements • Support the CPB Contractors Environmental Site Representatives in achieving the Early Works environmental objectives • Ensure environmental management procedures and protection measures are implemented • Ensure all Early Works personnel attend an induction prior to commencing works • Liaise with TfNSW, the ER and government authorities as required • Stop work immediately if an unacceptable impact on the environment is likely to occur • Point of contact in the event of an environmental site emergency • 24-hour person of contact for environmental regulatory authorities.
Superintendent	<ul style="list-style-type: none"> • Communicate with all personnel and sub-contractors regarding compliance with the EWEMP and site-specific environmental issues • Ensure all site workers attend an environmental induction prior to the commencement of works • Co-ordinate the implementation of the EWEMP • Develop EWMS in consultation with CPB Contractors Environmental Site Representatives • Co-ordinate the implementation and maintenance of pollution control measures • Identify resources required for implementation of the EWEMP • Support the CPB Contractors Environmental Site Representatives in achieving the project environmental objectives, including on ground implementation of the EWMS and ESCP • Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the CPB Contractors Environmental Site Representatives • Co-ordinate action in emergency situations and allocate required resources • Stop activities where there is an actual or immediate risk of harm to the environment and advise the CPB Contractors Construction Manager and Environmental Site Representatives.

Role	Responsibilities
Environmental Site Representative(s)	<ul style="list-style-type: none"> • Overall responsibility for the implementation of environmental mitigation measures on the Early Works • Implementation of the EWEMP • The development, implementation, monitoring and updating of the EWEMP and Sub-plans in accordance with ISO14001 • Report to the CPB Contractors Project Manager on the performance and implementation of the EWEMP • Ensure environmental risks of the Early Works are identified ongoing and appropriate mitigation measures implemented • Identify where environmental measures are not meeting the targets set and where improvement can be achieved • Ensure environmental protocols are in place and managed • Ensure environmental compliance with CoA and management plans • Obtain and update all environmental licences, approvals and permits as required • Liaise with the ER, the TfNSW Environment and Sustainability Manager (or delegate) and approval authorities • Work collaboratively with the CPB Contractors Sustainability Manager (or delegate) to deliver the sustainability objectives, targets and requirements for the Early Works • Manage environmental document control, reporting, inductions and training • Manage environmental reporting within the CPB Contractors Project team and to TfNSW and regulatory authorities • Prepare reports on a monthly basis outlining the works undertaken and the achievements that have been met, as well as identifying those areas where improvements were made • Oversee site monitoring activities, site inspections, audits and site checklists • Ensure monitoring records are appropriately maintained, reviewed and any non-compliance issues addressed • Record and provide written reports to the CPB Contractors Construction Manager of non-conformances or corrective actions with the EWEMP. This may include the need to implement additional, or revise existing, mitigation measures • Provide reports to the CPB Contractors Project Manager on any major issues resulting from the Early Works • Assist all site staff with issues concerning Early Works environmental matters • Manage all sub-contractors and consultants with regard to environmental matters, including assessing their environmental capabilities and overseeing the submission of their environmental documents

Role	Responsibilities
	<ul style="list-style-type: none"> • Develop and facilitate induction, toolbox talks, environment awareness notes and other training programs regarding environmental requirements for all site personnel • Notify TfNSW and relevant authorities in the event of an environmental incident and manage close-out of these • Assist in identifying environmental risks and advise the CPB Contractors Construction Manager of any requirements to avoid or minimise impacts • Stop activities where there is an actual or immediate risk of harm to the environment, or to prevent environmental non-conformances, and advise the CPB Contractors Project Manager, Construction Manager and Superintendent • Assist the CPB Contractors Public Liaison Officer to resolve environment-related complaints • Develop, review and approve ESCPs in consultation with the CPB Contractors Superintendent, Site Engineers, Foreman / Site Supervisor and other relevant site personnel, as required • Manage the day-to-day environmental elements of Early Works.
Public Liaison Officer	<ul style="list-style-type: none"> • Ensure that all community consultation activities are carried out in accordance with the overarching and stage specific Communication Strategy (CS) • Report any environmental issues to the CPB Contractors Environmental Site Representatives raised by stakeholders or members of the community • Communicate general Early Works progress, performance and issues to stakeholders including the community • Maintain the 24 hour complaints hotline • Maintain the complaints register in accordance with the Complaints Management System.
Project/Site Engineers	<ul style="list-style-type: none"> • Provide input into the preparation of environmental planning documents as required • Ensure that instructions are issued and adequate information provided to employees that relate to environmental risks on-site • Ensure that the works are carried out in accordance with the requirements of the EWEMP and supporting documentation, including the implementation of all environmental controls • Identify any environmental risks • Identify resource needs for implementation of EWEMP • Ensure that complaints are investigated to ensure effective resolution • Take action in the event of an emergency and allocate the required resources to minimise the environmental impact

Role	Responsibilities
	<ul style="list-style-type: none"> • Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the CPB Contractors Superintendent and Environmental Site Representatives.
Foreman/ Site Supervisor	<ul style="list-style-type: none"> • Undertake any environmental duties as defined by the CPB Contractors Superintendent or Project/ Site Engineers • Control field works and implement/maintain effective environmental controls • Where required, undertake environmental risk assessment of works prior to commencement • Ensure site activities comply with EWMS and relevant records are kept • Ensure all site workers are site inducted prior to commencement of works • Attend to any spills or environmental incidents that may occur on site • Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the CPB Contractors Superintendent • Stop activities where there is an actual or immediate risk of harm to the environment and advise the CPB Contractors Project Manager, Construction Manager, Superintendent Environmental Site Representatives.
Project Team (including sub-contractors)	<ul style="list-style-type: none"> • Comply with the relevant requirements of the EWEMP, or other environmental management guidance as instructed by a member of the Early Works management • Participate in the mandatory Early Works / site induction program • Report any environmental incidents to the CPB Contractors Foreman/ Site Supervisor immediately or as soon as practicable if reasonable steps can be adopted to control the incident • Undertake remedial action as required to ensure environmental controls are maintained in good working order • Stop activities where there is an actual or immediate risk of harm to the environment and advise the CPB Contractors Project Manager, Construction Manager, Superintendent, Foreman / Site Supervisor or Environmental Site Representatives.

5.1.4 Regulator Roles

The environmental responsibilities of Regulators are provided in Table 5-3.

Table 5-3: Regulator Roles and Responsibilities

Role	Responsibilities
DPIE	<ul style="list-style-type: none">Assessing compliance with the Concept Plan and Project ApprovalAssessing and approving any documents under the Project Approval which require the specific approvalAssessing any proposed modifications to the Project Approval that are not consistent with the Project ApprovalLiaising with TfNSW during fortnightly meetings
EPA	<ul style="list-style-type: none">Providing comment on the environment and planning documents as specified in the Infrastructure ApprovalProvision of review and comment, where applicable, to incident reports for potential or actual environmental harm.

5.2 Sub-contractor management

CPB Contractors will be responsible for environmental performance of any sub-contractor. CPB Contractors will specify environmental requirements and responsibilities to sub-contractors in the contract documentation. CPB Contractors Environmental Site Representatives, or delegate, will participate in the tender assessment and selection process where it is deemed necessary due to associated environmental risks. All sub-contractors are required to complete a sub-contractor questionnaire or similar. As part of the sub-contractor selection process, consideration will be given to past environmental performance.

The CPB Contractors and sub-contractors will determine how environmental management controls will interact.

All sub-contractors are required to work in accordance with the approved EWEMP. The CPB Contractors will monitor sub-contractors to ensure compliance with the EWEMP and sub-plans is achieved.

All sub-contractors are required to attend Early Works and/or site inductions where the requirements and obligations of the EWEMP are communicated. A record of all sub-contractors inducted will be maintained as part of the Early Works induction and training register.

The CPB Contractors will regularly review and keep a record of:

- The sub-contractors general work practices
- The effectiveness of the sub-contractors environmental protection measures
- The sub-contractors compliance with the requirements of this EWEMP
- The maintenance of environmental measures.

All environmental documentation submitted by sub-contractors will be subject to review and approval by the CPB Contractors to ensure compliance with contract requirements and the CoA and REMMs before works may begin.

5.3 Competence, training and awareness

To ensure that this EWEMP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this EWEMP. The CPB Contractors Environmental Site Representative will coordinate the environmental training in conjunction with other training and development activities (e.g. safety).

5.3.1 Environmental induction

Prior to working on site all personnel and sub-contractors will undertake a site induction conducted by CPB Environmental Site Representatives which includes environmental roles, responsibilities, controls and procedures.

Temporary visitors to site for purposes such as deliveries will be required to be accompanied by inducted personnel at all times.

Records of induction and training will be kept on a database including the topic of the training carried out, dates, names and trainer details. Inductees will be required to sign-off that they have completed the site induction and understand their responsibilities. The ER will review and approve the induction program as part of this EWEMP prior to the induction being delivered.

The environmental component of the induction will cover relevant elements of the EWEMP and may include:

- Relevant details of the EWEMP including all Sub-plans, procedures and strategies, their purpose and objectives
- Requirements of due diligence and duty of care
- Relevant legislation, Conditions of Approval, conditions of environmental licences (if required), permits and approvals
- Potential environmental emergencies on-site and the emergency response procedures
- Reporting and notification requirements for pollution and other environmental incidents
- Key environmental issues
- Mitigation measures for the control of environmental issues
- Complaints response and reporting
- High risk activities and associated environmental safeguards and EWMS
- Site specific environmental management requirements and responsibilities
- Incident and emergency response and reporting requirements
- Information relating to the location of environmental constraints
- SAPs
- Environmentally sensitive locations and no-go/exclusion zones
- Site flagging protocol

- Erosion and sediment controls, water quality controls, sediment basin management and dewatering activities
- Minimising light pollution on sensitive receivers, including adjacent vegetation from ancillary facility AF10 and during night
- Management of contaminated material (including asbestos impacted material)
- Location of identified potential contaminated land sites
- Signs of contaminated soil, including visual asbestos identification protocols
- Procedure for unexpected finds of contaminated land, asbestos or human remains
- Groundwater management
- Mulch and tannin management
- Stockpile location criteria
- The location of acid sulfate soils or potential acid sulfate soils
- Obligation to report and the process for reporting environmental issues on-site including damaged environmental controls
- Obligations under the *Biosecurity Act 2015* to prevent the spread of weeds during Early Works
- Responsibilities under the *National Parks and Wildlife Act 1974*, including the need to cease work immediately and report any object of potential Aboriginal heritage unearthed during clearing, grubbing and earthworks operations
- Responsibilities under the *Heritage Act 1977* if an object of potential non-Aboriginal heritage is uncovered during Early Works
- Location of identified Aboriginal and non-Aboriginal archaeological heritage sites, areas of cultural sensitivity and areas of archaeological potential and the kinds of historical relics, structures or deposits which may be encountered during Early Works
- Responsibilities under the Contaminated Land Management Act 1997
- Noise, vibration and air quality management controls
- Standard construction hours and the process for seeking approval for out of hours works, including consultation
- Noise management measures during night works
- Location of noise, vibration and air quality sensitive receivers
- Road safety
- Road occupancy and other temporary and interim traffic arrangements
- Response procedure for dealing with traffic incidents
- The requirement to maintain surrounding property access for residences, business owners, and their visitors, and to minimise disruptions to these properties for the duration of construction
- The location of refuse bins, washing, refuelling and maintenance of vehicles, plant and equipment
- Waste minimisation principles, waste reporting and waste/recycle storage requirements
- Best practice energy efficiency

- Equipment start up and shut down procedures
- Sustainability management measures and initiatives
- Boundaries for vegetation clearing, fauna and fauna habitat management, including awareness of threatened fauna species and fauna rescue and obligations under the *EPBC Act and Biodiversity Conservation Act 2016*.
- Weed control measures
- Specific species likely to be affected by the Early Works and how these species can be recognised
- Specific responsibilities for the protection of flora and fauna.

The ESR may authorise amendments to the induction where required to address Project modifications, legislative changes or amendments to this EWEMP or related documentation.

A record of all environment inductions will be maintained in a Project induction and training register and kept on-site. The training register will identify who is trained, when trained, the trainer and what they were trained in.

CPB Contractors will provide refresher environmental awareness training as required, but at not less than six monthly intervals, based on the environmental risk assessment and turnover of Project personnel. Refresher environmental awareness training will be included on the register of environmental training.

5.3.2 Toolbox talks, training and awareness

Toolbox talks will be used to raise awareness and educate personnel on construction-related environmental issues. The toolbox talks are used to ensure environmental awareness continues throughout construction.

Toolbox talks will be tailored to specific environmental issues relevant to upcoming work, including (but not limited to):

- Incident notification requirements
- Erosion and sedimentation control
- Management of waste concrete
- Management of water/ concrete during pilling activities
- Dewatering
- Hours of work
- Emergency and spill response
- Aboriginal and non-Aboriginal heritage
- Threatened species and ecological communities
- Clearing controls and vegetation protection
- Weed management
- Dust control
- Minimising light pollution during night works
- EWMS, for relevant personnel

- Lessons learnt from other projects, where relevant
- Incident alerts, where relevant.

Toolbox talk attendance is mandatory and attendees of toolbox talks are required to sign an attendance form and the records maintained.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. Topics covered may include those detailed above, or others deemed necessary in the lead up to or during construction.

Awareness notes, in the form of posters, booklets, or similar will be developed and distributed to the CPB Contractors Superintendent, Project Engineers, Foreman / Site Supervisor and other personnel with a responsibility for managing specific work locations or activities. This documentation will be distributed to the broader Project workforce through daily pre-starts meetings and made available in Early Works offices/break facilities.

The CPB Contractors Environmental Site Representative will review and endorse the training program and monitor implementation.

5.3.3 Daily Pre-Start Meetings

Daily pre-start meetings are used to inform the workforce of the day's activities, safe work practices, environmental protection practices, work area restrictions, activities that may affect the work, coordination issues with other trades, hazards and other information that may be relevant to the day's work.

The CPB Contractors Foreman / Site Supervisor will conduct a daily pre-start meeting with the site workforce before the commencement of work each day (or shift) or where changes occur during a shift.

The environmental component of pre-start meetings will include any environmental issues that could potentially be impacted by, or impact on, the day's activities. All attendees will be required to sign on to the pre-start meeting and acknowledge their understanding of the issues explained.

Pre-start meeting topics, dates delivered, and a register of attendees will be recorded by the CPB Contractors Environmental Site Representatives and the records maintained.

5.3.4 Communications Training

All staff (including plant operators and truck drivers) and sub-contractor personnel working on the delivery of the Early Works will be required to behave in a courteous and professional manner when in dialogue with any community member. All personnel will be:

- Trained on how to respond to community queries
- Aware of and abide by the requirements for the release of information
- Advised on the identity of the community within which they are working prior to their involvement in the CPB Contractors work.

Community involvement obligations will be included in the site induction of all personnel working on the Early Works.

5.4 Working hours

5.4.1 Hours of work

In accordance with NSW CoA E34, work will be undertaken during the following hours:

- 7:00 am to 6:00 pm Monday to Friday
- 8:00 am to 6:00 pm Saturday (subject to prior approval from TfNSW)
- At no time on Sunday or public holidays.

Any application to work between 8:00am and 6:00pm on Saturdays (the allowable work hours on Saturdays identified in the Infrastructure Approval) must be submitted to the TfNSW no later than 12:00 pm on the Thursday immediately prior to the Saturday proposed to undertake work. The application must include the details of the work activities to be undertaken. Approval is at the discretion of TfNSW.

As required by NSW CoA E35, highly noise intensive works (as defined by the ICNG, see glossary for definition) that result in an exceedance of the applicable noise management level at the relevant receiver must only be undertaken:

- Between 8:00 am to 6:00 pm Monday to Friday
- Between 8:00 am to 1:00 pm Saturday (upon TfNSW approval)
- In continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.

‘Continuous’ includes any period during which there is less than a one hour respite between ceasing and recommencing the work.

5.4.2 Variation to work hours

Works associated with the delivery of the Early Works may be undertaken outside the hours of work identified in Section 5.4.1 in accordance with NSW CoA E36 and the approved Overarching Early Works OOHW Protocol prepared in accordance with E37:

Approvals for any changes to the construction hours outlined in Section 5.4.1 above will be attached to this EWEMP.

5.5 Communication

5.5.1 Internal Communication

The CPB Contractors environment team will meet regularly to discuss any issues with environmental management on-site, any amendments to plans that might be required or any new/changes to construction activities. Regular meetings will also occur with the ER and TfNSW environment staff. These meetings will discuss ongoing environmental performance and identify any issues to be addressed.

In addition, The CPB Contractors environment team members will participate in regular toolbox talks to communicate on environmental performance, advise on any upcoming sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

Further internal communications regarding environmental issues and aspects will be through awareness training and pre-start meetings as described in Section 5.3.

5.5.2 Liaison with EPA, government authorities or other relevant stakeholders

The CPB Contractors Environmental Site Representative will be the main point of contact regarding specific environmental issues and is responsible for reporting on the ongoing environmental performance of the Early Works to TfNSW and the ER. The CPB Contractors Environmental Site Representative will report regularly to TfNSW on progress and any key environmental matters.

Two Early Works team members have been nominated as 24-hour contacts for environmental regulatory authorities and are identified in Section 5.1.3. They have the authority to halt the progress of the work if necessary, and are the key emergency response personnel during an environmental site emergency.

TfNSW will be immediately notified on each occasion that the site is visited by EPA and/or other relevant agencies. The CPB Contractors will prepare a report for each occasion when the Site is visited by the EPA and/or other relevant agencies, notifying TfNSW of the purpose and outcome of the EPA and/or other relevant agencies visit, and of all actions taken by the CPB Contractors in response to the EPA visit and/or other relevant agencies. The report will be provided to TfNSW within one working day of the visit.

The CPB Contractors Environmental Site Representative will report to the EPA in the event of an occurrence or set of circumstances that causes or threatens to cause material harm.

5.5.3 Community liaison and/or notification

Overarching Communication Strategy

TfNSW has prepared a Overarching Communication Strategy (OCS) in accordance with the requirements of NSW CoA B1 to document the approach to stakeholder and community communications for the Project. The OCS will identify opportunities for providing information and consulting with the community and stakeholders during the construction of the Project. The CPB Contractors will support the delivery of the OCS.

The OCS will be implemented for the duration of the Early Works and for 12 months following the completion of all construction stages of the Project.

The OCS includes:

- Principles to guide the overall approach to community and stakeholder involvement
- Identification of the stakeholders and groups to be consulted during the Project
- Procedures and tools for the distribution of information about the Project, such as regular updates about construction activities, the program for construction activities and key milestone dates
- A process for communication with adjacent/nearby developments for the management of potential cumulative impacts or emissions (noise, air or odour) from their sites
- Opportunities for the community to visit Project construction sites
- Methods for involving construction personnel in engaging with the local community
- Methods and tools for engaging with the local community, including community forums to discuss key environmental management issues of concern for the Project
- Procedures and mechanisms:

- Detailing how the community can discuss or provide feedback in relation to the Project
- Detailing how the Project team will respond to community enquiries and feedback
- Describing how issues will be resolved or disputes mediated in relation to environmental management and construction of the Project.
- Procedures to consult with local communities potentially affected by the impacts of multiple projects in addition to the Project.

The OCS also provides details on the requirements for coordination and communication between the CPB Contractors working on the Early Works stages which will include:

- Liaison meetings
- Mailing list for all communications (including Community Updates)
- Email communication
- Project briefings.

Where relevant, the TfNSW Community and Stakeholder Engagement Advisor and the CPB Contractors Public Liaison Officer will undertake consultation with proponents of other nearby developments to increase the overall awareness of project timeframes and impacts.

A range of communication tools will be defined in the OCS, and may include:

- Targeted community open days
- Media releases and advertisements in local and metropolitan papers
- Public displays
- Door-knocks
- Letterbox drops
- Community update newsletters, information brochures and fact sheets
- Community information sessions and community forums
- Signage at construction sites
- Construction updates (including for councils, emergency services and bus operators)
- Project website
- Project 1800 number, email address and postal address.

The OCS will be submitted for approval to the Planning Secretary at least one month prior to the commencement of Works by TfNSW, as required by NSW CoA B3. Work on the Project will not commence until the OCS has been approved by the Secretary.

Complaints Management

TfNSW has developed a Complaints Management System (CMS) to document the overall approach to complaints management for the Project. The CMS will be consistent with AS-ISO 10002-2006 Complaints Handling in accordance with the requirements of NSW CoA B6, B7, B8 and B9. The CPB Contractors will adopt the requirements of the CMS, including reporting requirements.

The CMS will be provided to the Secretary for information before any work commencing on the Project.

All community enquiries and complaints related to the Project activities will be referred to the 24-hour toll free community information line (1800 517 155). The Project postal address (Transport for NSW, PO Box 973 Parramatta CBD NSW 2124) and email address (m12motorway@rms.nsw.gov.au) are also available for receipt of enquiries and complaints.

Details of the telephone number, postal address and email address for enquiries and complaints related to the Project will be on the Project website, one month before the commencement of work, as required under NSW CoA B7.

The CMS includes a Complaints Register in accordance with NSW CoA B8 which will record the details of all complaints relating to the Project including the following as a minimum:

- Date and time of the complaint
- Method by which the complaint was made
- Any personal details of the stakeholder
- Number of people affected in relation to a complaint
- Nature of the complaint
- Action taken in relation to the complaint, means by which the complaint was addressed and any follow up
- Whether resolution was reached, with or without mediation
- If no action taken, reasons why
- The status of resolution of the complaint.

The Complaints Register will be provided to the Secretary on request in accordance with NSW CoA B9. In accordance with NSW CoA A35(a), the Complaints Register will be provided to the ER on the day complaints are received.

Attempts will be made to resolve all complaints in accordance with the CMS. Figure 5-2 provides a flow chart of the complaints management process provided in the CMS. All complaints will be investigated and the source of the complaint determined immediately, with a phone call made to the complainant (when received by phone) within two hours. An initial response will be provided during this phone call, unless the complainant agrees otherwise.

An initial written response to email complaints will be provided within 24 hours (or during the next business day if received out-of-hours) and a resolution provided within seven business days, if the complaint cannot be resolved in the initial contact.

The complainant will be kept informed and updated of the progress until the complaint is resolved. The complainant has the right to contact TfNSW to access personal information held about them and to correct or amend that information (Collection Statement). For any complaints made in person the complainant must be made aware of the Collection Statement.

All complaints will be recorded in the Complaints Register (Consultation Manager) within 24 hours. The ER will have access to the Complaints Register on a daily basis in accordance with the requirements of NSW CoA A35(a).

An initial internal escalation process will be followed for the resolution of complaints which requires escalation to the TfNSW Communication and Stakeholder Engagement Advisor and TfNSW Project Director and following that to the next level which includes the ER as per the Complaints Management Process (refer to Figure 5-2).

TfNSW will set up a mediation system for complaints unable to be resolved before the commencement of Early Works (within one month of NSW Infrastructure Approval). The mediation system will be available for the duration of the Project. Further details of the mediation system are provided in the CS.

The CPB Contractors Environmental Site Representatives will apply an adaptive approach to ensure that corrective actions are applied in consultation with the appropriate construction staff to allow modifications and improvements in the management of any environmental issues resulting in community complaints.

Complaints management process

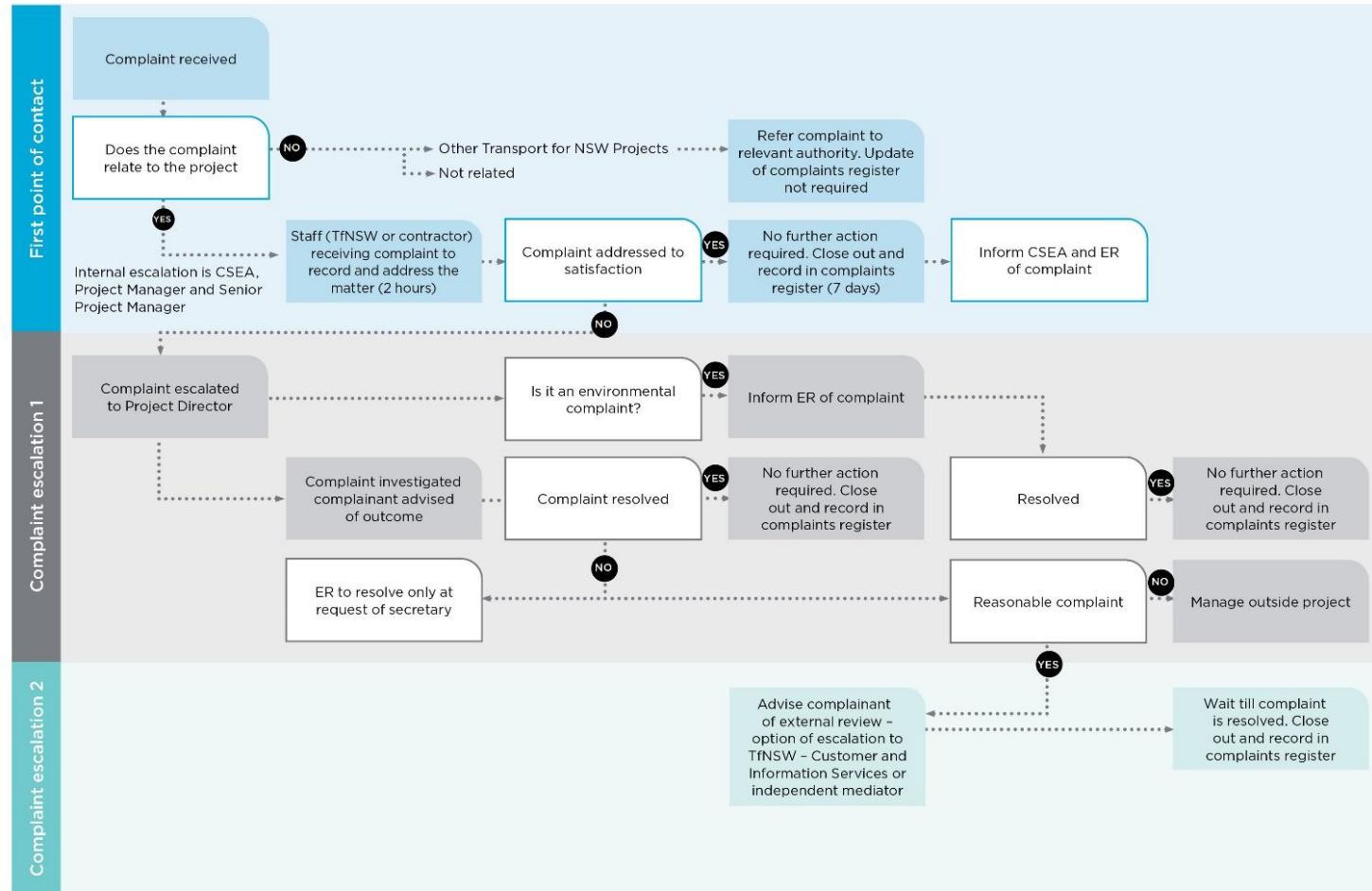


Figure 5-2: Complaints management process

5.5.4 Project website

A website has been established for the Project (<https://www.rms.nsw.gov.au/projects/m12-motorway/index.html>) and will be regularly maintained during construction of the Project. The website will be kept up to date with the latest Project information, environmental assessments, and will include all community updates. The CPB Contractors will provide TfNSW with all relevant documents that are required to be published on the Project website. The Project website will also publish methods to communicate feedback, enquiries and complaints related to the Project.

In accordance with NSW CoA B10, the following information will be maintained on the Project website:

- Information on the current implementation status of the Project (including Early Works)
- The Environmental Assessment Documentation and any documentation relating to any modifications made to the Project
- A copy of the Infrastructure Approval in its original form, a current consolidated copy of the Approval (including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of the Approval
- A copy of each statutory approval, licence or permit required and obtained in relation to the Project
- A current copy of each document required under the terms of the Approval
- A copy of any audit reports required under NSW CoA A38 and A41.

Where the information/document relates to a particular Work or is required to be implemented, it must be published before the commencement of the relevant Work to which it relates or before its implementation.

Additionally, in accordance with NSW CoA B6, the Collection Statement must be included on the Project Website to make prospective complainants aware of their rights under *the Privacy and Personal Information Protection Act 1998*.

Relevant Project information will be published on the website for the duration of works. As required by Commonwealth CoA 16(b), the EWEMP, EWFFMP and SEMP will be published on the Project website within 20 business days of the date of their approval date, unless otherwise agreed to in writing by the Federal Minister for the Environment.

Confidential information, which may include the location of threatened species, Aboriginal objects or places and personnel contact details, will be removed from all documents provided before being made available to the public.

The EWEMP, EWFFMP and SEMP will remain published on the Project website for the period of which the Federal approval has effect, or as otherwise agreed by DAWE in writing in accordance with Commonwealth CoA 16(d).

5.6 Environmental Management Measures

Appendix A8 contains a list of environmental management measures relevant to Early Works that will be implemented to minimise the environmental impact of Early Works.

6 Emergency and incident planning, management and reporting

The M12 Environmental Incident Procedure (refer to Appendix A5) outlines the procedure to be followed if, during an activity being carried out there is:

- A report-only event
- A non-compliance
- Regulatory action received
- An environmental incident.

The Procedure sets out the steps for the:

- Identification
- Classification
- Reporting of report-only events, non-compliances, regulatory action and environmental incidents. The M12 Environmental Incident Procedure (refer to Appendix A5) has been modified to be made site-specific and includes requirements under the NSW CoA and the Federal CoA for this Project.
- The following sections summarise the requirements.

6.1 Emergency preparedness

Emergency planning and awareness training will be undertaken for the Early Works and based upon the M12 Environmental Incident Classification and Reporting Procedure in Appendix A5. All site personnel will be inducted on the incident management process detailed in Appendix A5. CPB Contractors will ensure that the following equipment will be available to all site personnel to utilise in the event of an incident:

- Protective gloves for certain types of corrosive chemicals
- Other personal protective equipment required for the handling of hazardous chemicals and radioactive substances
- Spill kits
- Stormwater drain guards
- Alarms for when there are issues with processes
- Firefighting equipment
- Up-to-date safety data sheets for any chemicals or fuels used or stored at the premises
- Hard hats for designated 'emergency controllers'
- Eye-wash stations.

CPB Contractors will ensure that all site personnel are aware of where the equipment listed above is located on site and appropriately trained on the use of all equipment.

6.2 Incident identification

Section 3 of the M12 Environmental Incident Classification and Reporting Procedure provides the actions to be undertaken for incident response.

6.3 Incident classification

Section 3.1.1 of the TfNSW Environmental Incident Procedure details environmental incident classification based upon three risk areas (see Appendix A5):

- Environment
- Reputation and integrity
- Regulation and compliance.

Table 6-1 provides the definitions of each type of environmental incident/issue.

Table 6-1: Incident definitions

No.	Requirement
Environmental event	<ul style="list-style-type: none">• A report-only event, non-compliance, regulatory action or environmental incident
Environmental incident	<ul style="list-style-type: none">• An environmental incident is an event or set of circumstances, as a consequence of which pollution (air, water, noise, or land) or an adverse environmental impact has occurred, is occurring, or is likely to occur.• Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items and adverse community impacts.• An unexpected find that is not managed in accordance with relevant procedures / guidelines is also considered an environmental incident
Non-compliance (as per the TfNSW Environmental Incident Procedure)	<ul style="list-style-type: none">• A failure to comply with any CoA, REMM, licence condition (where applicable), permit or any other statutory approval relevant to the activity and/or area where the activity occurs
Notifiable event	<ul style="list-style-type: none">• Any environmental incident, report-only event or non-compliance that triggers a specific statutory requirement to notify a regulatory authority i.e. under NSW CoA A44 – A48 and Federal CoA 11 and 12
Report-only event	<ul style="list-style-type: none">• An environmental incident or unexpected find resulting from circumstances outside the scope of controls and of an activity
Significant incident	<ul style="list-style-type: none">• An environmental incident that is likely to receive a classification of C3, C2 or C1, OR the history of the project, past performance and/or previous regulatory interest, indicate the project is likely to receive a penalty notice or be subject to prosecution, and therefore requires escalation to the Secretary and other TfNSW senior management.

No.	Requirement
Incident affecting protected matter (s)	<ul style="list-style-type: none"> An event that has the potential to, or does impact, Matters of National Environmental Significance other than as authorised by the M12 Federal approval.

6.4 Incident notification

Reporting of environmental incidents will be in accordance with Section 3.2 of the M12 Environmental Incident Reporting Procedure, specifically

Figure 2-2 and utilising the Environmental Event Reporting Form (624/400).

Potential class C1, C2 or C3 incidents will be notified verbally immediately to the ER and the TfNSW Environment and Sustainability Manager (or delegate). Incident reports will be provided to TfNSW Project Manager and the ER in accordance with the TfNSW procedure, including lessons learnt from each environmental incident and proposed measures to prevent the occurrence of a similar incident. All efforts will be undertaken immediately to avoid and reduce impacts of incidents and suitable controls put in place. Incidents will be closed out as quickly as possible, taking all required action to resolve each environmental incident.

Incidents that meet the criteria outlined in the NSW CoA and Commonwealth CoA will also be notified verbally immediately to the ER and TfNSW Environment and Sustainability Manager. Incident reports will be provided to TfNSW Project Manager and ER. TfNSW will provide written notification to DPIE and/or DAWE in accordance with the procedure outlined in Appendix A5. In accordance with NSW CoA A44, the Planning Secretary must be notified in writing via the Major Projects website as soon as possible and no later than 12 hours after the Contractor/TfNSW become aware of the incident. NSW CoA A45 also requires additional written notification within seven days and a detailed report within 30 days of the incident occurring. Further information on incident reporting for DPIE can be found in Appendix A5. TfNSW and the Contractor will undertake an investigation and implement corrective action to minimise the impact of the incident where possible.

6.4.1 Notifiable Events

Section 3.3 of the M12 Environmental Incident procedure outlines the requirements for the notification of any environmental incident, report-only event or non-compliance that triggers a specific statutory requirement to notify an authority.

Table 6-2: Summary of requirements for incident notification and reporting

Incident type	Notify	Notification timeframe	Notification responsibility	Written report	Written report timeframe	Written report responsibility
Regulatory action (material harm under the POEO Act)	EPA environment line Fire and Rescue NSW Ministry of Health SafeWork NSW Penrith Council TfNSW Project Manager and Senior Environment Officer (or delegate)	Immediately	CPB Contractors	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors
	Secretary of DPIE	As soon as possible, and no later than 12 hours after TfNSW becomes aware of an incident.	TfNSW (via the major projects portal)	In accordance with NSW CoA A44 and A45: <ul style="list-style-type: none">• Written notification report• Detailed incident report	In accordance with NSW CoA A44 and A45: <ul style="list-style-type: none">• Within 7 days• Within 30 days	TfNSW / CPB Contractors
Regulatory action (other than material harm under the POEO Act): Discovery of Aboriginal objects	TfNSW Project Manager and Senior Environment Officer (or delegate) RAPs Heritage NSW	As soon as possible, and no later than 12 hours after TfNSW becomes aware of an incident.	CPB Contractors / TfNSW	In accordance with Section 3.2 of the reporting procedure in Appendix A5.	In accordance with Section 3.2 of the reporting procedure in Appendix A5.	CPB Contractors

Incident type	Notify	Notification timeframe	Notification responsibility	Written report	Written report timeframe	Written report responsibility
Discovery of all human remains	NSW Police	Immediately	CPB Contractors	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors
If TfNSW activities have contaminated land or if TfNSW owns land that has been contaminated	EPA	Immediately	CPB Contractors / TfNSW	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors / TfNSW
The location of a relic once a relic has been discovered or located	TfNSW Project Manager and Senior Environment Officer (or delegate) Heritage NSW	Immediately	CPB Contractors / TfNSW	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors
The inability to extinguish any fire burning during a bush fire danger period applicable to the land	An appropriate officer of the NSW Rural Fire Service	Immediately	CPB Contractors	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors / TfNSW
Environmental incident with the potential for unapproved impacts on a drinking water supply	Local water supply authority EPA	Immediately	CPB Contractors / TfNSW	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors / TfNSW
TfNSW Category 1 Incident (excluding material harm)	TfNSW Project Manager and Senior Environment Officer (or delegate)	Immediately	CPB Contractors	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors

Incident type	Notify	Notification timeframe	Notification responsibility	Written report	Written report timeframe	Written report responsibility
	ER					
Critical Incident - Category 1 incidents with potential for: <ul style="list-style-type: none"> regulatory action (e.g. EPA Penalty Infringement Notice) and/or reputational damage (e.g. media coverage) and/or significant environmental harm. 	TfNSW Director Environment TfNSW Chief Executive and relevant Executive Director ER	Immediately	TfNSW Director Environment Operation	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors
TfNSW Category 2 Incident / Reportable Events	TfNSW PM and Senior Environment Officer (or delegate) ER	Immediately	The CPB Contractors	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors
Any incident (as defined in the NSW Infrastructure approval)	Secretary DPIE Minister for DAWE ER	As soon as possible and no later than 12 hours after TfNSW becomes aware of an incident.	TfNSW/ CPB Contractors	In accordance with NSW CoA A44 and A45: <ul style="list-style-type: none"> Written notification report 	In accordance with NSW CoA A44 and A45: <ul style="list-style-type: none"> Within 7 days 	CPB Contractors / TfNSW

Incident type	Notify	Notification timeframe	Notification responsibility	Written report	Written report timeframe	Written report responsibility
				Detailed incident report	Within 30 days	
Any incident that affects or could affect the Upper Canal System, including the pipeline corridor	WaterNSW	ASAP, at least within 24 hours of the incident	TfNSW	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	TfNSW
Incident affecting protected matters	TfNSW PM and Senior Environment Officer (or delegate) ER	Immediately	CPB Contractors	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors
	DAWE	As soon as practicable, and no later than 2 business days after becoming aware of the incident.	TfNSW	In accordance with Section 3.2 of the reporting procedure in Appendix A5	In accordance with Section 3.2 of the reporting procedure in Appendix A5	CPB Contractors/TfNSW

6.5 Incident investigation

Where required, due to the severity or ongoing nature of the incident, investigations will be conducted, and corrective actions established to ensure that the incident does not occur again. Environmental investigations will include:

- Identification of the cause, extent and responsibility of the incident
- Identification and implementation of the necessary corrective action
- Identification of the personnel responsible for carrying out the corrective action
- Implementation or modification of controls necessary to avoid a repeat occurrence of the incident
- Recording of any changes in written procedures required
- Notifying all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the POEO Act.

Where there are lessons learnt from the investigation or current procedures are identified as being ineffective, this EWEMP will be revised by the CPB Contractors Environmental Site Representatives to include the improved procedures or requirement.

7 Monitoring and review

7.1 Environmental inspections

The purpose of the inspections is to identify and minimise environmental risk. A summary of the overarching approach to inspections are provided in the sections below.

Copies of all environmental inspection reports prepared by CPB Contractors will be kept with the Early Works records and closed out within the agreed timeframes.

CPB Contractors will ensure that COVID-19 protocols are implemented on site during inspections to protect the wellbeing of inspection participants. Inspection participants to be informed of COVID-19 management measures during the pre-start briefing.

7.1.1 Weekly and post-rainfall inspections

The CPB Contractors Environmental Site Representatives will carry out weekly and post rainfall inspections of the work sites to evaluate the effectiveness of environmental controls. Weekly inspections will also inspect work next to or within sensitive areas and high-risk activities.

The CPB Contractors Environmental Site Representatives will record inspection findings on an inspection checklist form. Observed deficiencies in maintenance, environmental controls or standard of environmental performance will be recorded. Details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority will be recorded. Actions will be closed out in accordance with the identified priority and evidence of close out will be kept on file.

7.1.2 Wet weather preparation inspections

CPB Contractors will undertake an inspection of environmental controls where a wet weather event is predicted. The wet weather event is 10 mm or more of rain within 24 hours recorded at the Badgerys Creek AWS Bureau of Meteorology (BoM) gauge (#067108). This definition has been adopted as a wet weather trigger preparedness.

Erosion and sediment controls and preventions will be inspected by CPB Contractors where a flood is expected to occur. These measures include erosion / sedimentation controls, protection of disturbed ground from erosion and the prevention of pollution incidents are in place. Following the wet weather event, a post wet weather inspection will be undertaken to review site performance and repair controls as required.

7.1.3 Environmental Representative and TfNSW inspections

The ER and TfNSW Project Managers (or delegates) and TfNSW Environment and Sustainability Manager (or delegate) will carry out regular inspections of work sites and critical activities throughout the Early Works. Inspections by the ER and TfNSW will typically occur on a fortnightly basis depending on the complexity and anticipated risks associated with the stage of construction. Inspections will be carried out in accordance with the TfNSW inspection procedure.

The CPB Contractors Environmental Site Representatives and Project Engineer and/ or Superintendent and/ or Foreman/ Site Supervisor will participate in all ER and TfNSW inspections and will maintain appropriate records. Deficiencies and required actions will be analysed and

prioritised at the completion of the inspection and timeframes for implementation of corrective actions agreed in accordance with the TfNSW inspection procedure. Timeframes for the CPB Contractors to close out issues will be nominated on the inspection form.

7.1.4 Inspections by EPA and other agencies

CPB Contractors will prepare a report on each occasion that the site is visited by the EPA and/or other relevant agencies. The report will advise TfNSW of the purpose and outcome of the EPA and/or other relevant agencies visit, and of all actions taken by the CPB Contractors in response to the EPA visit and/ or other relevant agencies. The report will be provided to TfNSW within one working day of the visit.

7.1.5 Pre-work inspections

Before the commencement of each shift, the CPB Contractors Foreman/ Site Supervisor will inspect the environmental controls in place for the work to ensure they are operating as designed. The Foreman/ Site Supervisor will also ensure that all resources required to perform the works effectively are available and in place. Works will not commence unless inspections are found to be satisfactory.

7.1.6 Shutdown inspections

Prior to any period where the Early Works will be shut down for more than four days (i.e. long weekends, the Christmas period, etc.) or a significant weather event is forecast (e.g. storm event requiring shutdown of the site), a shutdown inspection will be undertaken to identify any additional environmental controls needed to minimise the potential for environmental impacts during the site shutdown period.

7.1.7 Start-up inspections

Start-up inspections will be conducted following the shutdown period if significant weather event has occurred during this time. This will be prior to the recommencement of construction works to ensure no damage to environmental controls have occurred during the significant weather event.

7.2 Environmental monitoring

Monitoring will be undertaken to validate the impacts predicted for the Early Works, to measure the effectiveness of environmental controls and implementation of this EWEMP and to address approval requirements. The monitoring requirements for required aspects are included in the relevant issue-specific environmental management plans and summarised in Table 7-1.

Table 7-1: Summary of CoA and REMMs environmental monitoring requirements

NSW CoA and REMM	Description	Relevant plan	Reporting requirements
A16 (e)	<p>A program for monitoring the performance outcomes, including a program for noise monitoring of site establishment activities consistent with the requirements of NSW CoA C14</p> <p>This must be consistent with NSW CoA C14.</p>	Site Establishment Management Plan	The results of the monitoring program must be submitted to the Planning Secretary, and relevant government agencies, for information in the form of an Early Works Noise Monitoring Report at the frequency identified in the relevant Early Works Noise Monitoring Program.
N/A	<p>Discharge water quality monitoring of:</p> <ul style="list-style-type: none"> pH: 6.5-8.5 Total Suspended Solids: 50 mg/L Oil and grease: no visual identification. <p>These values are derived from the ANZECC Guidelines for NSW Lowland Rivers and the Blue Book.</p>	EWEMP	None.

The Early Works Construction Monitoring Programs will be prepared in consultation with relevant government agencies and council(s) as identified in Table 7-2.

Table 7-2: Consultation requirements for Construction Monitoring Programs

NSW CoA	EWEMP Plan	Agency to be consulted	CEMP Ref
CoA C14 (A16(e))	Early Works Noise and Vibration Monitoring Program	Relevant council	Appendix B1

The Early Works Noise and Vibration Monitoring Program will be endorsed by the ER and submitted to the Secretary for approval at least one month before commencement of Early Works.

Early Works will not commence until the Secretary has approved the Monitoring Programs required, and all relevant baseline data for the specific construction activity has been collected.

The Monitoring Programs, as approved by the Secretary including any minor amendments approved by the ER, will be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Secretary, whichever is the greater.

The ER, TfNSW Project Manager and Environment and Sustainability Manager (or delegate) will be advised of any non-conformances from monitoring and details reported in the Monthly Environmental Reports.

Should a non-conformance be detected or monitoring results directly attributable to the Early Works exceed the target set in the monitoring programs, the process described in Section 5.6 will be implemented. Steps in the process will include:

- Analysis of the results by the CPB Contractors Environmental Site Representative in more detail with a view of determining possible causes for the non-conformance
- Site inspection by the CPB Contractors Environmental Site Representatives
- Advising relevant personnel of the problem
- Identifying and agreeing on actions to resolve or mitigate the non-conformance
- Implementing actions to rectify or mitigate the non-conformance.

A non-conformance Environmental Incident Report and/or Environmental Improvement Notice may be issued by the TfNSW Environment and Sustainability Manager (or delegate) or the TfNSW Project Manager in response to the non-conformance if it is found to be construction related. The timing for any improvement will be agreed between the relevant CPB Contractors Project Engineer/Superintendent and TfNSW Environment and Sustainability Manager (or delegate) based on the level of risk (e.g. a significant risk will require immediate action). The ER will be kept informed of any non-conformance, any Environmental Incident Report and/or any Environmental Improvement Notice issued, and the status of implementation or improvement actions.

All environmental monitoring equipment will be maintained and calibrated according to manufacturers' specifications and appropriate records kept.

7.3 Compliance management

A non-compliance is defined as a failure to comply with any CoA, revised environmental management measure, licence condition (where applicable), permit or any other statutory approval relevant to the activity and/or area where the activity occurs. As outlined in Table 7-3 the M12 State Infrastructure Approval and the M12 Federal Approval describe what constitutes a non-compliance under these approvals in more detail.

All non-compliances must be reported using the TfNSW Environmental Event Reporting Form (624/400) as detailed in Appendix A5. The State Infrastructure Approval, and Federal Approval have additional requirements for reporting non-compliances as detailed in Section 7.3.1 and Section 7.3.2.

Table 7-3: Types of non-compliances

Approval	Description of non-compliance
Non-compliance under the State Infrastructure Approval	An occurrence, set of circumstances or development that is a breach of the NSW approval but is not an incident (as defined in the State Infrastructure Approval).
Non-compliance under the Federal Approval	An occurrence, set of circumstances or development that is a breach of the Federal approval but is not an incident affecting protected matters.

7.3.1 Reporting a non-compliance under the State Infrastructure Approval

In accordance with NSW CoA A46, the Planning Secretary must be notified in writing via the Major Projects website within seven days after TfNSW becomes aware of any non-compliance.

As required by NSW CoA A47, a non-compliance notification must identify the Project and the application number for it, set out the condition of approval that the Project is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. The ER will also be informed of any non-compliance.

As specified in NSW CoA A48, A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

7.3.2 Reporting a non-compliance under the Federal Approval

In accordance with Commonwealth CoA 11, TfNSW must notify DAWE in writing of a non-compliance with the Commonwealth CoA, or with commitments made in plans required under NSW CoA A24, where they relate to monitoring, managing, avoiding, mitigating, recording, or reporting on, impacts to protected matter(s). The notification must be given as soon as practicable and no later than 2 business days after becoming aware of the non-compliance. Refer to Appendix A5 for the reporting requirements for Federal non-compliances.

7.3.3 Reporting a non-compliance under the TfNSW Environmental Incident Procedure

A non-compliance as defined in this management plan must be reported using the Environmental Event Reporting Form (624/400) and in accordance with Appendix A5.

7.3.4 Compliance records

CPB Contractors Environmental Site Representative is responsible for maintaining compliance records as current at the point of use.

In accordance with Commonwealth CoA 8, TfNSW are required to maintain accurate and complete compliance records. CPB Contractors will provide TfNSW with a copy of all compliance records to satisfy the requirements of the Commonwealth CoA.

If DAWE makes a request in writing, TfNSW must provide electronic copies of compliance records to DAWE within the timeframe specified in the request.

Annual compliance reporting required under Commonwealth CoA 10 will not be undertaken within the duration of the Early Works however, compliance records provided to TfNSW by CPB Contractors will be included within the compliance report for the twelve month period within which the Early Works were undertaken.

7.3.5 Non-conformances

A non-conformance is the failure or refusal to comply with the requirements of project system documentation including this EWEMP and supporting documentation that does not result in a non-compliance as defined in this management plan.

Non-conformances may be identified through the review of compliance (refer to Section 6.3), environmental auditing (refer to Section 6.4) or incident management (refer to Section 6).

Any member of CPB Contractors Project team may raise a non-conformance the CPB Contractors Quality Plan describes the process for managing non-conforming work practices and initiating corrective/preventative actions or system improvements. The ER, TfNSW Project Manager, Environment and Sustainability Manager (or delegate) or a representative of a public authority may also raise a non-conformance or improvement opportunity using the same process.

Non-conforming activities may be stopped, if necessary, by the CPB Contractors Environmental Site Representatives or Project/Site Engineers following consultation with the Construction Manager or delegate. The ER may also stop works in these circumstances, in which case a non-conformance report will be prepared by CPB Contractors in accordance with the Quality Plan. The works will not recommence until corrective/ preventative actions have been closed out.

7.3.6 Corrective and preventative action

For each non-conformance identified, CPB Contractors will implement corrective/preventative actions. In addition, any environmental management improvement opportunities can be initiated as a result of incidents or emergencies, monitoring and measurement, review of compliance, audit findings or other reviews. Improvement opportunities may also result in the implementation of corrective/preventative actions. CPB Contractors will provide this information to TfNSW in monthly reports.

Corrective/preventative actions and improvement opportunities will be entered into CPB Contractors quality system database and include detail of the issue, action required and timing and responsibilities. The record will be updated with date of close out and any necessary notes. The database will be reviewed regularly to ensure actions are closed out as required.

Procedures for corrective actions will include a process for verification of how the non-conformance has been closed out and to confirm that it is effective in addressing the non-conformance.

7.4 Auditing

7.4.1 Independent audits

Independent audits are not required for Early Works.

7.4.2 Internal audits

Internal auditing will be undertaken by CPB Contractors on a six-monthly basis during Early Works to verify compliance with:

- This EWEMP and Sub-plans
- Approval requirements (CoAs, REMMS)
- Any relevant legal and other requirements (e.g. licenses, permits, regulations, TfNSW contract documentation, including specifications).

An audit checklist will be developed and amended as necessary to reflect changes to this EWEMP, subsequent approvals and changes to Acts, regulations or guidelines.

All internal environmental audits will be undertaken in accordance with AS/NZS ISO 19011.

7.4.3 Audit of the ER's exercise of its functions

The Secretary may at any time commission an audit of an ER's exercise of its functions under NSW CoA A28. TfNSW, the CPB Contractors and ER will facilitate and assist the Secretary in any such audit.

Table 7-4 summarises the auditing to be undertaken for the Early Works.

Table 7-4: Early Works audit requirements

Audit	Requirement	Timing	Responsibility	Recipient
Internal audit	Verify compliance with approval and legal requirements, TfNSW specifications and construction documentation	The first audit to be carried out within three months of the commencement of works and then at six monthly intervals thereafter. The final submitted within five working days of contract completion date.	CPB Contractors Site Environmental Representatives	Project manager TfNSW ER
ER NSW CoA A28	Audit of the ER's exercise of it functions	As required by the Secretary	TfNSW and the ER to facilitate and assist with the audit	Secretary DPIE

7.5 Reporting and identified records

Various reports will be prepared to address the requirements of the Infrastructure Approval, commitments under the Environmental Assessment Documentation, TfNSW QA Specifications and other reporting needs. Table 7-5 sets out the overarching reporting requirements for Early Works. The EWEMP Sub-plans also identify reports, plans, strategies, and procedures that will be prepared by CPB Contractors. Section 7.6.2 outlines the approach to be adopted for document control on the Early Works.

CPB Contractors will maintain accurate records substantiating all activities associated with the Early Works or relevant to the conditions of approval, including measures taken to implement all management plans. Records will be made available to DPIE and DAWE upon request, within the timeframe nominated in the request.

Table 7-5: Early Works reporting requirements

Report	Requirement	Timing	Responsibility	Recipient
CPB Contractors reporting to TfNSW under the Contract				
Monthly environmental report	For incorporation in Project Monthly Reports including environmental statistics (i.e. incidents, regulatory action, complaints on environmental issues), regulatory and authority considerations, monitoring program performance, compliance report and key environmental issues.	Monthly	CPB Contractors Environmental Site Representatives	TfNSW ER (for information)
Inspection reports (not related to CoA)				
EPA or any other Agency inspection report, other than for arranged inspections	The report will detail the purpose, outcome and actions pertaining to the visit and will be submitted to the TfNSW Project Manager	Within one working day of the EPA or any other Authority visit, other than for arranged inspections	CPB Contractors Environmental Site Representatives	TfNSW EPA ER (for information)
TfNSW environmental inspection reports	Response to matters raised in TfNSW site inspections Refer Section 7.1.3	As required. Typically, every two weeks for TfNSW inspection reports	CPB Contractors Environmental Site Representatives	TfNSW
Reporting under the NSW Infrastructure Approval				
Part A - Administrative				
Site Establishment Management Plan NSW CoA A16	Refer Section 3.3.7 and Appendix B1	Prior the installation of any ancillary facilities	CPB Contractors	ER (for endorsement) DPIE (for approval)
Early Works Environmental Management Plan NSW CoA A24	This Plan	Prior to the commencement of Early Works	CPB Contractors Environmental Site Representatives	DPIE (for approval)

Report	Requirement	Timing	Responsibility	Recipient
Notification of incident NSW CoA A48	Refer Section 6.4 and Appendix A5	As early as possible and within 24 hours of the incident	TfNSW and CPB Contractors	DPIE, DAWE and ER (for information)
Part B - Communication Information and Reporting				
Complaints Register NSW-CoA B10	Refer Section 5.5	On request during construction	CPB Contractors Environmental Site Representatives	DPIE (for information) TfNSW ER
Part C – Construction Environment Management				
Construction Noise and Vibration Monitoring Programs NSW CoA C14	Refer Section 5.7 and Appendix B1	Results from the Construction Noise and Vibration Monitoring Program will be included in the Early Work Contractor's Monthly Environmental Report	CPB Contractors Environmental Site Representatives	ER (for endorsement) DPIE (for approval)
Part E – Key Issues				
Heritage				
Unexpected Heritage Finds and Human Remains Procedure NSW CoA E31	Refer Appendix B4	One month prior to commencement of construction	CPB Contractors Environmental Site Representatives	Secretary (for approval)
Noise and Vibration				
Out of Hours Protocol NSW CoA E37	Refer Section 5.4.2	Prior to the commence of out of hours work	CPB Contractors Environmental Site Representatives	ER (for endorsement)

Report	Requirement	Timing	Responsibility	Recipient
Noise and Vibration Impact Statements NSW CoA E40	Refer to Section 4.1.1 and Appendix B1 Site Establishment Management Plan	Upon request	TfNSW	ER (for endorsement)
Transport and Traffic				
Use of local roads for spoil and fill haulage and concrete deliveries NSW CoA E93	Refer Appendix A8	Prior to the use of local roads	TfSNW	Secretary (for approval)
Waste				
Waste Tracking Register NSW CoA E104	Refer Appendix A8	Upon request	CPB Contractors Environmental Site Representatives	TfNSW (for review) Secretary and EPA (for Information)

7.6 Records of environmental activities

7.6.1 Environmental records

The CPB Contractors Environmental Site Representative is responsible for maintaining the CPB Contractors environmental management documents and records as current at the point of use.

Types of documents and records include:

- Monitoring, inspection and compliance reports/records
- Correspondence with public authorities
- Internal and external audit reports
- Induction and training records
- Reports on environmental incidents, other environmental non-conformances, complaints and follow-up action
- Community engagement information
- Minutes of the CPB Contractors Environmental Management System review meetings and evidence of any action taken
- CPB Contractors EWEMP and Sub-plans
- EWMS.

CPB Contractors environmental management documents are subject to ongoing review and continual improvement. This includes times of change to scheduled activities or to legislative or licensing requirements.

Only the CPB Contractors Environmental Site Representative has the authority to change the CPB Contractors environmental management documentation. This documentation will be held for five years after the actual completion date and be available to TfNSW and EPA upon request.

The TfNSW Environment and Sustainability Manager (or delegate) is responsible for amending the EWEMP and Sub-plans and maintaining TfNSW's environmental records.

7.6.2 Document control

The CPB Contractors Environmental Site Representative will coordinate the preparation, review and distribution of the CPB Contractors environmental documents and records listed in Section 6.7.1. The TfNSW Environment and Sustainability Manager (or delegate) and Project Managers will coordinate the preparation, review and distribution of the EWEMP and Sub-plans. The distribution list for the EWEMP and Sub-plans is provided in Section 1.9.

Table 7-5 identifies the recipients for the overarching Early Works documentation.

During the Early Works, CPB Contractors environmental documents and records will be stored at Ancillary Facility 10 (AF10). The documents required to be prepared under the Infrastructure Approval will be made available on the Project website (refer to Section 5.5.4).

CPB Contractors will implement a document control procedure to control the flow of documents within and between TfNSW, stakeholders and sub-contractors. The procedure will ensure that documentation is:

- Developed, reviewed and approved prior to issue
- Issued for use
- Controlled and stored for the legally required timeframe
- Removed from use when superseded or obsolete
- Archived.

A register and distribution list will identify the current revision of documents, records or data. The Document Register is maintained in Appendix A3.

7.7 Environmental Management System review

Periodic reviews of the Project Environmental Management System will be undertaken as part of the continual improvement process for the Early Works through meetings of relevant personnel. Table 7-6 sets out the purpose, frequency and attendees for the Environmental Management System review meetings.

The outcomes of the management, environmental group and senior management reviews could include amendments to this EWEMP, Sub-plans and related documentation, revision to the Project's Environmental Management System, review of the risk assessment, re-evaluation of the Early Works objectives and targets as well as input into other Early Works documents. For further details on the EWEMP revision process, refer to Section 1.11.

Table 7-6: Project Environmental Management System reviews

Meeting	Purpose	Frequency	Attendees
Management review	<ul style="list-style-type: none"> • Identification of areas of opportunity for improved environmental performance • Analysis of the causes of nonconformities and deficiencies, including those identified in environment inspections and audits • Verification of the effectiveness of corrective and preventative actions • Highlight any changes in procedures resulting from process improvement • A review of the aspects and impacts register, legal register and environmental induction 	Quarterly	<p>At minimum:</p> <ul style="list-style-type: none"> • TfNSW Project Managers and Environment and Sustainability Manager (or delegate) • CPB Contractors Project Manager, Construction Manager, Superintendent and Environmental Site Representatives
Senior management review	<ul style="list-style-type: none"> • Review of EWEMP CPB Contractors • Effectiveness of environmental management documentation implementation • Management effectiveness • Potential improvements to the environmental management documentation • Adequacy of resources • Findings of audits • Environmental objectives and targets • Environmental performance • Compliance with legal and other requirements • Critical non-conformance or repeated non-conformances • Organisation changes • Effectiveness of training and inductions 	Once throughout the duration of Early Works	<ul style="list-style-type: none"> • TfNSW Project Manager and Environment and Sustainability Manager (or delegate) • CPB Contractors Project Manager, Construction Manager and Environmental Site Representatives

7.7.1 Project refinements

Modifications or refinements to the Project may result from detailed design refinement or changed circumstances during construction. TfNSW is responsible for formally seeking approval from the Secretary for any Project modifications and for documenting refinements that are consistent with the approved Project.

The TfNSW Environment and Sustainability Manager (or CPB Contractors) is responsible for the assessment of Project refinements and management of the consistency assessment process. The CPB Contractors Environmental Site Representatives are responsible for incorporating any new environmental impacts and/or new statutory approval requirements into the appropriate environmental management documentation.

Any design changes or changes in scope of works will be communicated to the CPB Contractors Environmental Site Representatives. The CPB Contractors Environmental Site Representatives will undertake an environmental assessment and consistency review for the proposed changes in consultation with the TfNSW Environment and Sustainability Manager (or delegate) to determine if a Project modification may be required.

Should the consistency review determine that a Project modification may be required i.e. the impacts are of a nature and scale that it is not considered consistent with the Project approval, the Environmental Representative will be informed immediately and a modification application under Section 5.25 of the EP&A Act will be prepared and submitted to the Secretary for determination.

The TfNSW Project Manager and TfNSW Environment and Sustainability Manager (or delegate) will approve all refinements that are deemed consistent with the Infrastructure Approval. The ER will be provided information on the refinement and provide advice on the adequacy of management measures.

Appendix A1

Legal and Other Requirements Register

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys Creek

November 2021

Transport for New South Wales

Legal requirements

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
General					
<i>Environmental Planning and Assessment Act, 1979</i>	All	Comply with the terms Minister for Planning's approval for the project. Obtain the Minister's approval for any project modifications that are not consistent with the planning approval.	S5.14 S5.25	Yes	EWEMP Section 1.4
Water					
<i>Water Management Act 2000</i> With the exception of controlled activity approvals, the <i>Water Management Act 2000</i> (WM Act) only applies in relation to those water sources covered by operational water sharing plans – these areas cover most of the State's major regulated river systems.	Water access and use	Do not take water from a water source (a lake, river or estuary or place where water occurs naturally on or below the surface of the ground, and includes coastal waters) without an access licence. Do not use water on land (unless supplied by a water utility, irrigation corporation etc. or in accordance with basic landholder rights) without a water use approval.	S56 S60A S89 S91A	No	N/A

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
<i>Water Management Act 2000</i>	Water management works	Do not construct/use a water supply work, drainage work or flood work without the appropriate approval.	S90 S91B S91C S91D	No	N/A
<i>Water Management Act 2000</i>	Waterfront land.	Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval.	S91	No Public authorities are exempt from the need to obtain a controlled activity approval. Water Management (General) Regulation 2011 (cl.38)	N/A
<i>Water Act 1912</i> Note that this Act is being progressively repealed by the WM Act. With the exception of controlled activity approvals, the WM Act only applies in relation to those water sources covered by operational water sharing plans –	Surface water	Obtain a licence or permit for construction or use of ‘work’ for purposes including the taking and using of water.	S21B	Yes	EWEMP Section 4.2.2
	Groundwater	Obtain a licence where interference with groundwater is likely to occur.	S112 S121A	S112 does not apply to the Crown. RMS is therefore not required to obtain a licence under this provision.	N/A
	Floodplains	Obtain an approval for controlled works. These include works which occur on a designated floodplain, which can prevent	91D	An exemption in relation to roads potentially applies –	N/A

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
these areas cover most of the State's major regulated river systems.		land from being flooded or which can affect water flow to or from a river or lake.		see clause 41E of the Water Management (Regulation) 2011.	
<i>Protection of the Environment Operations Act 1997</i>	Water pollution	Do not cause water pollution (other than to a sewer), except in accordance with the conditions of an Environment Protection Licence or Scheduled Development Licence.	S120 S122	Yes	EWEMP Section 5.6
Noise					
<i>Protection of the Environment Operations Act 1997</i>	Plant maintenance and operation	Do not operate plant if it emits noise caused by poor maintenance or operation.	S139	Yes	EWEMP Appendix A8
<i>Protection of the Environment Operations Act 1997</i>	Materials management	Do not cause noise by failing to properly and efficiently deal with materials.	S140	Yes	EWEMP Appendix A8
Contaminated material					
<i>Protection of the Environment Operations Act 1997</i>	Land pollution	Do not cause or permit land pollution other than under authority of a licence or regulation. (However it is not a land pollution offence to place virgin excavated natural material or lawful pesticides and fertilisers on land, or by placing matter on land that has been	S142A – S142E	Yes	EWEMP Section 5.6

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
		notified to the EPA as an unlicensed landfill and which is operated in accordance with the regulations.)			
<i>Contaminated Land Management Act 1997</i>	Reporting contamination	<p>Notify the EPA if:</p> <p>Contaminants exceed thresholds contained in guidelines or the regulations where contamination has entered or will foreseeably enter neighbouring land, the atmosphere, groundwater or surface water.</p> <p>Contaminants in soil are equal to or exceed guideline levels with respect to the current or approved use of the land.</p> <p>Contamination meets other criteria that may be prescribed by the regulations.</p>	S60	Yes	EWEMP Section 5.5.2
Biodiversity					
<i>Biodiversity Conservation Act 2016</i>	Fauna	Do not harm any animal that is; of a threatened species, that is part of a threatened ecological community or is a protected animal, unless authorised under other legislation (e.g. planning approval).	S2.1 S2.8	Yes	EWFFMP

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
<i>Biodiversity Conservation Act 2016</i>	Habitat	Do not damage habitat of a threatened species or ecological community unless authorised under other legislation (e.g. planning approval).	S2.4 S2.8	Yes	EWFFMP
<i>Biodiversity Conservation Act 2016</i>	Biodiversity	Do not damage declared areas of outstanding biodiversity value unless authorised under other legislation (e.g. planning approval).	S2.3 S2.8	Yes	EWFFMP
<i>Biodiversity Conservation Act 2016</i>	Flora	Do not pick a plant that is; of a threatened species, that is part of a threatened ecological community or is a protected plant, unless authorised under other legislation (e.g. planning approval).	S2.2 S2.8	Yes	EWFFMP

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
Biodiversity Conservation (Savings and transitional) Regulation 2017	Flora and fauna conservation	The regulation is in place to assist with repealing and replacing of the previous biodiversity legislation, including the <i>Threatened Species Conservation Act 1995</i> , and the <i>Native Vegetation Act 2003</i> . The biodiversity assessment for the Project was carried out under the <i>Framework for Biodiversity Assessment</i> which was the standard method for assessing impacts of major projects on biodiversity and determining offsetting requirements.	Part 4, Part 6	Yes	EWFFMP
<i>Biosecurity Act 2015</i>	Weeds	Manage weeds on site in accordance with the relevant Regional Strategic Weed Management Plan.	S22	Yes	EWFFMP
Biosecurity Regulation 2017	Pests and Diseases	Notify the presence any pest or disease listed in Schedule 1 of the Biosecurity Regulation 2014, within one working day after suspecting or becoming aware of the pest or disease.	Regulation cl.7 Schedule 1	Yes	EWFFMP
<i>Fisheries Management Act 1994</i>	Dredging or reclamation	Provide the Minister for Primary Industries 28 days-notice of planned dredging or reclamation work.	S199	Yes	EWFFMP

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
<i>Fisheries Management Act 1994</i>	Fish passage	Do not block fish passage without a permit	S219	No	N/A
<i>Environment Protection Biodiversity Conservation Act, 1999 (Commonwealth)</i>	Flora and fauna conservation	Do not kill, injure or take a member of a listed threatened species without a permit.	Part 13	Yes	EWFFMP
		Comply with the terms of any EPBC Act approval for the project.		Yes	EWFFMP
Waste					
<i>Protection of the Environment Operations Act 1997</i>	Littering	Do not litter in a public place or an open private place. Do not litter from a vehicle. Only deposit advertising material in receptacles provided for mail or newspapers or under the door of the premises. Do not deposit advertising material on or in vehicles.	Part 5.6A	Yes	EWEMP Appendix A8
<i>Protection of the Environment Operations Act 1997</i>	Waste and transportation	Do not undertake a scheduled waste activity unless in accordance with an environmental protection licence. A licence must be obtained when construction and demolition wastes are applied to land under certain circumstances. This includes the	Part 3.2 Schedule 1	Yes	EWEMP Appendix A8

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
		<p>reincorporation of crushed road base material back into roads and the placing of excess fill material onto properties. A licence is not required if the material:</p> <ul style="list-style-type: none"> • Is VENM. • Does not exceed 200 tonnes in the Sydney, Newcastle and Wollongong areas, or 20,000 tonnes outside these areas. • Is covered by a “general exemption”. Current exempted materials are ENM, recycled aggregates and raw mulch. These exemptions are conditional and require some chemical testing of materials before they are placed onto land. • A licence must be obtained if more than 2,500 tonnes (or cubic metres) is stored on a stockpile site at any one time, or more than 30,000 tonnes of waste is received per year from off site. 			
		Only transport waste to a facility that can lawfully accept the waste.	S143	Yes	EWEMP Appendix A8

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
		Do not dispose of waste in a manner that harms or is likely to harm the environment.	S115	Yes	EWEMP Appendix A8
Protection of the Environment Operations (Waste) Regulation 2005	Waste and transportation	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licensed transporters can be used.	Regulation cl.49	Yes	EWEMP Appendix A8
		Comply with record keeping requirements in relation to the transport of certain types of waste.	Regulation Part 3	Yes	EWEMP Appendix A8
Heritage					
Heritage Act 1977	Heritage	Do not undertake an activity that will affect a place, building, work, relic, moveable object or precinct which is subject to an Interim Heritage Order or is listed on the State Heritage Register without approval from the Heritage Council.	S56-57	No	N/A
		Do not disturb or excavate land with knowledge or reasonable cause to	S139	No	N/A

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
		suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed; or Do not disturb or excavate land on where a relic has been discovered or exposed.			
		Notify the heritage Council on discovery of a relic	S146	Yes	EWEMP Appendix A8
<i>National Parks and Wildlife Act 1974</i>	Aboriginal places and objects	Do not harm or desecrate an Aboriginal object or Aboriginal place without consent.	S86 S90	No	N/A
		Notify the NPWS within reasonable time of becoming aware of the location or discovery of certain Aboriginal objects.	S89A	Yes	EWEMP Appendix A8
<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)</i>	Protection of areas and objects	Report any discovery of Aboriginal remains to the Federal Minister for the Environment and Heritage.	S20	Yes	EWEMP Appendix A8
		Comply with the provisions of any declaration in relation to a significant Aboriginal area or object.	S22	Yes	EWEMP Appendix A8

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
General					
<i>Protection of the Environment Operations Act 1997</i>	Harming the environment	Do not risk harming the environment by wilfully or negligently: <ul style="list-style-type: none"> • Disposing of waste unlawfully. • Causing any substance to leak, spill or otherwise escape (whether or not from a container); or • Emitting an ozone depleting substance. 	S115 S116 S117	Yes	EWEMP Section 5.6
<i>Protection of the Environment Operations Act 1997</i>	Control equipment	Properly and efficiently maintain and operate any installed pollution control equipment (including monitoring devices).	S167	Yes	EWEMP Section 5.6
<i>Protection of the Environment Operations Act 1997</i>	Notification of pollution incidents	Notify the EPA immediately of pollution incidents where material harm to the environment is caused or threatened.	S148	Yes	EWEMP Section 5.5.2
<i>Protection of the Environment Operations Act 1997</i>	Site licensing	Do not carry out or allow an activity listed in Schedule 1, or carry out work to enable such an activity, unless the premises are licensed by the EPA. This applies to: <ul style="list-style-type: none"> • Road construction: meaning the construction, widening or re-routing 	S47 S48	No	N/A for Early Works

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
		of roads if it results in the existence of four or more traffic lanes (other than bicycle lanes or lanes used for entry or exit) for one kilometres of their length in the metropolitan area, or five kilometres in length in any other area, where the road is classified, or proposed to be classified, as a freeway or tollway under the <i>Roads Act 1993</i> .			
<i>Environmentally Hazardous Chemicals Act, 1985</i>	Hazards and risks	Obtain a licence to undertake prescribed activities involving environmentally hazardous chemicals or declared chemical wastes.	S28	Yes	EWEMP Appendix A8
<i>Dangerous Goods (Road and Rail Transport) Act 2008</i>	Hazards and risks	Ensure that dangerous goods are transported in a safe manner.	S9	Yes	EWEMP Appendix A8
<i>Rural Fires Act 1997</i>	Bushfire risk	The Act provides for the prevention, mitigation and suppression of bush and other fires in local government area. Exemptions can be sought to allow hot works to be undertaken on Total Fire Ban days	Division 6 S99	Yes	EWEMP Appendix A8

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
<i>National Greenhouse and Energy Reporting Act, 2007 and Regulations 2008</i>	Greenhouse gas emissions	Accounting and reporting of greenhouse gases produced and energy consumed during construction. Applicability dependent on thresholds.	-	Yes	EWEMP Appendix A8
<i>Land Acquisition (Just Terms and Compensation) Act 1991 (Land Acquisition Act)</i>	Property acquisition	Applies to the acquisition of any land required for the project.	-	Yes	EWEMP Appendix A8
<i>Pesticides Act 1999</i>	Hazards and risks	<p>Use pesticides in an environmentally sensitive manner.</p> <p>Do not use an unregistered pesticide without a permit.</p> <p>Read the label or permit for the pesticide.</p> <p>Use registered pesticides in accordance with instructions on the label.</p> <p>Do not use any restricted pesticide unless authorised by a certificate of competency or a pesticide control order under the Act.</p> <ul style="list-style-type: none"> Compliance with pesticide codes of practice is required. 	<p>S12</p> <p>S13</p> <p>S14</p> <p>S15</p> <p>S17</p>	Yes	EWFFMP

Act	Activity / aspect	Requirement	Reference	Division 5.2 applicability	Relevant Section of EWEMP or supporting documentation
<i>Western Sydney Parklands Act 2006</i>	Land acquisition	The <i>Western Sydney Parklands Act</i> applies to the land located within the Western Sydney Parklands and establishes certain land to be Trust Land. Trust Land affected by the project would be subject to the Land Acquisition Act.	-	Yes	EWEMP Appendix A8

TfNSW specification requirements

Clause no.	Description
Specification G10 – Traffic Management	
1.7.4	Submission of traffic control personnel details including qualifications
2.2.1	Submission of Traffic Management Plan (TMP) and associated documents
2.3.1	Submission of Traffic Staging Plans (TSP) and associated documents
2.4.1	Submission of Traffic Control Plan (TCP), where submitted separately from TMP
2.7	Traffic incident Management Plan
3.3.1	Portable variable message signs
4.2	Independent Audit of TMPs
4.4.2	Opening of temporary roadway or detour to traffic
Specification G36 – Environmental Protection	
3.1	Preparation and submission of an amended EWEMP (as required)
3.2.2	Regulatory Requirements and Compliance
3.2.4	Submission of EWMSs
3.5.2	Submission of Draft Environmental Induction / Training Materials
3.7.2	Submission of Complaints Management Systems
3.10	Verification that environmental nonconformities has been rectified
4.2.4	Submission of Remediation Action Plan for contaminated land

Clause no.	Description
4.2.3	Notification of unexpected contamination find
4.7	Building Condition Inspection reports
4.11.2	Maintain a Waste Tracking Register
4.11.3	Annual Waste Avoidance and Resource Recovery Report
4.11.4	Copy of “s.143 Notice”
4.12	Use of pesticides register
4.13	Working in or near environmentally sensitive areas and EWMSs
4.15.2	Submission of pre-construction land condition assessment report for each area you intend to occupy for your site facilities
4.15.3	Submission of pre-construction land condition assessment report for each area you intend to occupy for your site facilities after restoration
Specification G38 – Soil and Water Management	
1.2.7	Submission of evidence of appropriate Soil and Water Management Plan and Erosion and Sediment Control personnel
2.2	Submission of an ESCP(s)
3.1	Submission of written notice that measures set out in the ESCP for a section of the work have been installed
Specification G40 – Clearing and Grubbing	
2.4	Written notification of intention to clear any area including clearing and grubbing plan

Clause no.	Description
Specification R44 – Earthworks	
2.3.1	Removal of topsoil
2.3.2	Topsoil stockpiles
2.5.2	Management, stockpiling and removal of contaminated materials

Secondary NSW and Commonwealth CoA and REMMs

The primary NSW CoA and REMMs specifically relevant to the development of this Plan are listed in **Error! Reference source not found.** Table 1-1 and Table 1-2 respectively. Secondary conditions that are related, but not specific to, the development of this Plan have been listed in the tables below. A cross reference is also included to indicate where the CoA is addressed in this Plan or other Project management documents.

NSW CoA

CoA No.	Condition Requirements	EWEMP Reference
A1	The CSSI must be carried out in general accordance with the terms of this approval and in accordance with the description of the CSSI in the EIS, the Response to Submissions on the EIS, the Amendment Report and Response to Submissions on the Amendment Report	Section 1.1
	a) M12 Motorway Environmental Impact Statement (dated October 2019);	
	b) M12 Motorway Submissions Report (dated October 2020);	
	c) M12 Motorway Amendment Report (dated October 2020);	
	d) M12 Motorway Amendment Report - Submissions Report (dated December 2020); and	
	e) M12 Motorway Amendment Report - Submissions Report - Amendment (dated 8 March 2021).	
A2	The CSSI must only be carried out in accordance with all procedures, commitments, preventative actions, performance outcomes and mitigation measures set out in the documents listed in Condition A1 unless otherwise specified in, or required under, this approval.	Section 1.1
A3	In the event of an inconsistency between:	This EWEMP
	a) The terms of this approval and any document listed in Condition A1, the terms of this approval will prevail to the extent of the inconsistency; and	
	b) Any document listed in Condition A1 , the most recent document will prevail to the extent of the inconsistency.	

CoA No.	Condition Requirements	EWEMP Reference
A4	The Proponent must comply with all written requirements or directions of the Planning Secretary, including in relation to:	This EWEMP
	a) The environmental performance of the CSSI;	
	b) Any document or correspondence in relation to the CSSI (including the provision of such documentation or correspondence);	
	c) Any notification given to the Planning Secretary under the terms of this approval;	
	d) Any independent appointment or withdrawal of an appointment made in relation to the CSSI;	
	e) Any audit of the construction or operation of the CSSI;	
	f) The terms of this approval and compliance with the terms of this approval (including anything required to be done under this approval);	
	g) The carrying out of any additional monitoring or mitigation measures; and	
A5	Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken and submitted to the Planning Secretary, and the terms of this approval require the document, monitoring program or review to be prepared/undertaken in consultation with identified parties, evidence of the consultation must be submitted to the Planning Secretary with the relevant document, monitoring program or review. The evidence must include:	Section 1.8
	a) Documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;	Section 5.5.2
	b) A log of the dates of engagement or attempted engagement with the identified party;	Appendix A7
	c) Documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to	

CoA No.	Condition Requirements	EWEMP Reference
	engage or have not attempted to engage after repeated invitations;	
	d) Outline of the issues raised by the identified party and how they have been addressed; and	
	e) A description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	
A15	Construction ancillary facilities (excluding minor construction ancillary facilities established under Condition A20) that are not identified by description and location in the documents listed in Condition A1 may only be established and used in each case if:	Section 2.2 Appendix B1
	a) They are located within or immediately adjacent to the construction boundary; and	
	b) They are not located next to a sensitive receiver(s) (including where an access road is between the facility and the receiver(s)), unless the sensitive receiver(s) (both the landowner(s) and occupier(s)) have given written acceptance to the carrying out of the relevant facility in the proposed location; and	
	c) They have no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval; and	
	d) The establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of this approval, including in relation to environmental, social and economic impacts.	
A17	Where a construction ancillary facility(ies) has been established for any early works listed in Appendix B and is to be used for construction, a new or revised Site Establishment Management Plan must be prepared where additional activities are required to establish the site for the purposes of construction or there is a change to the site layout. The new or revised Site Establishment Management Plan must be prepared in accordance with Condition A16 and approved by the Planning Secretary before commencement of the additional activities or change to site layout.	Section 2.2 Appendix B1
A18	The use of a construction ancillary facility for construction (excluding minor construction ancillary facilities established under Condition A20 and construction ancillary facilities established for the purposes of early works in accordance with Condition A24) must not commence until the CEMP required by Condition C1, relevant CEMP Sub-plans required by Condition C4 and relevant Construction Monitoring Programs required by Condition C11 have been approved by the Planning Secretary. This condition does not apply to the use of construction ancillary facilities where the ER has determined that the use of the facility will	Section 2.2 Appendix B1

CoA No.	Condition Requirements	EWEMP Reference
	have a minimal impact on the environment and community.	
A19	Construction ancillary facilities established for the purposes of early works in accordance with Condition A24 cannot be used for construction until the CEMP required by Condition C1, relevant CEMP Sub-plans required by Condition C4 and relevant Construction Monitoring Programs required by Condition C11 have been approved by the Planning Secretary. This condition does not apply to the use of construction ancillary facilities where the ER has determined that the use of the facility will have a minimal impact on the environment and community.	Section 2.2 Appendix B1
A20	Lunch sheds, office sheds, portable toilet facilities, and the like, can be established and used where they have been assessed in the documents listed in Condition A1 or satisfy the following criteria:	Section 2.2 Appendix B1
	a) Are located within or adjacent to the construction boundary; and	
	b) Have been assessed by the ER to have -	
	i. Minor amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and	
	ii. Minor environmental impact with respect to waste management, soil, water and flooding, and	
	iii. No impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval.	
A21	Boundary screening must be erected around all construction ancillary facilities that are adjacent to sensitive receivers for the duration of construction of the CSSI unless otherwise agreed with affected residents, business operators and landowners.	Appendix B1
A22	Boundary screening required under Condition A21 of this approval must minimise, as far as practicable, visual impacts on adjacent sensitive receivers.	Appendix B1
A30	Work must not commence until an Environmental Representative (ER) has been approved by the Planning Secretary and engaged by the Proponent	Section 5.1.1

CoA No.	Condition Requirements	EWEMP Reference
A31	The Planning Secretary's approval of an ER must be sought no later than one (1) week before the commencement of Work.	Section 5.1.1
A32	The proposed ER must be a suitably qualified and experienced person who was not involved in the preparation of the documents listed in Condition A1, and is independent from the design and construction of the CSSI. The ER must meet the requirements set out in the Environmental Representative Protocol (Department of Planning and Environment, October 2018).	Section 1.9
A33	The Proponent may engage more than one ER for the CSSI, in which case the functions to be exercised by an ER under the terms of this approval may be carried out by any ER that is approved by the Planning Secretary for the purposes of the CSSI.	Section 1.9
A34	For the duration of Work until the commencement of operation, or as agreed with the Planning Secretary, the approved ER must:	Section 1.11 Section 5.1.1
	a) Receive and respond to communication from the Planning Secretary in relation to the environmental performance of the CSSI;	
	b) Consider and inform the Planning Secretary on matters specified in the terms of this approval;	
	c) Consider and recommend to the Proponent any improvements that may be made to work practices to avoid or minimise adverse impact to the environment and to the community;	
	d) Review the documents identified in Conditions A9, A13, A16, A24, C1, C4 and C11 and any other documents that are identified by the Planning Secretary, to ensure they are consistent with requirements in or under this approval and if so:	
	i. Make a written statement to this effect before submission of such documents to the Planning Secretary (if those documents are required to be approved by the Planning Secretary); or	
	ii. Make a written statement to this effect before the implementation of such documents (if those documents are required to be submitted to the Planning Secretary / Department for information or are not required to be submitted to the Planning Secretary / Department);	
	e) Regularly monitor the implementation of the documents listed in Conditions A9, A13, A16, A24, C1, C4 and C11 to ensure implementation is being carried out in accordance with the documents and the terms of this approval;	

CoA No.	Condition Requirements	EWEMP Reference
	f) As may be requested by the Planning Secretary, help plan, attend or undertake audits of the CSSI commissioned by the Department including scoping audits, programming audits, briefings and site visits, but not independent environmental audits required under Conditions A38 and A41 of this approval;	
	g) As may be requested by the Planning Secretary, assist the Department in the resolution of community complaints;	
	h) Assess the impacts of minor construction ancillary facilities, as required by Condition A20 of this approval;	
	i) Consider any minor amendments to be made to the CEMP, CEMP Sub-plans, Construction Monitoring Programs, Site Establishment Management Plans and Early Works Environmental Management Plan that involve updating or are of an administrative nature and do not increase impacts to nearby sensitive receivers, and ensure they are consistent with the terms of this approval and the documents approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval;	
	j) Prepare and submit to the Planning Secretary and relevant regulatory agencies (where requested by those agencies), for information, an Environmental Representative Monthly Report providing the information set out in the Environmental Representative Protocol under the heading "Environmental Representative Monthly Reports." The Environmental Representative Monthly Report must be submitted within seven (7) days following the end of each month for the duration of the ER's engagement for the CSSI.	
A35	The Proponent must provide the ER with all documentation requested by the ER in order for the ER to perform their functions specified in Condition A34 (including preparation of the ER monthly report), as well as:	Section 5.1.1
	a) The complaints register for any complaints received (on the day they are received); and	Section 5.5.3
	b) A copy of any assessment carried out by the Proponent of whether proposed Work is consistent with the approval (which must be provided to the ER before the commencement of the subject Work).	Section 5.1.1
A36	The Department must be notified in writing of the dates of commencement of early works, construction and operation at least one (1) month before those dates.	Section 1.9

CoA No.	Condition Requirements	EWEMP Reference
A44	The Planning Secretary must be notified in writing via the Major Projects Website as soon as possible and no later than 12 hours after the Proponent becomes aware of an incident. The notification must identify the CSSI (including the application number and the name of the CSSI) and the date, time, location and nature of the incident.	Section 6.4 Appendix A5 (Section 3.2.2)
A45	Subsequent notification must be given, and reports submitted to the Planning Secretary in accordance with the requirements set out in Appendix A.	Section 6.4 Appendix A5 (Section 3.2.2)
A46	The Planning Secretary must be notified in writing via the Major Projects website within seven (7) days after the Proponent becomes aware of any non-compliance.	Section 6.4 Appendix A5 (Section 3.2.2)
A47	A non-compliance notification must identify the CSSI and the application number for it, set out the condition of approval that the CSSI is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	Section 7.3.1 Appendix A5 (Section 3.2.2)
A48	A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section 6.4.1 Section 7.3.1 Appendix A5 (Section 3.2.1)
B1	A Communication Strategy must be prepared to provide mechanisms to facilitate communication about Work, construction and operation of the CSSI with:	Section 5.5.3
	a) The community (including adjoining affected landowners and businesses, and others directly impacted by the CSSI); and	
	b) The relevant councils and relevant government agencies.	

CoA No.	Condition Requirements	EWEMP Reference
	The Communication Strategy must address who (the Proponent, Independent Appointments and/or construction contractor) will engage with the community, relevant councils and agencies, how they will engage and the timing of engagements.	
B2	The Communication Strategy must:	Section 5.5.3
	a) Identify people, organisations, councils and agencies to be consulted during the design and Work phases;	
	b) Identify details of the community demographics;	
	c) Set out procedures and mechanisms for the regular distribution of accessible information, including to Language Other than English and Culturally and Linguistically Diverse and vulnerable communities, about or relevant to the CSSI;	
	d) Detail the measures for advising the community in advance of upcoming Work, including utility works and upcoming out-of-hours work as required by Condition E47;	
	e) Provide for the formation of issue or location-based community forums that focus on key environmental management issues of concern to the relevant community(ies); and	
	f) Set out procedures and mechanisms -	
	i. Through which the community can discuss or provide feedback to the Proponent 24 hours a day, seven days per week;	
	ii. Through which the Proponent will respond to enquiries or feedback from the community; and	
	iii. To resolve any issues and mediate any disputes that may arise in relation to the environmental management and delivery of the CSSI, including disputes regarding rectification or compensation.	
B3	The Communication Strategy must be submitted to the Planning Secretary for approval no later than one (1) month before the commencement of any Work.	Section 5.5.3

CoA No.	Condition Requirements	EWEMP Reference
B4	Work for the purposes of the CSSI must not commence until the Communication Strategy has been approved by the Planning Secretary.	Section 5.5.3
B5	The Communication Strategy, as approved by the Planning Secretary, must be implemented for the duration of Work and for 12 months following the completion of construction.	Section 5.5.3
B6	A Complaints Management System must be prepared and implemented before the commencement of any Work and maintained for the duration of construction and for a minimum for 12 months following completion of construction of the CSSI. The Complaints Management System must require complainants to be advised that:	Section 5.5.3
	a) The Complaints Register may be forwarded to Government agencies, including the Department, to allow them to undertake their regulatory duties;	
	b) By providing personal information, the complainant authorises the Proponent to provide that information to government agencies;	
	c) The supply of personal information by the complainant is voluntary; and	
	d) The complainant has the right to contact government agencies to access personal information held about them and to correct or amend that information (Collection Statement).	
	The Collection Statement must be included on the Proponent's or project website to make prospective complainants aware of their rights under the <i>Privacy and Personal Information Protection Act 1998</i> . For any complaints made in person, the complainant must be made aware of the Collection Statement.	Section 5.5.3 Section 5.5.4
B7	The following information must be available to facilitate community enquiries and manage complaints one (1) month before the commencement of Work and for 12 months following the completion of construction:	Section 5.5.3
	a) A 24- hour telephone number for the registration of complaints and enquiries about the CSSI;	Section 5.5.4
	b) A postal address to which written complaints and enquires may be sent;	Section 7.5

CoA No.	Condition Requirements	EWEMP Reference
	c) An email address to which electronic complaints and enquiries may be transmitted; and	
	d) A mediation system for complaints unable to be resolved.	
	This information must be accessible to all in the community regardless of age, ethnicity, disability or literacy level and must be provided on the website required under Condition B10.	
B8	A Complaints Register must be maintained recording information on all complaints received about the CSSI during the carrying out of any work and for a minimum of 12 months following the completion of construction. The Complaints Register must record the:	Section 5.5.3
	a) Number of complaints received;	
	b) The date and time of the complaint;	
	c) The method by which the complaint was made;	
	d) Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect	
	e) Nature of the complaint;	
	f) Means by which the complaint was addressed and whether resolution was reached, with or without mediation; and	
	g) If no action was taken, the reason(s) why no action was taken.	
B9	The Complaints Register must be provided to the Planning Secretary upon request, within the timeframe stated in the request.	Section 5.5.3
B10	A website or webpage providing information in relation to the CSSI must be established before commencement of Work and be maintained for the duration of construction, and for a minimum of 24 months following the completion of construction. The following up-to-date information (excluding confidential, private, commercial information or any other information that the Planning	Section 5.5.3

CoA No.	Condition Requirements	EWEMP Reference
	Secretary has approved to be excluded) must be published before the relevant Work commencing and maintained on the website or dedicated pages including:	Section 5.5.4
	a) Information on the current implementation status of the CSSI;	
	b) A copy of the documents listed in Condition A1 of this approval, and any documentation relating to any modifications made to the CSSI or the terms of this approval;	
	c) A copy of this approval in its original form, a current consolidated copy of this approval (that is, including any approved modifications to its terms), and copies of any approval granted by the Minister to a modification of the terms of this approval (ordered in a logical sequence and easy to navigate);	
	d) A copy of each statutory approval, licence or permit required and obtained in relation to the CSSI;	
	e) A current copy of the final version of each document required under the terms of this approval; and	
	f) A copy of the audit reports required under Conditions A38 and A41 of this approval.	
	Where the information / document relates to a particular Work or is required to be implemented, it must be published on the Proponent's website before the commencement of the relevant Work to which it relates or before its implementation.	
E1	In addition to the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1, all practicable measures must be implemented to minimise and manage the emission of dust and other air pollutants during the construction of the CSSI.	Appendix A8
E25	Construction and operation of the CSSI should aim to not diminish the potential of the following heritage items for nomination to the State Heritage Register beyond the impacts to significance already identified in the documents listed in Condition A1: McGarvie Smith Farm, McMaster Field Station and Fleurs Radio Telescope Site.	Appendix A4 Appendix A8

CoA No.	Condition Requirements	EWEMP Reference
E31	An Unexpected Heritage Finds and Human Remains Procedure must be prepared to manage unexpected heritage finds in accordance with any guidelines and standards prepared by the Heritage Council of NSW and Heritage NSW. The Procedure must be prepared in consultation with Heritage NSW and form part of the Heritage CEMP Sub Plan required by Condition C4.	Appendix B4
E32	The Unexpected Heritage Finds and Human Remains Procedure, as submitted to the Planning Secretary, must be implemented for the duration of Work.	Appendix B4
E33	Where previously unidentified Aboriginal objects are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects must not recommence until Heritage NSW has been informed. The measures to consider and manage this process must be specified in the Unexpected Heritage Finds and Human Remains Procedure required by Condition E31 and include registration in the Aboriginal Heritage Information Management System (AHIMS).	Appendix B4
E34	Work must only be undertaken during the following hours:	Section 5.4.1
	a) 7:00 am to 6:00 pm Mondays to Fridays, inclusive;	
	b) 8:00 am to 6:00 pm Saturdays; and	
	c) At no time on Sundays or public holidays.	
E35	Except as permitted by an EPL, highly noise intensive works that result in an exceedance of the applicable noise management level (NML) at the same receiver must only be undertaken:	Section 5.4.1
	a) Between the hours of 8:00 am to 6:00 pm Monday to Friday;	
	b) Between the hours of 8:00 am to 1:00 pm Saturday; and	
	c) If continuously, then not exceeding three hours, with a minimum cessation of work of not less than one hour.	
	For the purposes of this condition, 'continuously' includes any period during which there is less than one hour between ceasing and	

CoA No.	Condition Requirements	EWEMP Reference
	recommencing any of the Work.	
E36	Notwithstanding Condition E34 and E35, Work may be undertaken outside the hours specified in any of the following circumstances:	Section 5.4.2
	a) Safety and Emergencies, including:	
	i. For the delivery of materials required by the NSW Police Force or other authority for safety reasons; or	
	ii. Where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm.	
	On becoming aware of the need for emergency work in accordance with Condition E36(a), the Proponent must notify the ER, the Planning Secretary and the EPA of the reasons for such emergency work. The Proponent must use best endeavours to notify all noise and/or vibration affected sensitive land user(s) of the likely impact and duration of the emergency work.	
	b) Work that causes:	
	i. LAeq(15 minute) noise levels: <ul style="list-style-type: none"> No more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, and No more than the 'Noise affected' NMLs specified in Table 3 of the ICNG at other sensitive land user(s); and 	
	ii. LAFmax(15 minute) noise levels no more than 15 dB(A) above the rating background level at any residence during the night time period; and	
	iii. Continuous or impulsive vibration values, measured at the most affected residence, that are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of <i>Assessing Vibration: a technical guideline</i> (DEC, 2006); and	

CoA No.	Condition Requirements	EWEMP Reference
	iv. Intermittent vibration values measured at the most affected residence that are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of <i>Assessing Vibration: a technical guideline</i> (DEC, 2006).	
	c) By Approval, including:	
	i. Where different construction hours are permitted or required under an EPL in force in respect of the CSSI; or	
	ii. Works which are not subject to an EPL that are approved under an Out-of-Hours Work Protocol as required by Condition E37; or	
	iii. Negotiated agreements with directly affected residents and sensitive land user(s).	
E37	An Out-of-Hours Work Protocol must be prepared to identify a process for the consideration, management and approval of Work which is outside the hours defined in Condition E34, and that are not subject to an EPL. The Protocol must be approved by the Planning Secretary before commencement of the out-of-hours Work. The Protocol must be prepared in consultation with the ER. The Protocol must provide:	Section 5.4.2 Out of Hours Protocol
	a) Identification of low and high-risk activities and an approval process that considers the risk of activities, proposed mitigation, management, and coordination, including where:	
	i. The ER reviews all proposed out-of-hours activities and confirm their risk levels,	
	ii. Low risk activities can be approved by the ER, and	
	iii. High risk activities that are approved by the Planning Secretary;	
	b) A process for the consideration of out-of-hours work against the relevant NML and vibration criteria;	
	c) A process for selecting and implementing mitigation measures for residual impacts in consultation with the community at each affected location, including respite periods consistent with the requirements of Condition E47. The measures must take into account the predicted noise levels and the likely frequency and duration of the out-of-hours works that sensitive land user(s) would be exposed to, including the number of noise awakening events;	

CoA No.	Condition Requirements	EWEMP Reference
	d) Procedures to facilitate the coordination of out-of-hours Work including those approved by an EPL or undertaken by a third party, to ensure appropriate respite is provided; and	
	e) Notification arrangements for affected receivers for all approved out-of-hours Work and notification to the Planning Secretary of approved low risk out-of-hours Work.	
	This condition does not apply to Work where the requirements of Condition E36(a) or (b) are met.	
E38	Mitigation measures must be implemented with the aim of achieving the following construction noise management levels and vibration objectives:	Section 4.1.2 Section 4.1.3 Appendix A8
	a) Construction 'Noise affected' NML established using the Interim Construction Noise Guideline (DECC, 2009);	
	b) Vibration criteria established using the <i>Assessing vibration: a technical guideline</i> (DEC, 2006) (for human exposure);	
	c) BS 7385 Part 2-1993 " <i>Evaluation and measurement for vibration in buildings Part 2</i> " as they are "applicable to Australian conditions"; and	
	d) The vibration limits set out in the German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures (for structural damage).	
	Any construction or early works identified as exceeding the noise management levels and/or vibration criteria must be managed in accordance with the respective Noise and Vibration CEMP Sub-plan or Early Works Environmental Management Plan. <i>Note: The ICNG identifies 'particularly annoying' activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction NML.</i>	
E39	Noise generating work in the vicinity of potentially-affected community, religious, educational institutions, noise and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres) resulting in noise levels above the NMLs must not be timetabled within sensitive periods, unless offers of other reasonable arrangements have been made to the affected institutions and are implemented at no cost to the affected institution.	Section 4.1.2

CoA No.	Condition Requirements	EWEMP Reference
E40	Noise and Vibration Impact Statements (NVIS) must be prepared for any Work that may exceed the noise management levels and vibration criteria specified in Condition E38 at any residence outside the construction hours identified in Condition E34, or where receivers will be highly noise affected. The NVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. A copy of the NVIS must be provided to the ER prior to the commencement of the associated Work. The Planning Secretary may request a copy/ies of the NVIS.	Section 4.1.2
E41	Owners and occupiers of properties at risk of exceeding the screening criteria for cosmetic damage must be notified before Work that generates vibration commences in the vicinity of those properties. If the potential exceedance is to occur more than once or extend over a period of 24 hours, owners and occupiers must be provided with a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier. These properties must be identified and considered in the Noise and Vibration CEMP Sub-plan required by Condition C4 and the Communication Strategy required by Condition B1.	Section 4.1.2 Section 4.1.3
E42	The Proponent must conduct vibration testing during vibration generating activities that have the potential to impact on heritage items to identify minimum working distances to prevent cosmetic damage. In addition, vibration monitoring must be undertaken during construction for relevant remaining Fleurs Radio Telescope structures, the Upper Canal (in consultation with WaterNSW) and McMaster Farm and McGarvie-Smith Farm group of remaining buildings. In the event that the vibration testing and attended monitoring shows that the preferred values for vibration are likely to be exceeded, the Proponent must review the construction methodology and, if necessary, implement additional mitigation measures.	Appendix A4 Appendix A8
E43	Advice from a heritage specialist must be sought on methods and locations for installing equipment used for vibration, movement and noise monitoring at heritage-listed structures.	Appendix A4 Appendix A8
E44	Before conducting at-property treatment at any heritage item identified in the documents listed in Condition A1, the advice of a suitably qualified and experienced built heritage specialist must be obtained and implemented to ensure such work does not have an adverse impact on the heritage significance of the item.	Appendix A4 Appendix A8
E45	All Work undertaken for the delivery of the CSSI, including that undertaken by third parties (such as utility relocations), must be coordinated to ensure respite periods are provided. The Proponent must:	Section 4.1.4

CoA No.	Condition Requirements	EWEMP Reference
	a) Reschedule any work to provide respite to impacted noise sensitive land user(s) so that the respite is achieved in accordance with Condition E47; or	Appendix A8
	b) Where respite outlined in Condition E47 cannot be achieved, consider the provision of alternative respite or mitigation to impacted noise sensitive land user(s); and	
	c) Provide documentary evidence to the ER in support of any decision made by the Proponent in relation to respite or mitigation.	
	The consideration of respite must also include all other CSSI, SSI and SSD projects which may cause cumulative and/or consecutive impacts at receivers affected by the delivery of the CSSI.	
E46	Mitigation measures such as temporary alternative accommodation or other agreed mitigation measures, must be offered/ made available to residents affected by out-of-hours Work (including where utility works are being undertaken for the CSSI or under a road occupancy licence) where the construction noise levels between:	Appendix A8
	a) 10:00 pm and 7:00 am, Monday to Friday;	
	b) 10:00 pm Saturday to 8:00 am Sunday; and	
	c) 6:00 pm Sunday and public holidays to 7:00 am the following day unless that day is Saturday then to 8:00 am, are predicted to exceed the NML by 25 dB(A) or are greater than 75 dBA (LAeq(15 min)), whichever is the lesser and the impact is planned to occur for more than two (2) nights over a seven (7) day rolling period.	
	The NML must be reduced by 5 dB where the noise contains annoying characteristics and may be increased by 10 dB if the property has received at-property noise treatment. The noise levels and duration requirements identified in this condition may be changed through an EPL applying to the CSSI.	
E47	In order to undertake out-of-hours Work outside the hours specified under Condition E34, the Proponent must identify appropriate respite periods for the out-of-hours work in consultation with the community at each affected location on a regular basis.	Section 5.4.2
	This consultation must include (but not be limited to) providing the community with:	Appendix A8

CoA No.	Condition Requirements	EWEMP Reference
	a) A progressive schedule for periods no less than three (3) months, of likely out-of-hours Work;	
	b) A description of the potential Work, location and duration of the out-of-hours Work;	
	c) The noise characteristics and likely noise levels of the Work; and	
	d) Likely mitigation and management measures which aim to achieve the relevant noise management levels and vibration criteria under Condition E38(a) and (b) (including the circumstances of when respite or relocation offers will be available and details about how the affected community can access these offers).	
	The outcomes of the community consultation, the identified respite periods and the scheduling of the likely out-of-hour Work must be provided to the ER, EPA and the Planning Secretary for information prior to Work scheduled for the subject period being undertaken. <i>Note: Respite periods can be any combination of days or hours where out-of-hours work would not be more than 5 dB(A) above the rating background noise level at any residence.</i>	
E62	The CSSI must be constructed and operated with the objective of minimising light spillage to surrounding properties. All lighting associated with the construction and operation of the CSSI must be consistent with the requirements of <i>Australian Standard 4282-2019 Control of the obtrusive effects of outdoor lighting</i> , relevant Australian Standards in the series <i>AS/NZ 1158 – Lighting for Roads and Public Spaces</i> , and the <i>National Airports Safeguarding Framework (NASF) Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports</i> .	Appendix A8
E75	The Proponent must identify the utilities and services (hereafter “services”) potentially affected by Work to determine requirements for diversion, protection and/or support. Alterations to services must be determined by negotiation between the Proponent and the service providers. The Proponent in consultation with service providers must ensure that disruption to services resulting from the CSSI are avoided where possible and where unavoidable, customers are advised in accordance with the Communication Strategy required under Condition B1.	Section 1.8 Section 5.5.3 Appendix A8
E76	The Proponent must offer pre-construction surveys to the owners of surface and sub-surface structures and other relevant assets identified at risk from vibration, including all listed heritage items and buildings/structures of heritage significance as identified in the documents listed in Condition A1. Where the offer is accepted, the survey must be undertaken by a suitably qualified and experienced engineer and/or building surveyor prior to the commencement of vibration- generating works that could impact on the structure/asset. The results of each	Section 4.1.1 Appendix A8

CoA No.	Condition Requirements	EWEMP Reference
	survey must be documented in a Pre-construction Condition Survey Report and the report must be provided to the owner of the item(s) surveyed no later than one (1) month before the commencement of all other potentially impacting works.	Early Works activities are not expected to impact heritage sites
E83	Any property access that is physically affected by the CSSI must be reinstated to at least an equivalent standard, in consultation with the landowner or alternative access provided in consultation with the landowner.	Appendix B1
E84	All reasonably practicable erosion and sediment controls must be installed and appropriately maintained to minimise water pollution. When implementing such controls, any relevant guidance in the <i>Managing Urban Stormwater, Soils and Construction Vol.1 (Landcom, 2004)</i> and <i>Vol. 2D Main Road Construction</i> (DECC, 2008) must be considered.	Section 3.3.4 Appendix A8
E85	<p>Prior to the commencement of any Work that would result in the disturbance of potential or contaminated soils, materials, groundwater or sediments, a Detailed Site Investigation Report(s) must be prepared, or reviewed and approved, by consultants certified under either the Environment Institute of Australia and New Zealand's Certified Environmental Practitioner (Site Contamination) scheme (CEnvP(SC)) or the Soil Science Australia Certified Professional Soil Scientist Contaminated Site Assessment and Management (CPSS CSAM) scheme. The Detailed Site Investigation Report(s) must be prepared in accordance with guidelines made or approved under section 105 of the <i>Contaminated Land Management Act 1997</i>.</p> <p><i>Note: Where Preliminary and Detailed Site Investigations have already been undertaken for contaminated soils, materials, groundwater or sediments they do not need to be undertaken again for the purposes of this condition.</i></p>	<p>Appendix A8</p> <p>Not required for Early Works</p>
E86	The Detailed Site Investigation Report(s) must provide details on:	<p>Appendix A8</p> <p>Not required for Early Works</p>
	a) Primary sources of contamination, for example potentially contaminating activities, infrastructure (such as underground storage tanks, fuel line, sumps or sewer lines) or site practices	
	b) Contaminant dispersal in air, hazardous ground gases, surface water, groundwater, soil vapour, separate phase contaminants, sediments, infrastructure (e.g. concrete), biota, soil and dust	
	c) Contaminant characterisation and behaviour (volatility, leachability, speciation, degradation products and physical and chemical conditions on-site which may affect how contaminants behave);	

CoA No.	Condition Requirements	EWEMP Reference
	d) Potential effects of contaminants on human health, including the health of occupants of built structures (for example arising from risks to service lines from hydrocarbons in groundwater, or risks to concrete from acid sulphate soils) and the environment;	
	e) Potential and actual contaminant migration routes including potential preferential pathways;	
	f) The adequacy and completeness of all information available for use in the assessment of risk and for making decisions on management requirements, including an assessment of uncertainty	
	g) The review and update of the conceptual site model from the preliminary and detailed site investigations;	
	h) Nature and extent of any existing remediation (such as impervious surface cappings); and/or	
	i) Whether the land is suitable (for the intended final land use) or can be made suitable through remediation.	
E89	An Unexpected Contaminated Land and Asbestos Finds Procedure must be prepared before the commencement of Work and must be followed should unexpected contaminated land or asbestos (or suspected contaminated land or asbestos) be excavated or otherwise discovered during Work. The procedure must include details of who will be responsible for implementing the unexpected finds procedure and the roles and responsibilities of all parties involved.	Appendix B3
E90	The Unexpected Contaminated Land and Asbestos Finds Procedure must be implemented throughout the duration of Work.	Appendix B3
E93	The Planning Secretary's approval is required before any heavy vehicles used for spoil and fill haulage or concrete deliveries (for the purpose of the CSSI) are driven on local roads within one (1) kilometre of early works, construction and construction ancillary facilities and that are not identified for use by heavy vehicles in the documents listed in Condition A1. The local roads must be identified in the Early Works Environment Management Plan and Traffic Management CEMP Sub-plan.	Section 7.5
E94	All requests to the Planning Secretary for approval to use local roads in accordance with Condition E93, must include a traffic and pedestrian impact assessment and be prepared in consultation with the relevant local council(s). The assessment must be undertaken by an appropriately qualified and experienced person and must include a swept path analysis if required by the Department. The traffic and pedestrian impact assessment must:	Section 7.5 Appendix A8
	a) Demonstrate that the use of local roads will not compromise the safety of the public and have no more than minimal amenity	

CoA No.	Condition Requirements	EWEMP Reference
	impacts;	
	b) Provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	
	c) Describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and childcare facilities during peak times for operation.	
	The outcomes and recommendations of the traffic and pedestrian impact assessment must be incorporated into the Site Establishment Management Plan or Traffic Management CEMP Sub-plan as relevant.	Appendix A8 Appendix B1
E95	Before any local road is used by a heavy vehicle for the purposes of the CSSI, a Road Dilapidation Report must be prepared for the road unless otherwise agreed by the relevant road authority. A copy of the Road Dilapidation Report must be provided to the relevant road authority within three (3) weeks of completion of the survey and at least two (2) weeks before the road is used by heavy vehicles associated with the construction of the CSSI.	Appendix A8
	If damage to roads occurs as a result of the construction of the CSSI, the Proponent must rectify the damage to restore the road to at least the condition it was in pre-construction in consultation with the relevant road authority. Rectification works must be undertaken within three (3) months of the subject road no longer being used for the construction of the CSSI unless an alternative timeframe is agreed to by the relevant road authority.	
E96	During construction, all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, residences, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected residents, businesses and affected property owners and implemented before the disruption. Adequate signage and directions to businesses must be provided before, and for the duration of, any disruption.	Appendix A8
E99	Safe pedestrian and cyclist access must be maintained around work sites during Work. In circumstances where pedestrian and cyclist access is restricted or removed due to Work, an alternate route which complies with the relevant standards must be provided and signposted.	Appendix A8
	Waste generated during Work and operation must be dealt with in accordance with the following priorities:	

CoA No.	Condition Requirements	EWEMP Reference
E100	a) Waste generation must be avoided and where avoidance is not reasonably practicable, waste generation must be reduced;	Appendix A8 Appendix A9
	b) Where avoiding or reducing waste is not possible, waste must be re-used, recycled, or recovered; and	
	c) Where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	
E101	The importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste must comply with the conditions of an EPL for the CSSI, or be done in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, as the case may be.	Appendix A8 Appendix A9
E102	Waste must only be exported to a site licensed by the EPA for the storage, treatment, processing, reprocessing or disposal of the subject waste, or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste, except in accordance with Condition E15.	Appendix A8 Appendix A9
E103	All waste generated by Works must be classified in accordance with the EPA's Waste Classification Guidelines, with appropriate records and disposal dockets retained for audit purposes.	Section 7.5
E104	The Proponent must develop and implement a waste tracking register prior to waste generated by Work that details:	Section 7.5 Appendix A8 Appendix A9
	a) The quantity of each type of waste generated, its classification and source location (recorded using latitude and longitude coordinates);	
	b) The destination location(s) for all wastes generated during Work;	
	c) The quantities of any waste types imported onto the CSSI site, including their classification and emplacement location (recorded using latitude and longitude coordinates);	
	d) The quantities and types of wastes that are subject to a Resource Recovery Order and/or Exemption; and	
	e) Disposal records demonstrating that receiving facilities have lawfully accepted the waste type	
	The waste tracking register must be made available to the Planning Secretary and EPA on request, within the timeframe stated in the	

CoA No.	Condition Requirements	EWEMP Reference
	request.	

REMMs

Secondary REMMs related, but not specific to the development of this Plan are listed in the table below. A cross reference is also included to indicate where the REMM is addressed in this Plan or other Project management documents.

ID	Measure/requirement	Timing	EWEMP Reference
G01	A Community Communication Strategy will be prepared for the project to facilitate communication with the local community including relevant Government agencies, Councils, adjoining affected landowners and businesses, and other relevant stakeholders that may be affected by the project. The strategy will:	Prior to construction	Section 1.8 Section 5.5.3 Appendix A7
	<ul style="list-style-type: none"> Identify people or organisations to be consulted during the delivery of the project 		
	<ul style="list-style-type: none"> Set out procedures and mechanisms for the regular distribution of information about the project 		
	<ul style="list-style-type: none"> Outline mechanisms to keep relevant stakeholders updated on site construction activities, schedules and milestones 		
	<ul style="list-style-type: none"> Outline avenues for the community to provide feedback (including a 24-hour, toll free project information and complaints line) or to register complaints and through which TfNSW will respond to community feedback 		
	<ul style="list-style-type: none"> Outline a process to resolve complaints and issues raised. 		

ID	Measure/requirement	Timing	EWEMP Reference
	The Community Communication Strategy will include a Construction Fatigue Protocol to minimise impacts associated with construction fatigue. The Protocol will include consideration of noise attenuation and restriction of out-of-hours work or use of noise intensive equipment where reasonable and feasible.		
B19	Emergency response protocols and procedures will be included in the Project CEMP and implemented in the event of a contaminant spill or leak.	During construction	Section 6 Appendix A5
B20	Spill kits will be located to allow for timely response to uncontained spills. Site inductions will include a briefing on the use of spill kits.	During construction	Section 6.1 Section 5.3.2
TT03	Movements of haulage vehicles will be planned to minimise movements on the road network during the AM and PM peak periods where practicable.	Prior and during construction	Appendix A8
TT07	Existing property access would be maintained at all times.	Detailed design Prior and during construction	Appendix A8
	Any changes to access arrangements or alternative access that are necessary during construction will be done with consultation with the landowner. Any changes to access will provide the same equivalent pre-existing level of access unless agreed to by the land owner. Property access that is physically affected by the project will be reinstated to at least an equivalent standard, in consultation with the landowner.		
LVIA05	Project elements such as ancillary facility hoardings will be designed and maintained to minimise impacts on landscape character and visual amenity. This will include selecting colours and materials that are visually recessive and blend into the surrounding landscape where practicable, and the prompt removal of graffiti	Detailed design, prior to construction and during construction	Appendix B1
LVIA07	Temporary and permanent lighting will be designed and implemented with consideration of:	Detailed design, prior to construction	Appendix B1 Appendix A8
	<ul style="list-style-type: none"> The need to orientate lighting to minimise light spill and glare impacts on nearby receivers 		

ID	Measure/requirement	Timing	EWEMP Reference
	<ul style="list-style-type: none"> The need to minimise vandalism and maintenance requirements 	and during construction	
	<ul style="list-style-type: none"> Requirements of the National Airports Safeguarding Framework (NASF) (National Airports Safeguarding Advisory Group, n.d.) for operational lighting 		
	<ul style="list-style-type: none"> Opportunities to implement sustainability initiatives in design such as energy efficient or solar lighting 		
SLP01	Areas of land leased for the purposes of construction will be reinstated at the end of the lease to at least equivalent standard in consultation with the landowner	During construction	Appendix B1
SLP02	All partial and full acquisitions and associated property adjustments will be carried out in accordance with the requirements of the Land Acquisition (Just Terms Compensation) Act 1991 and the Land acquisition reform 2016 in consultation with landowners.	Prior to construction	Appendix B1
SLP04	Property adjustments, including replacement of farm infrastructure (such as fencing) and relocation of property access, prior to work that impact the property will be carried out in consultation with property owners/ business managers.	Prior and during construction	Appendix B1
SLP06	Utility owners and/or providers of services will be identified and consulted with before works start, to determine the requirements for access to, protection of, or relocation of services. Disruption to existing services will be minimised where feasible and local residents and businesses will be notified before any planned disruption.	Prior to construction	Appendix A8 Appendix B1
NV03	Detailed noise assessments will be carried out for ancillary facilities with the potential to involve high noise generating activities (including batching plant operations). The assessments will consider the proposed site layouts and noise generating activities that will occur at the facilities and assess predicted noise levels against the relevant noise management criteria.	Prior to construction	Section 4.1.3

ID	Measure/requirement	Timing	EWEMP Reference
	The assessments will also consider the requirement for appropriate noise mitigation within ancillary facilities and adjacent to construction works, depending on the predicted noise levels. Any mitigation measures required will be implemented before the start of activities that generate noise and vibration impacts.		Appendix A8
NV06	Activities that generate vibration will be managed to avoid impacts on structures and sensitive receivers. This includes implementing appropriate safe working distances where practicable.	Prior and during construction	Section 4.1.2
NV07	The use of alternatives to vibration generating equipment will be considered where vibration impacts are predicted.	During construction	Appendix A8
NV12	Construction vehicle movements (both on and offsite) will be managed to minimise noise impacts. Where feasible, this will include (but not be limited to):	During construction	Appendix A8
	<ul style="list-style-type: none"> Establishment and use of internal haul routes, or existing major roads where this is not feasible 		
	<ul style="list-style-type: none"> Restriction of heavy vehicle movements to standard construction hours 		
	<ul style="list-style-type: none"> Locating traffic marshalling areas away from residences to minimise noise impacts from idling vehicles Instructing workers on the operation of heavy vehicles entering and exiting the site to minimise noise. 		
NV13	The likelihood of cumulative construction noise impacts will be considered during detailed design when detailed construction schedules of other projects are available. Construction works will be scheduled with the aim of minimising concurrent works near sensitive receivers where possible in consultation with managers of other nearby projects that are likely to result in a cumulative impact. This will include the coordination of respite between the various construction projects where receivers are likely to experience concurrent construction impacts where feasible. Coordination between project teams would be carried out throughout construction.	Prior and during construction	Section 4.1.4 Appendix A8

ID	Measure/requirement	Timing	EWEMP Reference
SWH01	A construction soil and water management plan (CSWMP) will be prepared for the project. The plan will outline measures to manage soil and water impacts associated with the construction works, including contaminated land. The CSWMP will provide:	Prior to construction	Section 3.3.4 Section 3.3.5 Appendix A8
	<ul style="list-style-type: none"> Measures to minimise/manage erosion and sediment transport both within the construction footprint and offsite including requirements for the preparation of erosion and sediment control plans (ESCP) for all progressive stages of construction 		Appendix A8
	<ul style="list-style-type: none"> Measures to manage waste including the classification and handling of spoil 		Appendix A8 Appendix B3
	<ul style="list-style-type: none"> Procedures to manage unexpected contaminated finds including asbestos which would be outlined in the contaminated land management plan and asbestos management plan to be prepared for the project 		Section 3.3.4 Section 3.3.6 Appendix A8
	<ul style="list-style-type: none"> Measures to manage stockpiles including locations, separation of waste types, sediment controls and stabilisation 		Section 3.3.5 Appendix A8
	<ul style="list-style-type: none"> Measures to manage groundwater de-watering and impacts including mitigation required 		Section 3.3.5
	<ul style="list-style-type: none"> Processes for de-watering of water that has accumulated on site and from sediment basins, including relevant discharge criteria 		Section 3.3.7 Appendix A8
	<ul style="list-style-type: none"> Measures to manage potential tannin leachate 		Appendix A8
	<ul style="list-style-type: none"> Measures to manage accidental spills including the requirement to maintain materials such as spill kits 		Appendix A8
	<ul style="list-style-type: none"> Measures to manage potential saline soils 		Appendix A8

ID	Measure/requirement	Timing	EWEMP Reference
	<ul style="list-style-type: none"> Details of surface water and groundwater quality monitoring to be carried out before, throughout, and following construction 		Appendix A8
	<ul style="list-style-type: none"> Controls for sensitive receiving environments including SEPP Coastal Wetlands which may include but not be limited to: <ul style="list-style-type: none"> Designation of 'no go' zones for construction plant and equipment Creation of catch/diversion drains and sediment fences at the downstream boundary of construction activities where practicable to ensure containment of sediment-laden runoff and diversion toward sediment sump treatment areas (not sediment basins) to prevent flow of runoff to the SEPP Coastal Wetland. 		N/A
			Appendix B1
	<ul style="list-style-type: none"> Erosion and sediment control measures will be implemented and maintained at all work sites in accordance with the principles and requirements in Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom 2004) and Volume 2D (NSW Department of Environment, Climate Change and Water 2008), commonly referred to as the "Blue Book", as well as relevant TfNSW Guidelines. 		Section 3.3.4
SWH04	Stockpiles will be managed to minimise the potential for mobilisation and transport of dust and sediment in runoff in accordance with TfNSW Stockpile Sites Management Guideline (Roads and Maritime, 2015). This will include:	During construction	Section 3.3.6 Appendix A8
	<ul style="list-style-type: none"> Minimising the number of stockpiles, area used for stockpiles, and time that they are left exposed 		
	<ul style="list-style-type: none"> Locating stockpiles away from drainage lines, waterways and areas where they may be susceptible to wind erosion 		
	<ul style="list-style-type: none"> Stabilising stockpiles, establishing appropriate sediment controls and suppressing dust as required. 		
AQ02	Dust generation will be minimised during construction where possible. Where practicable, specific measures will include (but not be limited to):	During construction	Section 3.3.3 Section 3.3.4

ID	Measure/requirement	Timing	EWEMP Reference
	<ul style="list-style-type: none"> Regularly watering exposed and disturbed areas including stockpiles, especially during inclement weather conditions 		Section 3.3.5 Appendix A8
	<ul style="list-style-type: none"> Adjusting the intensity of activities based on measured and observed dust levels, weather forecasts and the proximity of and direction of the works in relation to the nearest surrounding receivers 		Appendix A8 Appendix B1
	<ul style="list-style-type: none"> Ensuring loads are covered, and any loose materials/debris are removed before vehicles exit the site 		Appendix A8 Appendix B1
	<ul style="list-style-type: none"> Minimising the number of stockpiles and amount of material stockpiled where practicable 		Section 3.3.5 Appendix A8
	<ul style="list-style-type: none"> Positioning stockpiling areas as far as possible from surrounding receivers, including potentially ecologically sensitive receivers 		Section 3.3.5 Appendix A8
	<ul style="list-style-type: none"> Limiting stockpiling activities during conditions where winds are blowing strongly in the direction(s) from the stockpiling location to nearby receivers 		Section 3.3.5
	<ul style="list-style-type: none"> Consultation with nearby developers to co-ordinate and plan activities where practicable to minimise the potential for cumulative dust-related impacts 		Appendix B1
	<ul style="list-style-type: none"> The planning and undertaking of demolition activities, including the removal of hazardous building materials in a manner that minimises dust generation. This will also include the removal of hazardous building materials before the start of general demolition works. 		Appendix B1
HS02	Measures to mitigate and manage bushfire risk will be developed and included as part of site specific hazard and risk management measures within the WHSMP. Measures will include the maintenance of ancillary facilities in a tidy and orderly manner and the storage and management of dangerous goods and hazardous materials in a safe location.	Prior to construction	Appendix B1 Appendix A8

ID	Measure/requirement	Timing	EWEMP Reference
HS03	An incident response management plan will be developed and implemented. The response to incidents within the road will be managed in accordance with the memorandum of understanding between TfNSW and the NSW Police Service, NSW Rural Fire Service, NSW Fire Brigade and other emergency services.	Prior to construction	Section 6 Appendix A5 Appendix A8
HS04	Storage, handling and use of dangerous goods and hazardous substances would be in accordance with the Work Health and Safety Act 2011 and the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005).	During construction	Appendix A8
HS05	Secure, bunded areas will be provided around storage areas for oils, fuels and other hazardous liquids.	During construction	Appendix A8
HS06	Safety Data Sheets will be obtained for dangerous goods and hazardous substances stored onsite before their arrival.	During construction	Appendix A8
HS07	All hazardous substances will be transported in accordance with relevant legislation and codes, including the <i>Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998</i> and the ' <i>Australian Code for the Transport of Dangerous Goods by Road and Rail</i> ' (National Transport Commission, 2008).	During construction	Appendix A8
W03	Wherever feasible and reasonable, construction material will be sourced from within the Sydney region.	During construction	Appendix A8
W04	Suitable areas will be identified to allow for contingency management of unexpected waste materials, including contaminated materials. Suitable areas will be required to be hardstand or lined areas that are appropriately stabilised and bunded, with sufficient area for stockpile storage.	During construction	Appendix A8
GG03	Vegetation removal will be minimised where practicable.	Detailed design and during construction	EWFFMP Appendix A8

ID	Measure/requirement	Timing	EWEMP Reference
GG04	The procurement of goods and services will consider goods and services that:	Detailed design and during construction	Appendix A8
	<ul style="list-style-type: none"> Are from local suppliers 		
	<ul style="list-style-type: none"> Make use of recycled materials or materials with a low embodied energy content 		
	<ul style="list-style-type: none"> Are energy efficient or have low embodied energy 		
	<ul style="list-style-type: none"> Minimise the generation of waste. 		
GG05	Construction plant and equipment will be well maintained to maximise fuel efficiency.	Detailed design and during construction	Appendix A8
CU01	Regular consultation will be carried out with nearby/adjoining projects and key stakeholders during the detailed design and construction phase to review potential cumulative impacts and integrate designs and construction methodologies (including traffic impacts and noise management), as far as practicable to minimise cumulative impacts.	Detailed design and during construction	Section 1.8
CU02	Communication strategies across relevant TfNSW projects will be managed to be consistent in their messaging to the community to avoid confusion.	Detailed design and during construction	Section 5.5.3

Appendix A2

TfNSW Environment Policy

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys Creek

November 2021

Transport for New South Wales

Environment Policy

Purpose

This Policy sets out the minimum mandatory requirements for the management of environmental risks and impacts from our construction activities.

Application

This Policy applies to all business entities controlled by the business, including alliances, joint ventures and consortia where the business exerts management control. It applies at all levels of the organisation including Corporate, Business Unit and Project.

Minimum Requirements

- Senior leaders must demonstrate a personal visible commitment to our SH&E Cultural Framework and ensure all workers understand the requirements of the Management System as it applies to the work they are undertaking, so that work is undertaken to minimise our environmental impact.
- Environment Management Plans (EMP) must be developed and implemented for each Project to outline how the project environmental risk will be managed and controlled.
- Environmental objectives, targets and key performance indicators must be established at all levels of the organisation, with performance against these monitored and analysed to provide a baseline for continual improvement.
- The Environment Procedures must be used to eliminate or minimise environmental risk from construction activities.
- Construction Area Plans and Work Packs must be developed and include an assessment of environmental risk and associated controls.
- Site Environment Plans must be developed for Work Packs where environmental risk dictates; these must be used to inform as content of Daily Pre Starts.
- As part of the risk management process, personnel and teams at the Project, Business Unit and Corporate level should seek to identify opportunities for improving efficiency in the use of natural resources, enhancing positive environmental impacts and driving innovation.
- All environmental incidents must be reported in accordance with the incident notification requirements. They must be thoroughly investigated and appropriate corrective action undertaken with the aim of preventing recurrence of the incident.
- Reporting of energy consumption, water use and waste generation, as well as reporting on initiatives and environmental achievements must be completed by projects and business units as requested.

- All levels of the organisation must be prepared to respond to an emergency and in the event of an emergency, plans and capabilities are in place to eliminate or minimise damage to the environment, preserve ongoing operations and our reputation.
- Effective communication, cooperation and consultation channels must be in place to consult with workers who may impact upon the environment.
- All project personnel responsible for environmental risk shall be appropriately trained and competent and understand their legal obligations with regard to environment management.

Transport Environment and Sustainability Policy

Transport is a key enabler of economic and social activity. We are committed to delivering transport which contributes to economic prosperity and social inclusion in an environmentally responsible and sustainable manner, consistent with the Future Transport Strategy 2056.

Transport for NSW's activities cover the whole State and its infrastructure will last for generations to come. We have a duty to undertake our activities in the interest of the greater good, moving beyond compliance, and being a genuine leader in environment and sustainability performance.

We will work towards achieving this for NSW by:

- Leadership – contributing to and influencing the strategic environment and sustainability agenda of the NSW Government
- Environmental protection – being accountable for addressing and minimising the environmental impacts of our activities to satisfy the expectations and legislative requirements of the NSW Government and community
- Energy and carbon – improving energy efficiency and working towards net zero carbon emissions
- Resilience – embedding climate risk and resilience considerations in our activities
- Sustainable procurement – procuring and delivering sustainable, efficient and cost effective transport options, including responsible supply chains
- Whole of life – considering whole of life benefits and impacts from our activities across all life cycle stages - demand/need, plan, acquire, operate/maintain and disposal
- Social – recognising the social impacts and benefits of our activities, and working for healthy liveable communities
- Awareness – raising the awareness and capacity of our workforce to be accountable for implementing the Policy through their activities to achieve enhanced environmental outcomes and a culture of environmental responsibility
- Communication – communicating openly, responsively and empathetically with our customers, partners and stakeholders on environmental matters and report on our performance

This Policy applies to the agencies listed below:

- Transport for NSW
- Department of Transport
- Sydney Trains
- NSW Trains
- RailCorp
- State Transit Authority
- Sydney Metro

This Policy applies to permanent, temporary and casual staff of the above agencies, staff seconded from another organisation and contingent workers including labour hire, professional services contractors and consultants.



Rodd Staples
Secretary

13 January 2020

Appendix A3

Document Register Template

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys Creek

November 2021

Transport for New South Wales

Environmental Management Document	Document No.	Approval Requirement	Agency Correspondence
Contractor Environmental Policy	TNR5-EN-MPL-CEMP-A03-A	Not required	Not required
M12 Early Works Environmental Management Plan	M12TWK-EN-MPL-EMP	M12 Project Environment Representative Department of Planning, Industry & Environment (DPIE)	Not required
M12 Early Works Site Establishment Management Plan	M12TWK-EN-MPL-SEMP	M12 Project Environment Representative Department of Planning, Industry & Environment (DPIE)	Penrith City Council
M12 Early Works Flora and Fauna Management Plan	M12TWK-EN-MPL-FFMP	M12 Project Environment Representative Department of Planning, Industry & Environment (DPIE)	Environment, Energy and Science (EES) group at DPIE

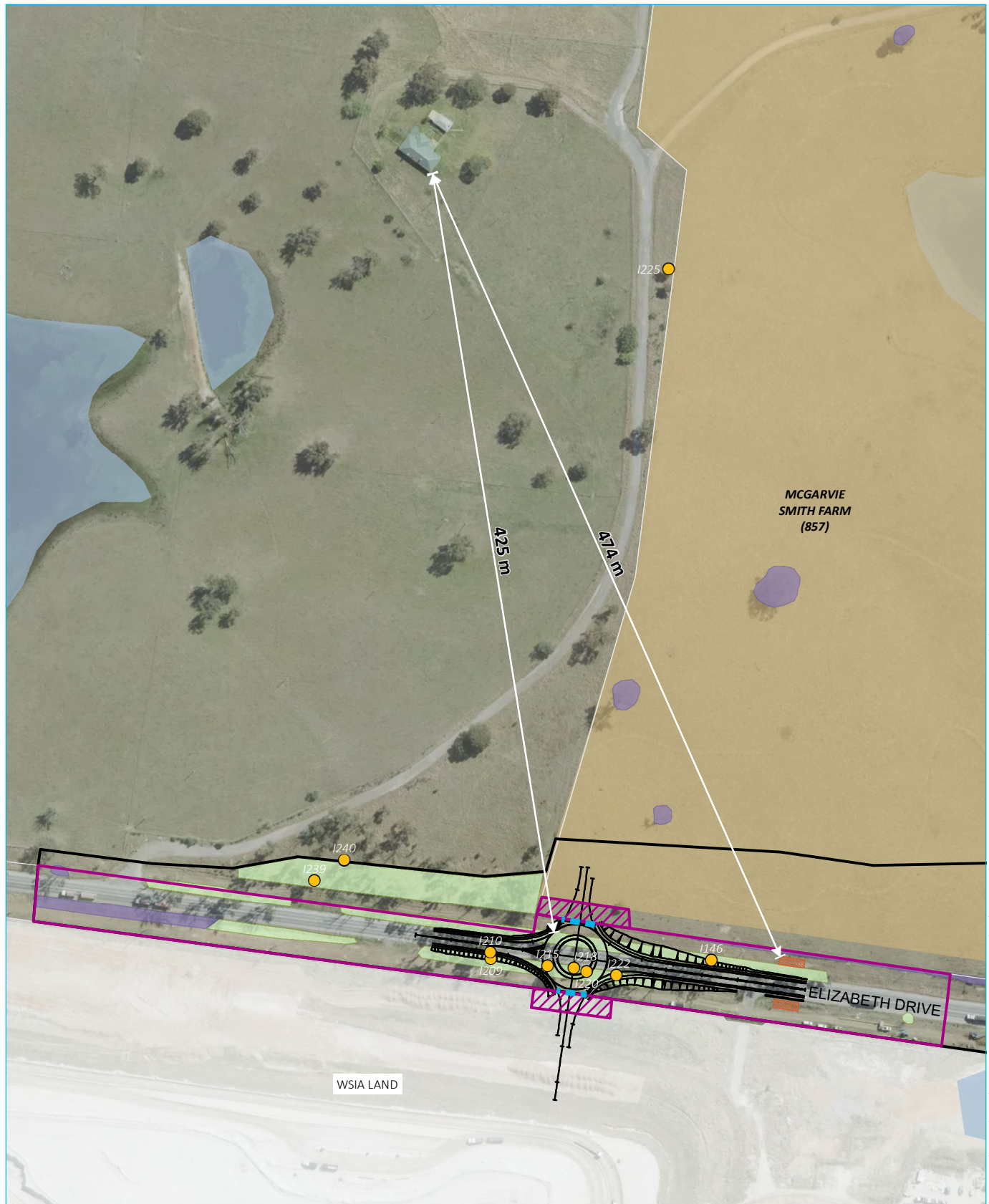
Appendix A4

Sensitive Area Plans

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys Creek

November 2021

Transport for New South Wales



KEY

- West Package Construction Boundary
- Indicative area of the temporary roundabout as illustrated in Figure 5 of the M12 Motorway Planning Approval
- Proposed boundary adjustments subject to further approvals
- Temporary roundabout design
- Temporary barrier
- Temporary site shed
- Major road (refer to inset)
- Waterbody
- Cadastral boundary

- Local government area (refer to inset)
- Hollow-bearing tree
- Plant community type
- 849 | Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion
- 850 | Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion
- LEP-listed heritage
- Item - General

Appendix A5

M12 Environmental Incident Classification and Reporting

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys
Creek



November 2021

Transport for New South Wales

Document control

File Name	M12 Environmental Incident Classification and Reporting
Title	M12 Environmental Incident Classification and Reporting

Approval and authorisation

Plan reviewed by:	Plan reviewed by:
David Bone	Simon Lendrum
Associate Director - EMM Consulting	Environmental Site Representative - CPB Contractors
Date: 15/11/2021	Date: 15/11/2021
Signed 	Signed 

Revision history

Revision	Date	Description
A	16/08/2021	First draft for TfNSW review
B	03/09/2021	Second draft for TfNSW review
C	30/09/2021	Third draft for TfNSW review
D	21/10/2021	Fourth draft for TfNSW review and ER
E	25/10/2021	Updated to address ER comments
F	05/11/2021	Updated to address DPIE comments
G	15/11/2021	Address DPIE comments

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Definitions

All terminology in this Procedure is taken to mean the generally accepted or dictionary definition with the exception of the following terms which have a specifically defined meaning. Acronyms are as per the EWEMP.

Term	Definition
Environmental event	A report-only event, non-compliance, regulatory action or environmental incident
Environmental incident (<i>as per the TfNSW Environmental Incident Procedure</i>)	An environmental incident is an event or set of circumstances, as a consequence of which pollution (air, water, noise, or land) or an adverse environmental impact has occurred, is occurring, or is likely to occur. Adverse environmental impact includes contamination, harm to flora and fauna (either individual species or communities), damage to heritage items and adverse community impacts. An unexpected find that is not managed in accordance with relevant procedures / guidelines is also considered an environmental incident
Investigation	The process by which the cause(s) of an environmental incident is examined and identified.
Non-compliance (<i>as per the TfNSW Environmental Incident Procedure</i>)	A failure to comply with any condition of approval, environmental assessment safeguard / mitigation measure, licence condition, permit or any other statutory approval relevant to the activity and/or area where the activity occurs
Notifiable event	Any environmental incident, report-only event or non-compliance that triggers a specific statutory requirement to notify a regulatory authority.
Pollution	Pollution (including air pollution, water pollution, noise pollution and land pollution) as defined in the dictionary to the POEO Act
Pollution incident	Has the same meaning as defined in the dictionary to the POEO Act. NB: a pollution incident as defined in the POEO Act does not include an incident or a set of circumstances involving only the emission of noise.
Regulatory action	any formal regulatory response from an environmental regulator including but not limited to penalty notices, clean-up notices, prevention notices, official cautions, show cause notices and formal warnings.
Report-only event	An environmental incident or unexpected find resulting from circumstances outside the scope of controls and of an activity.
Significant incident	An environmental incident that is likely to receive a classification of C3, C2 or C1, OR the history of the project, past performance and/or previous regulatory interest, indicate the project is likely to receive a penalty notice or be subject to prosecution, and therefore requires escalation to the Secretary and other TfNSW senior management.
Unexpected find	An unexpected discovery such as a heritage item, threatened species, contamination, asbestos or hazardous substance.

1 Introduction

The M12 Environmental Incident Classification and Reporting Procedure (the Procedure) is based upon the TfNSW Environmental Incident Classification and Reporting Procedure and amended to ensure applicability to the M12 Motorway Project (the Project) and associated State and Federal approvals.

1.1 Purpose

The Procedure aims to ensure that all personnel employed to work on the Project understand how to classify, respond to and report environmental incidents that occur as a result of Project activities.

The purpose of this Procedure is to set out the process to be followed if, during an activity being carried out, there is:

- A report-only event
- A non-compliance
- Regulatory action received
- An environmental incident
- An incident as defined under the State Infrastructure Approval
- An incident affecting protected matter(s) or non-compliance with the Federal Approval

The Procedure sets out the steps for the:

- Identification
- Classification
- Reporting.

1.2 Scope

The Procedure is applicable to all Project activities where report-only events, non-compliances, regulatory action and environmental incidents may occur. The requirements of the Procedure must be communicated to all Project personnel (e.g. during inductions) who undertake those activities.

This includes (but is not limited to):

- Activities undertaken by contractors on behalf of TfNSW
- Temporary activities, such as preliminary investigations (e.g. geotechnical and environmental surveys)
- Construction and maintenance of TfNSW assets
- Activities at TfNSW properties and facilities.

Guidance on management responses and corrective actions required following environmental incidents and non-compliances, are detailed in the Early Works Environmental Management Plan (EWEMP) and will be addressed by those with responsibility for the activity that caused the incident or non-compliance.



It is noted that the TfNSW E&S Branch is available to provide advice on appropriate responses and corrective actions in relation to individual incidents or non-compliances.

2 Emergency Preparedness and Response

Emergency planning and awareness training will be undertaken for the Early Works based upon this Procedure. All site personnel will be inducted on the incident management process detailed herein. The following equipment will be available to site personnel to utilise in the event of an incident:

- Protective gloves for certain types of corrosive chemicals
- Other personal protective equipment required for the handling of hazardous chemicals and radioactive substances
- Spill kits
- Stormwater drain guards
- Alarms for when there are issues with processes
- Firefighting equipment
- Up-to-date safety data sheets for any chemicals or fuels used or stored at the premises
- Hard hats for designated 'emergency controllers'
- Eye-wash stations

The locations of the equipment will be detailed in the site induction. Relevant personnel will be appropriately trained on the use of all equipment. The procedure to following an event of an incident is detailed in Figure 2-1.

INCIDENT RESPONSE

STOP the work immediately and **CHECK** for danger.

DELEGATE Senior member of the team present when an incident occurs is to take charge and be the Emergency Controller and delegate the main assisting roles of the emergency response.

CONTACT Site Emergency Response Team and await further assistance if this is required.

CONTACT emergency services (000) If an incident presents an immediate threat to human health or property

WEAR appropriate PPE.

CONTROL the source of the incident e.g. stop dust emitting activity, right an upturned drum

ELIMINATE sources of danger

CONTAIN the incident e.g. use earth or sand bunds to control spills.

CHECK the incident does not have the potential to cause further harm (e.g. check spill has not reached any nearby watercourse / sensitive areas)

INTERNAL NOTIFICATION of the incident to the TfNSW Environmental Officer
External notification and reporting requirements detailed in the "Reporting Process Flowchart"

INVESTIGATE – undertake / cooperate with incident investigation

REPORT – prepare incident report

TRAIN AND TEST – brief all relevant staff on investigation findings and lessons learnt. Update procedure with finding and retest

Figure 2-1: Incident response Process

2.1 Emergency and key contacts

The TfNSW Senior Environment Manager is the first point of contact for enquiries relating to environmental incidents. Current contacts for relevant M12 personnel are provided in Table 2-1.

Table 2-1 Emergency and key contacts

Position / Organisation	Name	Phone
EPA pollution hotline	n/a	131 555
Fire and Rescue NSW	n/a	000 (for pollution incidents that present an immediate threat to human health or property) 1300 729 579 (for pollution incidents that do not present an immediate threat to human health or property)
NSW Health – South Western Sydney Local Health District	n/a	(02) 8738 5755
SafeWork NSW	n/a	131 050
Penrith City Council	Ari Fernando	02 4732 7569
Liverpool City Council	Charles Waife	0417 175 763
24 hour community information line	n/a	1800 517 155
Project Manager – East	Kurt Bridde	0428 685 863
Project Manager – Central	David Duffield	0437 239 383
Project Manager – West	Kandiah Mahendran	0438 190 969
TfNSW Project Director	Deanne Forrest	0409 838 479
TfNSW Utilities Manager	Daniel Farrugia	0491 212 422
TfNSW Environment and Sustainability Manager	Suzette Graham	0476 828 524
TfNSW Senior Environment Officer	Foster Walker	0429 782 717
TfNSW M12 Community and Stakeholder Engagement Representative	Katie Xia	0460 300 284
TfNSW M12 WHS Partner	David Langdon	0477 748 401
TfNSW Environment Officer	Shannon Schofield	0419 824 104
TfNSW Sustainability Advisor	Tom O'Connor	0426 177 747

Position / Organisation	Name	Phone
Department of Planning, Industry and Environment	Lee McCourt Alex McGuirk	02 8289 6969 0427 749 597
Sydney Metro – Western Sydney Airport	Mark Rivet	0448 603 183
University of Sydney	David Schofield	9563 6804
Western Sydney International Airport	Richard Longman	0439 994 506

2.2 Accountabilities

Table 2-2: Key accountabilities for implementing this Procedure

Requirement	Detail
TfNSW Environment Director	<ul style="list-style-type: none"> Oversee compliance with the procedure and make the final determination on the classification of all environmental incidents, report-only events and non-compliances
TfNSW Environment reporting team	<ul style="list-style-type: none"> Recording of all environmental incidents, report-only events, non-compliances and regulatory action, confirm / amend the classification of environmental incidents, report-only events and non-compliances in accordance with section 3.1 and monitor compliance with the Procedure
TfNSW Executive Director Environment and Sustainability	<ul style="list-style-type: none"> Make determinations on whether an environmental incident will be considered a Significant Incident (see section 3.1.2). Assume the role of Information Distributor when a Significant Incident has occurred (see Appendix A).
Observer of environmental incident, report-only event, non-compliance or regulatory action	<ul style="list-style-type: none"> Immediately report in accordance with this Procedure
Person/s responsible for environmental incident, report-only event, non-compliance or regulatory action	<ul style="list-style-type: none"> Report and respond in accordance with this Procedure
Project Managers	<ul style="list-style-type: none"> Provide appropriate resources to respond to an environmental incident, report-only event, non-compliance or regulatory action in accordance with this Procedure
Environmental Site Representative	<ul style="list-style-type: none"> Notify TfNSW and relevant authorities in the event of an environmental incident and manage close-out of these Stop activities where there is an actual or immediate risk of harm to the environment, or to prevent environmental non-conformances, and advise the CPB Contractors Project Manager, Construction Manager and Superintendent Report and respond in accordance with this Procedure

3 Requirements

3.1 Environmental incidents, report-only events, non-compliances and regulatory action

This Procedure is applicable to a range of environmental incidents, report-only events, non-compliances and regulatory action that may occur during Project activities. Each of these events and their reporting requirements are described in the following sections.

Personnel using this Procedure should consider the definitions of each of these events when reporting. Definitions are provided in the definitions table at the beginning of this Procedure.

Note that a set of circumstances may be both a non-compliance and an environmental incident. An environmental incident could also result in regulatory action.

3.1.1 Environmental incidents

Environmental incident classifications are described in Table 3-1. The classification system is aligned to the consequence levels (C6 – C1) from the [TfNSW Enterprise Risk Management Standard](#) and considers the key risk areas of:

- Environment
- Reputation and Integrity
- Regulations and Compliance.

The appropriate consequence level for each of the three key risk areas will be recorded for each incident, but only the highest recorded consequence level will be used as the incident classification for reporting purposes.

Note that not all criteria described for each consequence level in Table 3-1 need to be met in order to assign an incident classification – the most appropriate criteria should be considered when determining the consequence level for each key risk area for each incident.

Table 3-1 Environmental incident classification

Key risk area	Incident Category					
	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
Environment	No appreciable changes to environment.	Change from existing conditions that can be rectified immediately (< 1 day) with available resources.	Short-term (< 1 year) and/or well-contained environmental impact. Minor remedial actions probably required.	Short to medium term (between 1 and <5 years) environmental impact. Considerable remedial actions probably required.	Medium-term (>5 years) environmental impact. Extensive remedial actions probably required.	Long-term (>10 years) large-scale environmental impact. Extensive and ongoing remedial actions probably required.
Reputation and integrity	Single negative article in local media. Limited social media commentary. Goodwill, confidence and trust retained. Confined to the Branch. Local council may want to discuss.	Series of negative articles in local media (District / electorate based adverse media). Some social media commentary. Confidence remains - minor loss of goodwill. Confined to Branch but requiring notification to Division. Council requires written explanation. Recoverable with little effort or cost. Some continuing scrutiny/attention.	Extended local media coverage with some broader Regional media coverage. Extended negative social media coverage. Confidence and trust of stakeholders dented (recoverable at modest cost within existing budget and resources). Division formal response needed to State Government/Regulator.	State media coverage, short term negative national media coverage. Widespread social media coverage Confidence/trust impaired. Project/activity credibility under question. TfNSW and/or Ministers Department requires update.	Sustained negative State media coverage. Regular 'talk-back' programs questioning credibility and capability. Confidence and trust are severely damaged. Widespread negative social media coverage. Regular updates demanded by Minister. Stakeholders withdraw their support recoverable at considerable cost, time and staff effort.	Sustained, high profile media attention at National level. Material change in the public perception of the Agency. Extensive negative social media coverage Confidence and trust non-existing. Government forced to reverse decision. Stakeholders are actively campaigning against the organisation.

Key risk area	Incident Category					
	C6 Insignificant	C5 Minor	C4 Moderate	C3 Major	C2 Severe	C1 Catastrophic
Regulations and compliance	<p>Low-level/Technical non-compliance with legal and/or regulatory requirement or duty by individuals or TfNSW- not reportable.</p> <p>Minor non-compliance to a low impact contract clause – little or no interest by either party to pursue or rectify.</p>	<p>Non-compliance with whole or significant aspects of Government policy not reportable but requiring internal activity to put in place.</p> <p>Formal investigation and/or formal notification to regulator.</p> <p>Minor breach of contract by either party rectified through local management discussion.</p>	<p>Non-compliance with key Government policy - reportable and/or explanation required – need to put in place as soon as possible.</p> <p>Non-compliance – key obligation.</p> <p>Formal notification to regulator.</p> <p>Agency on notice.</p> <p>Breach of contract by either party rectified at Branch level management discussion.</p> <p>Small fine and no disruption to services.</p>	<p>Technical non-compliance with a minor Government Policy - not reportable.</p> <p>Low level non-compliance.</p> <p>Technical non-conformance.</p> <p>Minor non-compliance to a low impact contract clause – little or no interest by either party to pursue or rectify.</p> <p>Substantial fine and no disruption to services.</p>	<p>Non-compliance with high profile, outward facing Government policy or Ministerial decree - immediately reportable to Government body (e.g. Treasury) and action to put in place required immediately (high priority).</p> <p>Continuous breach resulting in prohibition notices.</p> <p>Breach of significant, key aspects of contract by either party leading to lodgement (threat) to sue and recompense at severe financial levels Cessation of contract may occur.</p> <p>Large fines as a result of non-compliance.</p> <p>Licence or accreditation restricted or conditional affecting ability to operate.</p>	<p>Non-compliance with high profile Government policy or Ministerial decree - immediately reportable to Ministerial level requiring actions to put in place immediately (high priority) and progress to be reported to the Minister on an agreed and appropriate schedule.</p> <p>Litigation and potentially imprisonment.</p> <p>Loss of Operating licenses.</p> <p>Continued breach cannot be tolerated.</p> <p>Major contract breach by either party leading to significant litigation and financial costs</p> <p>Total breakdown and cessation of contract.</p> <p>Criminal prosecution as a result of non-compliance.</p>

3.1.2 Significant environmental incidents

Significant Incidents are environmental incidents that are serious in nature and have significant consequences warranting escalation to TfNSW senior management.

An environmental incident is to be defined and treated by the TfNSW Environment Manager as a potential Significant Incident if it meets one or both of the following:

- The severity of the incident is likely to be classified as C3, C2, or C1 in accordance with Table 3-1
- The history of the project, past performance and/or previous regulatory interest, indicate the project is likely to be the subject of a penalty notice or prosecution

Potential Significant Incidents are escalated by TfNSW to the Executive Director Environment and Sustainability, who will determine whether the incident is deemed to be a Significant Incident and require further escalation to the Secretary and other senior management, to ensure they are aware of the incident and can implement or authorise any required responses.

3.1.3 Incidents affecting protected matter(s)

In the Commonwealth Approval, incident affecting protected matter(s) means any event which has the potential to, or does, impact on one or more protected matter(s), other than as authorised by the Commonwealth Approval. Protected matter means Matters of National Environmental Significance (MNES) as outlined in Part 3 of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). These include:

- World Heritage sites
- National Heritage sites
- Wetlands of International Importance (RAMSAR Wetlands)
- Listed threatened species and communities
- Listed migratory species
- Marine environments

Should an incident directly or indirectly impact protected matter(s) identified by the EPBC Act, the procedure outlined in the procedure outlined below should be followed.

3.1.4 Report-only events

Examples of report-only events include:

- Environmental incidents caused by weather events that are beyond the design capacity of environmental controls and/or mitigation measures in accordance with project specific requirements
- Environmental incidents caused by persons or entities not associated with an activity being undertaken by the Project
- Pre-existing conditions not associated with an activity being undertaken by the Project
- Unexpected finds that are managed in accordance with relevant procedures / guidelines.

Report-only events can be considered to be unavoidable and so not reflecting the performance of a site, and will not be included in performance reporting. However, the response to a report-only event should be taken into account when considering site performance, as a deficient or

inappropriate management response could result in a non-compliance and/or an environmental incident.

Where a report-only event relates to an unexpected find and the same issue can then reasonably expected to be found at the same location in future, additional finds from that location need not be reported.

3.1.5 Non-compliances

A non-compliance is a failure to comply with any condition of approval, environmental assessment safeguard / mitigation measure, licence condition, permit or any other statutory approval relevant to the activity and/or area where the activity occurs.

A non-compliance could also be an environmental incident.

3.1.6 Regulatory action

Regulatory action includes, but is not limited to:

- Prosecutions
- Penalty notices
- Clean up notices
- Prevention notices
- Official cautions
- Formal warnings
- EPA show cause notifications.

Copies of any regulatory action issued by an environmental regulator must be provided as part of the reporting that is undertaken in accordance with this Procedure.

3.2 Reporting Process

3.2.1 Standard Notification and Reporting

The standard reporting process for all environmental incidents, significant environmental incidents, report-only events, non-compliances and regulatory action is detailed in Figure 3-1.

Where the reporting process requires submission of a written report to TfNSW, the person making the report must use the Environmental Event Reporting Form (624/400).

Initial notification

Initial notification of the environmental event must be submitted to TfNSW within 24 hours of the incident. The Environmental Event Reporting Form must be completed and submitted within 48 hours for environmental incidents, non-compliances and report-only events.

Information included in reporting must be factual and accurate.

For the initial 24-hour email notification, the following information must be provided:

- Date of event
- Project / site name

- Type of event that has occurred (i.e.- environmental incident, incident and non-compliance, non-compliance, report-only or regulatory action)
- Description of the event
- Quantity / volume
- Immediate response actions that were implemented
- Notification/s undertaken.

In the case that regulatory action is received relating to a previously reported environmental incident, non-compliance or report-only event, reference to the relevant event must be made in the report for the regulatory action.

Environmental Event Reporting Form

All Environmental Incident Reporting Forms must be populated, signed and submitted electronically (never printed / signed / scanned etc.) to enable TfNSW to electronically capture the information entered in the form.

Completed Environmental Event Report Forms should be submitted by the CPB Contractors Environmental Site Representative to the Environment Operations mailbox:

- envops@rms.nsw.gov.au

It is essential that a clear and consistent subject line convention is used to allow tracking of correspondence about each incident. All emails about an incident between all parties should structure the subject line as follows:

- Category X - project name / incident location - date
- For example, Category 1 – Main Road Upgrade – dd/mm/yy.

Where information cannot be gathered within the timeframes set out in this Procedure, the incident form should be submitted to the mailbox as a 'draft', whether or not the information contained is fully completed.

- For example, Category 1 – Main Road Upgrade – dd/mm/yy (DRAFT).

CPB Contractors Environment Manager should then request further information from the person making the report, and the final report should be submitted within the next 24 hours.

3.2.2 NSW Infrastructure Approval

In addition to the reporting requirements outlined in Section 3.2.1, an incident that meets the criteria outlined in Schedule 1 of the Infrastructure Approval must also be reported in accordance with NSW CoA A44 and A45.

An 'incident' as defined by the State Infrastructure Approval includes 'an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance'.

Material harm is defined within the State Infrastructure Approval as harm that:

1. Involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial, or
2. Results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment).

TfNSW are responsible for notifying the Planning Secretary of an incident in writing via the Major Projects Website as soon as possible and no later than 12 hours after becoming aware of an incident.

In accordance with Appendix A of the NSW Infrastructure approval:

1. Additional written incident notification addressing the requirements set out below must be submitted to DPIE via the Major Projects website within seven days after becoming aware of an incident. The incident notification must include the following:
 - a. Identify the CSSI and application number
 - b. Provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident)
 - c. Identify how the incident was detected
 - d. Identify when the Proponent became aware of the incident
 - e. Identify any actual or potential non-compliance with conditions of approval
 - f. Describe what immediate steps were taken in relation to the incident
 - g. Identify further action that will be taken in relation to the incident
 - h. Identify a project contact for further communication regarding the incident.
2. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, TfNSW must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested:
 - a. A summary of the incident
 - b. Outcomes of an incident investigation, including identification of the cause of the incident
 - c. Details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence
 - d. Details of any communication with other stakeholders regarding the incident.

3.2.3 Commonwealth incident reporting

Should an event occur that has the potential to, or does impact Matters of National Environmental Significance other than as authorised by the Commonwealth Approval, the Department of Agriculture, Water and Environment (DAWE) will require notification as outlined in Commonwealth CoA 11 and 12. MNES relevant to the Early Works are outlined in Section 4.2 of the EWFFMP and include:

- Grey-headed Flying-fox habitat

In the event of an incident that has the potential to impact or does impact a protected matter other than as authorised by the Commonwealth approval the CPB Contractors will verbally notify the Environmental Representative (ER) and the TfNSW Senior Environment Officer (or delegate) immediately.

CPB Contractors will submit an Environmental Event Report Form as outlined in Section 3.2 of this procedure.

In accordance with the Commonwealth Approval, TfNSW must notify DAWE in writing as soon as practicable and no later than 2 business days after becoming aware of the incident. The notification must specify:

- Any condition which is or may be in breach
- A short description of the incident affecting protected matters and/or non-compliance
- The location (including co-ordinates), date, and time of the incident and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.

TfNSW will be responsible for providing DAWE with further details of the incident as soon as practicable and no later than 10 business days after becoming aware of the incident.

The details to be provided to DAWE include:

- Any corrective action or investigation which TfNSW has already taken or intends to take in the immediate future
- The potential impacts of the incident affecting protected matters or non-compliance
- The method and timing of any remedial action that will be undertaken by TfNSW.

3.2.4 Other TfNSW notification requirements

When reporting in accordance with this procedure, TfNSW project management teams should also undertake the following internal notifications as appropriate:

- Corporate Communications / Media for any environmental incidents, report-only events, non-compliances and regulatory action that have potential for negative community or media attention;
- Legal Branch, for any environmental incidents, report-only events, non-compliances and regulatory action that could result in a (further, in the case of the latter) regulatory response against TfNSW. In these instances, limit written commentary on the incident by all staff, including emails;
- Safety Branch for any incidents that involve actual or potential risks to the health and safety of workers or the general public.

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3.3 Notifiable incidents – POEO Act

A notifiable event is any environmental incident, report-only event or non-compliance that triggers a specific statutory requirement to notify an authority.

The key notification requirements are described in Section 3.3. Note each statutory requirement to notify may specify a particular person who is responsible to make the notification as well as the timing of when this must occur.

3.3.1 Material Harm pollution incidents

Under Part 5.7 of the POEO Act, there is a duty to immediately notify (i.e. promptly and without delay) each relevant authority (refer to Section 4.1.2) of a pollution incident where material harm to the environment is caused or threatened.

The POEO Act states that a pollution incident should be considered Material Harm if:

- “(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or*
- (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000”*

Material Harm only relates to pollution incidents. Other environmental incidents, such as conservation, heritage and planning breaches, are not included in the definition of a pollution incident.

Material Harm pollution incidents require notification to the NSW Planning Secretary as required by NSW CoA A44 and A45.

3.3.2 Determination of Material Harm

The determination on whether a pollution incident should be considered Material Harm should be made in accordance with Table 3-2.

Table 3-2: Determination of Material Harm pollution incidents

Project delivery	Material Harm determination
Activities undertaken by contractors	<p>The M12 project team will make the determination (and any associated notifications) on whether a pollution incident should be considered Material Harm.</p> <p>The relevant TfNSW Environment Manager or Environment Branch Director may contact the DES to assist in making an assessment of the incident, to aid the contractor in determining if the pollution incident should be considered Material Harm.</p> <p>Where TfNSW believes a pollution incident should be considered Material Harm but the contractor disagrees, TfNSW is required by law to notify EPA, NSW DPIE and other relevant authorities. In this instance the DES or DE would make a determination on whether the incident should be notified by Transport for NSW as Material Harm. Transport for NSW would provide details of any notifications made to the contractor.</p>

Even if only limited information is available for a pollution incident being considered Material Harm, each relevant authority must be immediately notified with the information available and updates provided as soon as further relevant information becomes available.

In circumstances where there is doubt about the need to notify a pollution incident as Material Harm, Transport for NSW and its contractors should always err on the side of notification.

3.3.3 Notification of Material Harm pollution incidents

The relevant authorities that must be notified for a Material Harm pollution incident are listed in **Error! Reference source not found.** and **Error! Reference source not found.** below. It is important to note the order of notification and phone numbers to use can vary depending on the nature of the pollution incident, as detailed in Table 3-3 and Table 3-4.

All of the authorities listed (whether considered relevant or not) must be contacted for each Material Harm pollution incident to satisfy POEO Act requirements. Serious penalties apply to both individuals and corporations for failing to notify Material Harm pollution incidents:

- Maximum penalty for individuals - \$500,000
- Maximum penalty for corporations - \$2,000,000.

Table 3-3: Authorities to notify for Material Harm pollution incidents that present an immediate threat to human health or property

Order	Authority	Contact Number
1	Fire and Rescue NSW	000
2	NSW EPA environment line	131 555
3	Ministry of Health (via the local Public Health Unit)	Contact 1300 066 055 to be directed to the local Public Health Unit, or visit the NSW Health Website
4	SafeWork NSW	131 050
5	The Appropriate Regulatory Authority, being either: <ul style="list-style-type: none"> • Local council • DPIE 	Local council - contact Office of Local Government on 4428 4100, or visit the Office of Local Government website Via the Major Projects Portal

Table 3-4: Authorities to notify for Material Harm pollution incidents that do NOT present an immediate threat to human health or property

Order	Authority	Contact Number
1	NSW EPA environment line	131 555
2	Liverpool City Council	1300 362 170
3	Penrith City Council	02 4732 7777
4	Ministry of Health (via the local Public Health Unit)*	Contact 1300 066 055 to be directed to the local Public Health Unit, or visit the NSW Health Website
5	SafeWork NSW	131 050
6	Fire and Rescue NSW	1300 729 579
7	DPIE (Mike Pereira)	Via the Major Projects Portal or (02) 9995 6038

Relevant information to provide

Section 150 of the POEO Act provides the information that needs to be notified, being:

- The time, date, nature, duration and location of the incident
- The location of the place where pollution is occurring or is likely to occur, the nature, the estimated quantity or volume and the concentration of any pollutants involved, if known
- The circumstances in which the incident occurred (including the cause of the incident, if known)
- The action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution, if known
- Other information prescribed by the regulations.

Only known information should be provided when notifying of a Material Harm pollution incident. If further information becomes known after the initial notification, that information must immediately be notified to all authorities in accordance with Section 150. The immediate verbal notification is to be followed by written notification to each relevant authority within seven days of the date on which the incident occurred.

Complying with these notification requirements does not remove the need to comply with any other legislative requirements for incident notification (e.g. requirements under the conditions of an EPL or the Work Health and Safety Act 2011).

Relevant information required for notification to DPIE in accordance with NSW CoA A44 and NSW CoA A45 is outlined in Section 3.2.2.

3.3.4 Summary of other regulatory agency notification requirements

Specific statutory requirements relating to the notification of environmental incidents to relevant regulatory agencies are summarised in Table 3-5. Additional requirements adopted by TfNSW are indicated in *italics*. Any notification to regulatory agencies should be indicated in the Environmental Event Report Form to confirm that any required notifications have been initiated.

Table 3-5: Regulatory agency notification requirements

Legislation / issue	Regulating authority	Section / requirement
<i>Commonwealth Aboriginal and Torres Strait Islanders Heritage Protection Act 1984</i>	Department of Agriculture, Water and Environment	Section 20 – requirement to notify the Minister of the discovery of Aboriginal remains.
<i>Contaminated Land Management Act 1997</i>	EPA	Section 60 – requirement to notify if Transport for NSW activities have contaminated land or if Transport for NSW owns land that has been contaminated.
<i>Heritage Act 1977</i>	Heritage NSW	Section 146 – requirement to notify the Heritage Council of the location of the relic once a relic has been discovered or located.
<i>National Parks and Wildlife Act 1974</i>	Environmental, Energy and Science (a part of NSW DPIE)	Section 89A – requirement to notify the location of an Aboriginal object that is the property of the Crown.
<i>Protection of the Environment Operations Act 1997</i>	EPA and other relevant authorities	Section 148 – requirement to immediately notify pollution incidents that cause or threaten Material Harm to the environment (see Section 5.1)
	EPA	<i>Pro-active reporting to the local EPA officer of offsite pollution incidents that occur as a result of Transport for NSW activities is encouraged as soon as practicable after the pollution incident occurs.</i>
<i>Rural Fires Act 1997</i>	NSW Rural Fire Service	Section 64 – requirement to notify an appropriate fire officer of the inability to extinguish any fire burning during a bush fire danger period applicable to the land.
Incidents as defined under the NSW Infrastructure Approval or the Commonwealth Approval	Department of Planning, Industry and Environment (DPIE) Department of Agriculture, Water and Environment (DAWE)	NSW CoA A44 and A45 Commonwealth CoA 11 and CoA12
Water supply catchment areas	Local water supply authority	If an environmental incident has the potential for unapproved impacts on a drinking water supply, the relevant water supply authority must be advised.

3.4 Requests for written reports from regulatory authorities

Should CPB Contractors directly receive a request from a regulatory authority for a written report regarding an environmental incident, the TfNSW Senior Environment Manager must be immediately contacted for advice. No further correspondence (including email) about the incident should be distributed either internally or externally until advice is received. The TfNSW Senior Environment Manager will then assist the Contractor to:

- Assist in the investigation of the incident
- Provide legal advice to the project
- Co-ordinate the preparation of the written response to the regulatory authority.

4 Significant incident escalation process

Where a TfNSW Environment Manager believes that a Significant Incident has occurred, they must immediately phone the relevant TfNSW Environment Director. The TfNSW Environment Director will consult with the TfNSW Executive Director Environment and Sustainability, who will determine whether the incident will be considered a Significant Incident. Once a Significant Incident has been determined, the escalation process will commence as outlined below.

4.1.1 Significant incident information management

Following determination of a Significant Incident, it is essential that there is fast, consistent and accurate reporting of information to the TfNSW senior management. As such, clear roles and responsibilities must be established in two key areas, as described in Table 4-1.

Table 4-1: Roles and responsibilities during a significant incident

Role	Who	Responsibilities
Information Controller	TfNSW Environment Manager (or relevant TfNSW Environment Officer in their absence)	<ul style="list-style-type: none"> • Liaise between the on-site TfNSW project management team and the Information Distributor (below) • Be the single point of contact to provide information and updates about the status of the Significant Incident to the Information Distributor
Information Distributor	TfNSW Executive Director Environment and Sustainability (or relevant TfNSW Environment Director in their absence)	<ul style="list-style-type: none"> • Identify the relevant members of the TfNSW Executive and other TfNSW senior management that will form the distribution group to be informed about the Significant Incident • Consolidate information from the Information Controller, and distribute it to the distribution group • Provide key ongoing updates to the distribution group as it becomes available • Respond to enquiries from the distribution group, ensuring all members of the distribution group are copied into every response

4.1.2 Parties to be notified

The Information Distributor must identify relevant TfNSW senior management from delivery and client divisions that will form the distribution group to be informed about the Significant Incident, including ongoing updates. Table A3 provides the key positions that must be included (at a minimum), depending on who is undertaking the activity. Depending on the type and location of the activity, there may be other areas of TfNSW that should be included in the distribution group.

The distribution group should all be notified concurrently in a single email that a Significant Incident has occurred. The email should be sent by the Information Distributor within five minutes of making the determination of the Significant Incident.

Table 4-2: TfNSW Distribution group to be notified of a Significant Incident

	Greater Sydney
Transport exec notification	<ul style="list-style-type: none"> Secretary
SER exec notification	<ul style="list-style-type: none"> Deputy Secretary, Safety Environment and Regulation
Client exec notification	<ul style="list-style-type: none"> Deputy Secretary, Greater Sydney Executive Director, Community and Place Director Western Parkland City
Delivery exec notification	<ul style="list-style-type: none"> Deputy Secretary, Infrastructure and Place Head of Sydney Project Delivery Executive Director Western Sydney Project Office
Project Team notification	<ul style="list-style-type: none"> M12 Project Director M12 Deputy Project Director M12 Senior Project Manager M12 Project Manager M12 Environment Manager

5 Corrective actions

There are a variety of scenarios in which an environmental event may occur. It is important that corrective actions are:

- specific to the incident that has occurred
- meaningfully address the root cause(s) of the incident
- designed to prevent incident reoccurrence.

Corrective actions could include (but are not limited to) the following:

- physical works to install, augment or rectify controls or a site issue
- testing and/or monitoring
- review and improvement of construction methods or work practices
- review and update of management plans, procedures or other tools
- communication, training and awareness initiatives for workers.

In most cases it will not be sufficient to simply notify workers of correct systems / procedures (e.g. via toolbox talk). A review should be undertaken by CPB Contractors following an incident or non-compliance to determine why the systems / procedures failed (or alternatively a formal investigation), and necessary changes made to ensure they do not fail in future. Site personnel should then be made aware of the changes and trained as necessary.

Immediate/short-term corrective actions including timeframes for completion must be clearly described in incident/non-compliance reporting. Updates about longer-term corrective actions including timeframes for completion can be provided to the TfNSW Environment Officer and TfNSW Project Management Team post submission of the incident/non-compliance report.

6 Investigations

A root cause analysis investigation must be completed by CPB Contractors for all environmental incidents with a classification of C1, C2 or C3, or any other environmental incidents or non-compliances as determined by TfNSW.

The scope of the investigation will be determined by the TfNSW Environment Officer or Environment Manager. CPB Contractors must provide TfNSW with a final investigation report within three weeks of the environmental incident or non-compliance being identified. The report must include the minimum information described in Table 6-1.

Table 6-1: Investigation report

Element	Description
Sequence of events	The sequence of events that led to the incident or non-compliance
Findings	Given the sequence of events, what are the key findings of the investigation (i.e. what are the main causes of the incident or non-compliance).
Management methods	A record of the management methods to be changed and/or implemented to avoid the incident or non-compliance reoccurring.
Key learnings	Describe the key learnings from the investigation into the incident or non-compliance. Detail which learnings may be relevant to other transport projects.

Appendix A6

TfNSW Environmental Work Method Statement Template

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys
Creek

November 2021

Transport for New South Wales



Transport
for NSW

Environmental Work Method Statement

Template

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT	EWMS	#
	<INSERT ACTIVITY>	REV.	
		DATE	

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EWMS guidance notes:

1. An EWMS is a planning and communication tool to help site crews manage their environmental impact during construction. Site crews should be trained in, and sign-on to, the EWMS (see section 3) before commencing the associated construction activity. Language used in the EWMS should be suitable for the audience that are expected to implement it.
2. This EWMS template should be completed to describe the methods and sequence of a construction activity (e.g.- clearing, earthworks, drainage works), the environmental hazards or risks associated with each step of the activity, and the corresponding site specific environmental controls that need to be implemented to manage the associated risks.
3. The template provides the minimum information that should be included in the EWMS - the level of detail included should be appropriate for the scale and risk of the activity.
4. A map that summarises key aspects of the activity, including identification of known environmentally sensitive areas, must be included in the appendix and cross-referenced throughout the document. The level of detail in the map should be appropriate for the scale and risk of the activity.
5. Other visual aids such as diagrams and photos should also be included in the document and/or attached in the appendices to illustrate how this EWMS will be implemented – the text content may be minimised by cross-referencing the visual aids
6. Additional sections can be added as necessary, and relevant information can be attached in Section 4.
7. The EWMS is a live document, and **must be updated** (see section 1.12) to address changed circumstances and ensure adequate mitigation of environmental impacts. The Revision History should be used to reflect updates.

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT		EWMS	#
	<INSERT ACTIVITY>		REV.	
			DATE	

Environmental Work Method Statement

<insert activity>

Approval				
Approved by (name)	Position	Company	Signature	Date
<insert environment rep>				
<insert construction rep>				

Revision History		
Version	Release date	Description

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT		EWMS	#
	<INSERT ACTIVITY>		REV.	
			DATE	

1. ACTIVITY DETAILS

1.1 Description of the activity

<insert a summary of the activity, including the scope and how it fits into the broader construction program>

1.2 EWMS objectives

The objectives for this specific EWMS are <insert objectives>.

1.3 Key environmental elements

The key environmental elements that could be affected by construction impacts and need to be protected are:

- <insert key environmental element>
- <insert key environmental element>
- <insert key environmental element>
- <insert key environmental element>

Known environmentally sensitive areas are detailed in the map at Attachment A.

1.4 Construction method

<clearly describe the construction method that will be used. Cross-reference the attached map where relevant>

1.5 Location of the activity

<insert activity> will occur at <insert appropriate location detail corresponding to the scale of the activity, and consider using chainages, street intersections or appropriate landmarks>.

A map showing the key features of the activity, and the environmentally sensitive areas, is included at <insert Attachment name>.

1.6 Timing of works and expected duration

<insert activity> will commence on <insert date> and is expected to be completed by <insert date>.

Hours of operation for the activity are:

Day/s	Hours of operation
Monday to Friday	
Saturday	
Sunday	
Public holidays	

Other timing restrictions include <include other timing restrictions, such as noise respite periods>.

1.7 Approvals / permits / licences required

The key environmental approvals / licences / permits required to undertake <insert activity> are:

- <insert environmental approval>
- <insert environmental approval>
- <insert environmental approval>
- <insert environmental approval>

1.8 Consultation / communication required

The stakeholder consultation that will be undertaken before, during or after this activity is as follows:

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT	EWMS	#
	<INSERT ACTIVITY>	REV.	
		DATE	

Consultation / communication activity	Stakeholder	Timing	Responsibility
<i>Eg- Notification of start of works</i>	<i>Local residents and businesses</i>	<i>>5 days prior to commencing works</i>	<i>Communications manager</i>

1.9 Incident response

Environmental incidents will be managed in accordance with the incident procedure detailed in the <insert document name (eg- CEMP)> and the <insert relevant TfNSW incident procedure name>.

The key step on-site is immediate notification of environmental incidents to:

- <insert name>, <insert title>, <insert phone number>

1.10 Relevant documents

The key documents that relate to this activity are:

<insert project name> CEMP	<insert document name>
<insert document name>	<insert document name>
<insert document name>	<insert document name>
<insert document name>	<insert document name>

1.11 Training

All personnel undertaking <insert activity> will be trained in this EWMS. Training will be delivered by <insert name/title of trainer> via <insert detail of how training will be delivered (eg- toolbox talk)>. EWMS training will cover all aspects of this EWMS.

The EWMS sign-on sheet (see <insert section number>) will be completed by all personnel who have undertaken training and will be filed for record-keeping on <insert record keeping method>.

Relevant staff will also have the following training in order to effectively implement this EWMS:

Training	Relevant Personnel
<i>Eg- Erosion and Sediment Control</i>	<i>Leading hands, foreman</i>

1.12 Updates to this EWMS

The implementation of this EWMS and the effectiveness of environmental controls will be reviewed <insert review frequency> by <insert process that will be used to review EWMS>.

The EWMS will also be reviewed if the scope of works, construction methods, site conditions and/or required environmental controls change.

EWMS reviews, and any required updates, will be undertaken by <insert person>.

EWMS updates will be approved by <insert person>.

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT		EWMS	#
	<INSERT ACTIVITY>		REV.	
			DATE	

The updated EWMS will be provided to the Principal and re-communicated to all personnel involved in the activity, in accordance with section 1.11.

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT	EWMS	#
	<INSERT ACTIVITY>	REV.	
		DATE	

2. RISK ASSESSMENT AND ENVIRONMENTAL CONTROLS

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Instructions for completing 'Table 2.3: Risk Assessment and Environmental Controls'

1. Identify the sequential tasks for the activity, and the plant / equipment required to complete the tasks. Photos / maps / plans / diagrams can be included and cross-referenced to help illustrate the tasks (and also the environmental controls in Step 4) and reduce the amount of text required.
2. Identify the corresponding hazards for each task
3. Determine the initial environmental risk for each activity, in the absence of any environmental controls. To determine the risk you may use the risk matrix included in this template (Table 2.1). You may also delete this table and include an equivalent risk matrix.
4. Clearly describe the site-specific environmental controls that will be implemented to manage each hazard. These controls should be consistent with the safeguards / mitigation measures included in the project's environmental assessment (eg- REF). Controls should be practical to implement. The hierarchy of controls, from highest level of environmental protection to lowest, is as follows: Eliminate→Substitute→Engineering controls→Administrative controls
5. Determine the residual risk level that will remain after implementation of the environmental controls.
6. Table 2.2 describes the risk tolerance that can be accepted. Use Table 2.2, or an equivalent table, to determine the residual risks in the Risk Assessment that are acceptable. If the residual risk is deemed to be too high, review and adjust controls or adopt an alternative methodology with an acceptable risk level.

Note: In some cases a formal risk assessment may not be required – consult your EWMS approver (eg- the Principal) to discuss. Where it is agreed that a risk assessment is not required, remove Tables 2.1 and 2.2 and simply populate Table 2.3 without including the initial risk and residual risk.

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT		EWMS	#
	<INSERT ACTIVITY>		REV.	
			DATE	

Table 2.1: Risk Matrix								
		Consequence →	Insignificant	Minor	Moderate	Major	Severe	Catastrophic
			C6	C5	C4	C3	C2	C1
Likelihood ↓			No appreciable changes to environment.	Change from existing conditions that can be rectified immediately (< 1 day) with available resources.	Short-term (< 1 year) and/or well-contained environmental impact. Minor remedial actions probably required.	Short to medium term (between 1 and <5 years) environmental impact. Considerable remedial actions probably required.	Medium-term (>5 years) environmental impact. Extensive remedial actions probably required.	Long-term (>10 years) large-scale environmental impact. Extensive and ongoing remedial actions probably required.
Almost Certain	L1	Expected to occur frequently during time of activity or project. There is a very strong chance of this risk occurring. History shows that it is something that occurs frequently.	Low	Medium	High	Very High	Very High	Very High
Very Likely	L2	Expected to occur occasionally during time of activity or project. There is a good chance of this risk occurring. History shows that the risk occurs unacceptably too often.	Low	Medium	High	High	Very High	Very High
Likely	L3	More likely to occur than not occur during time of activity or project. There is a chance of this risk occurring in the current period. History shows that the risk has occurred on a number of occasions.	Low	Medium	Medium	High	High	Very High
Unlikely	L4	More likely not to occur than occur during time of activity or project. There is a chance of this risk occurring but not very often. History shows that this risk does happen but not very frequently.	Low	Low	Medium	Medium	High	High
Very Unlikely	L5	Not expected to occur during the time of activity or project. There is only an unusual chance of this risk occurring. History shows that this risk rarely happens, usually under unusual circumstances.	Low	Low	Low	Medium	Medium	High
Almost Unprecedented	L6	Not expected to ever occur during time of activity or project. There is very little or no real chance of this risk occurring. History shows that this risk hardly ever happens, if at all.	Low	Low	Low	Low	Medium	Medium

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT	EWMS	#
	<INSERT ACTIVITY>	REV.	
		DATE	

Table 2.2: Risk Tolerance and Response	
Risk rating	Tolerance and Response
Very High	Very High risks are generally intolerable and should be avoided except in extraordinary circumstances. An alternative solution must be found and all necessary steps must be taken to reduce the risk below this level.
High	High risks are undesirable. They can only be tolerated if it is not reasonably practicable to reduce the risk further. High risks are considered to be on the verge of being unacceptable and must be given immediate priority.
Medium	Medium risks are typically tolerable if it is not reasonably practicable to reduce the risk further. Additional controls should be sought if significant benefit can be demonstrated and/or there is an additional treatment measure which is recognised as good practice in other like environments.
Low	Low risks are considered to be broadly acceptable. If options for further risk reduction exist and costs are proportionate to the benefit, then implementation of such measure should be considered.

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT		EWMS	#
	<INSERT ACTIVITY>		REV.	
			DATE	

Table 2.3: Risk Assessment and Environmental Controls							
Sequence of tasks		Plant / equipment	Hazard	Initial risk	Site-specific Environmental Controls	Residual risk	Responsibility for managing environmental risks
1	Eg- Install orange flagging (bunting) with star pickets to delineate construction boundary	Hand tools only	Flagging installed in wrong area, resulting in clearing outside construction boundary	VH	Survey used to confirm construction boundary	L	Environment Mgr, Survey
2							
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<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT	EWMS	#
	<INSERT ACTIVITY>	REV.	
		DATE	

3. SIGN-ON

Training in this EWMS delivered by:				
Name	Position	Company	Signature	Date

[illegible]

<Insert contractor / project name>	ENVIRONMENTAL WORK METHOD STATEMENT		EWMS	#
	<INSERT ACTIVITY>		REV.	
			DATE	

4. ATTACHMENTS

Attachments to this EWMS are:

- A. Map of activity, including known environmentally sensitive areas
- B. Diagram of environmental controls
- C. <insert attachment (eg- photos of sensitive area/s)>
- D. <insert attachment (eg- toolbox package)>
- E. <insert attachment>

Appendix A7

EWEMP and Sub-plans Consultation Evidence

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys
Creek

November 2021

Transport for New South Wales

Table 1 Evidence of consultation

Environmental Management Document	Document No.	Revision	Date submitted	Organisation	Comment	How addressed	Status
As per NSW CoA A24 consultation was required on the Early Works Site Establishment Management Plan and the Early Works Flora and Fauna Management Plan. Evidence of consultation is contained in these documents. No specific consultation was required for other Early Works Environmental Management Plan documentation.							
[Contractor to insert document number or reference]	[Contractor to insert document number or reference]	[Contractor to insert revision/version of document submitted]	[Contractor to insert date that document was submitted to external party/stakeholder/approval authority]	[Contractor to insert name of external party/stakeholder/approval authority]	[Contractor to any comments from external party/stakeholder/approval authority]	[Contractor to specify how and where comment has been addressed]	[Open or closed, if comment has been resolved]

Appendix A8

Environmental Management Measures

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys Creek

November 2021

Transport for New South Wales

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Noise and Vibration

In accordance with NSW CoA E38, the mitigation measures detailed in the table must be implemented with the aim of achieving the following NML and vibration objectives:

- (a) Construction 'Noise affected' NML established using the *Interim Construction Noise Guideline* (DECC, 2009)
- (b) Vibration criteria established using the *Assessing vibration: a technical guideline* (DEC, 2006) (for human exposure)
- (c) BS 7385 Part 2-1993 "*Evaluation and measurement for vibration in buildings Part 2*" as they are "applicable to Australian conditions"
- (d) The vibration limits set out in the *German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures* (for structural damage).

Any early works identified as exceeding the NML and/or vibration criteria must be managed in accordance with this Plan.

Table 1: Noise and Vibration Environmental Management Measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
Noise and Vibration						
Training						
NV1	<p>All employees, contractors and subcontractors are to receive a Project induction prior to commencing work on site. The induction will include:</p> <ul style="list-style-type: none"> Existence and requirements of this NVMP Relevant legislation and guidelines Normal construction hours and exemptions The process for seeking approval for out-of-hours works, including consultation Location of noise sensitive areas Complaints reporting and recording How to implement noise and vibration management measures <p>Specific responsibilities to minimise impacts on the community and built environment from noise and vibration associated with the works</p>	Induction material	Prior to starting on site Early Works	Environmental Site Representative	Standard industry practice	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
NV2	Training will be provided to relevant Project personnel, including relevant subcontractors, on noise and vibration requirements from this Plan, toolboxes or targeted training	Training matrix/records Toolbox talk sign on sheets	Prior to starting on site Early Works	Environmental Site Representative	Standard industry practice	N/A
NV3	No swearing or unnecessary shouting or loud stereos / radios on site. Dropping of materials from height, throwing of metal items and slamming of doors will also be avoided	Induction material Toolbox material Site inspection records	Early Works	Site Foreman / Site Supervisor	Standard industry practice	N/A
Ancillary Facility						
NV4	Screening assessments have been conducted for Early Works Activities. Should the scope of Early Works change, including the potential to involve high noise generating activities, the noise assessment will be recalculated. Any management measures detailed within the noise assessment will be implemented.	Screening assessment	Prior to establishment of Ancillary Facilities	Environmental Site Representative		EWEMP Appendix A10 SEMP Section 5.4.1 SEMP Appendix D of the SEMP
NV5	A Noise and Vibration Monitoring Program will be developed and implemented in accordance with NSW CoA C14 for Site Establishment activities	Noise and Vibration Monitoring Protocol	Prior to Early Works	TfNSW	NSW CoA C14	Appendix C of the SEMP
Working hours						
NV6	Work must only be undertaken during the following hours: (a) 7:00 am to 6:00 pm Mondays to Fridays, inclusive (b) 8:00 am to 6:00 pm Saturdays; and at no time on Sundays or public holidays.	Induction material Toolbox material	During Early Works	Project Manager Construction Manager	NSW CoA E34	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
NV7	Highly noise intensive works, such as use of power saws, vibratory rolling, bitumen milling or profiling, or concrete grinding that result in an exceedance of the applicable NML must only be undertaken: (a) Between the hours of 8:00 am to 6:00 pm Monday to Friday; (b) Between the hours of 8:00 am to 1:00 pm Saturday; and (c) If continuously, then not exceeding three hours, with a minimum cessation of work of not less than one hour.	Induction material Toolbox material	During Early Works	Site Supervisor Construction Manger	NSW CoA E35	N/A
NV8	Works can be undertaken outside of normal working hours as detailed in Section 5.4.	Induction material	Prior to the commencement of OOH	Environmental Site Representative	NSW CoA E36	EWEMP Section 5.4
NV9	Prior to the commencement of Out-of-Hours Work, an Out of Hours Works protocol will be prepared in consultation with the ER to identify a process for the consideration, management and approval of Work. The protocol will be approved by the Secretary prior to the commencement of out of hours work. The OOHW Protocol will be developed in accordance with NSW CoA E37 and consider the requirements of NSW CoA E46 and E47.	OOHW Protocol	Prior to the commencement of OOH	Environmental Site Representative	NSW CoA E37	EWEMP Section 5.4
NV10	Works will be timetabled outside of sensitive periods where works result in exceedances to the NML in the vicinity of potentially affected community, religious, educational institutions, noise and vibration-sensitive businesses and critical working areas (such as theatres, laboratories and operating theatres). If this is not possible, offers of other reasonable arrangements will be made to the affected institutions (at no cost to the affected institution).	Work programming	During Early Works	Environmental Site Representative TfNSW	NSW CoA E39	Section 4.1.3 of the EWEMP Overarching Communication Strategy

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
NV11	A noise screening assessment has been completed and presented within the EWEMP. Should the scope of works change, the screening assessment will be rerun and a noise and vibration impact statement (NVIS) will be prepared where OOHW exceeds the noise management level AND vibration criteria specified in NSW CoA E38 at any residence or where receivers will be highly noise affected.	Screening Assessment NVIS	Prior to OOHW	Environmental Site Representative	NSW CoA E40	N/A
NV12	<p>Works will be scheduled with the aim of minimising concurrent works near sensitive receivers where possible in consultation with managers of other nearby projects that are likely to result in a cumulative impact. This will include:</p> <ul style="list-style-type: none"> • Coordination of respite between the various construction projects where receivers are likely to experience concurrent construction impacts where feasible • Coordination between project teams • Rescheduling of work to provide respite to impacted noise sensitive land user(s) so that respite is achieved during OOHW • Consideration to the provision of alternative respite or mitigation to impacted noise sensitive land users where OOHW respite as per NSW CoA E47 cannot be provided. 	Work programming Consultation with adjacent projects	During Early Works	Construction Manager	NSW CoA E45	Section 5.4 of EWEMP
Monitoring						
NV13	Monitoring will be carried out in accordance with Section 4 of the Noise and Vibration Monitoring Program	Monitoring records	As per Section 4 of the Noise and Vibration Monitoring Program	Environmental Site Representative	NSW CoA C14	Section 4 of the Noise and Vibration Monitoring Program

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
NV14	Where the monitoring identifies higher levels of noise and vibration compared to predicted levels, or where mitigation is shown to be ineffective against measured noise and vibration levels, additional mitigation measures will be identified and implemented to appropriately manage impacts where feasible and reasonable.	Monitoring records	During monitoring activities	Environmental Site Representative	Best practice management measure	Section 4 of the Noise and Vibration Monitoring Program
NV15	Attended vibration monitoring will be undertaken at sensitive receivers (including residents, vibration-sensitive businesses and critical working areas, and heritage structures) during vibration generating activities. Minimum working distances established by TfNSW (25m for residential/commercial structures; 68m for heritage structures) to prevent cosmetic damage. Where exceedances are identified, a review of construction methodology and provision of additional mitigation measures will be investigated.	Monitoring records	During vibration activities	Environmental Site Representative	NSW CoA E42 REMM NV06 REMM NV08	Section 4 of the Noise and Vibration Monitoring Program
NV16	For noise and vibration monitoring at heritage structures, a heritage specialist will be engaged to advise on the methods and locations for installing equipment. Note, this is applicable should the scope of works change and works be in the vicinity of heritage structures.	Monitoring records Engagement of heritage specialist	Prior to monitoring	Environmental Site Representative Heritage Specialist	NSW CoA E43	Section 4 of the Noise and Vibration Monitoring Program
NV17	Monitoring will be carried out at the start of high noise and vibration activities to confirm that actual noise and vibration levels are consistent with the noise and vibration impact predictions. Where mitigation measures were included, measurements will be carried out to confirm the effectiveness. Where the monitoring identifies higher levels of noise and vibration compared to predicted levels, or where mitigation is shown to be ineffective against measured noise and vibration levels, additional mitigation measures will be identified and implemented to appropriately manage impacts where feasible and reasonable.	Monitoring records	During Early Works	Environmental Site Representative	REMM NV04	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
General						
NV18	The use of alternatives to vibration generating equipment will be considered where vibration impacts are predicted.	Procurement records Meeting minutes	During Early Works	Environmental Site Representative Construction Manager	REMM NV07	N/A
NV19	No swearing or unnecessary shouting or loud stereos / radios on site. Dropping of materials from height, throwing of metal items and slamming of doors will also be avoided	Induction material	During Early Works	Construction Manager	Best practice management measure	N/A
NV20	All construction plant and equipment used on site will be fitted with properly maintained noise suppression devices in accordance with the manufacturer's specifications	Procurement records	During Early Works	Construction Manager	Best practice management measure	N/A
NV21	<p>All construction plant and equipment used on the site will be maintained in an efficient condition, in accordance with the manufacturers' specification. If a piece of plant or equipment is found to exceed the noise levels included in modelling, the following will occur:</p> <ul style="list-style-type: none"> • If available and appropriate, a quieter piece of plant or equipment will be utilised in place of the offending plant / equipment; • On-site mitigation (e.g. noise blankets) will be reviewed; and /or • The noise assessment will be repeated with the accurate noise level of the plant / equipment. 	<p>Pre-start documentation</p> <p>Procurement documentation</p> <p>Noise assessment (if required)</p>	During Early Works	Construction Manager Environmental Site Representative	Best practice management measure	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
NV22	All construction plant and equipment used on the site will be operated in a proper and efficient manner.	Pre-start documentation Induction material	During Early Works	Construction Manager	Best practice management measure	N/A
NV23	Non-tonal movement alarms will be used in place of tonal reversing alarms for Contractor owned plant and subcontract plant used at night or during the day.	Procurement documentation Inspection records	During Early Works	Construction Manager	Best practice management measure	N/A
NV24	Plant and machinery will be switched off when it is not in use for more than 15 minutes	Inspection records Induction material	During Early Works	Construction Manager	Best practice management measure	N/A
NV25	Stationary noise sources such as generators, stationary concrete cutters, stationary asphalt corers, stationary vacuum trucks, and stationary jack hammers will be enclosed or shielded where reasonable and feasible.	Inspection records Induction material	During Early Works	Construction Manager	Best practice management measure	N/A
NV26	Additional temporary screening or enclosures will be considered for plant and equipment where additional measures are required to meet relevant NMLs, or where plant and equipment is known to exceed the NMLs	Inspection records Induction material	During Early Works	Construction Manager	Best practice management measure	N/A
NV27	For out of hours works, community notifications will be provided to receivers where the ground-borne noise levels are predicted (through screening assessments) to exceed the evening and night-time NML.	Community notification Screening assessment NVIS (where applicable)	During Early Works	Environmental Site Representative TfNSW	Best practice management measure	Overarching Communication Strategy

Traffic and Transport

Table 2: Traffic and transport environmental management measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/ Source	Additional information
Traffic and Transport						
Notification						
TT1	Notify any changes in traffic conditions on roads or paths to road users, emergency services, public transport operators, and other relevant stakeholders	Notification letter	Prior to changes in traffic conditions	Project Manager Construction Manger	REMM 01	Overarching Communication Strategy
TT2	Consultation will be carried out with WSIA and Sydney Metro – Western Sydney Airport for traffic and access interfaces	Meeting minutes	Prior to Early Works	TfNSW	REMM 01	Overarching Communication Strategy
TT3	Consultation will be carried out with TfNSW, Penrith Council and other relevant stakeholders regarding the development of specific Traffic Management Plans and associated elements such as Traffic Control Plans	Meeting minutes	Prior to Early Works	Project Manager Construction Manger	TfNSW QA G10	Overarching Communication Strategy
TT4	If required, businesses will be notified where existing signage is obscured/no longer visible or where customers are required to use alternative access to reach the businesses during Early Works	Notification letter	Prior to impact on business	Project Manager Construction Manger	NSW CoA E96 REMM TT08	Overarching Communication Strategy

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/ Source	Additional information
Access						
TT5	<p>Existing property access will be maintained at all times. However, if required, in consultation with the landowner, any property access physically affected by the works must be:</p> <ul style="list-style-type: none"> Reinstated to at least an equivalent standard, or Alternative access provided. Any changes to access will provide the same equivalent pre-existing level of access unless agreed to by the landowner. <p>Notification will be provided at least 5 working days before commencing work affecting residents.</p> <p>Pedestrian and vehicle access and parking will be maintained in the vicinity of the affected properties.</p>	<p>Consultation notes</p> <p>Meeting minutes</p> <p>Notification</p>	Prior to impact on property access	Project Manager Construction Manger	<p>NSW CoA E83</p> <p>NSW CoA E96</p> <p>REMM TT07</p> <p>G36</p>	Overarching Communication Strategy
TT6	<p>Should any changes to bus stops be required, this will be implemented in consultation with TfNSW, Penrith Council, and relevant bus operators.</p> <p>Alternate temporary bus stops will be provided with appropriate signage to direct commuters. Safe access will be provided in accordance with relevant safety and accessibility standards.</p>	<p>Meeting minutes</p> <p>Site photographs</p>	Prior to impact on bus stops	Project Manager Construction Manger	REMM TT02	Overarching Communication Strategy
TT7	<p>Safe pedestrian and cyclist access will be maintained around Early Works activities with adequate signage and pathways provided. In circumstances where pedestrian and cyclist access is restricted or removed, an alternate route will be provided and sign posted in accordance with the relevant standards.</p>	<p>Site photographs</p> <p>Notification</p>	During Early Works	Project Manager Construction Manger	NSW CoA E99	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/ Source	Additional information
Heavy Vehicles						
TT8	<p>Prior to impact on local roads, a Road Dilapidation Report will be prepared in consultation with Penrith Council and other relevant stakeholders i.e. relevant road authority. The report will document the existing condition of local roads and outline measures to repair damage to roads from heavy vehicle movements associated with the Project.</p> <p>The Road Dilapidation Report will be provided to the relevant road authority within three weeks of completion of the survey and at least two weeks before the road is used by heavy vehicles.</p>	Road Dilapidation Report	Prior to impact on local roads	<p>Project Manager</p> <p>Construction Manger</p>	<p>NSW CoA E95</p> <p>REMM TT06</p>	N/A
TT9	Movements of haulage vehicles during the AM and PM peak periods will be minimised where practicable.	Program	During Early Works	Construction Manger	REMM TT03	N/A
TT10	<p>Prior to using any local road not identified in the Environmental Assessment Documentation for spoil and fill haulage or concrete deliveries within 1km of Early Works, DPIE approval will be obtained and the EWEMP updated.</p> <p>Information as per NSW CoA E94 will be provided to DPIE.</p>	DPIE approval	Prior to use of local roads within 1km of Early Works not identified in the Environmental Assessment Documentation	<p>Construction Manger</p> <p>Environmental Site Representative TfNSW</p>	<p>NSW CoA E93</p> <p>NSW CoA E94</p>	N/A
Traffic Management						
TT11	When planning and carrying out traffic management, comply with the TfNSW Traffic Control at Work Sites Manual (TCWS).	Traffic inspections	Prior to and during Early Works	<p>Project Manager</p> <p>Construction Manger</p>	TfNSW QA10 – Section 1.6	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/ Source	Additional information
TT12	Where works on roads are required, a site specific Traffic Management Plans (TMP) conforming to the RMS Traffic Control at Worksites manual will be developed for the works.	TMP	Prior to works on roads	Construction manager	TfNSW QA10 – Section 2.2	N/A
TT13	Where works on roads are required, Traffic Staging Plans conforming to the RMS Traffic Control at Worksites manual will be developed showing signs and devices arranged to warn traffic and to guide it around, past or if necessary, through a work site or temporary hazard.	Traffic Staging Plans	Prior to works on roads	Construction manager	TfNSW QA10 – Section 2.3	N/A
TT14	Where applicable, Vehicle Movement Plans and Pedestrian Movement Plans will be developed and prepared with Traffic Control Plans.	Vehicle Movement Plans and Pedestrian Movement Plans	During Early Works	Construction manager	TfNSW QA10 – Section 2.5	N/A
TT15	A Traffic Incident Management Plan will be developed and implemented. The Traffic Incident Management Plan will be developed in consultation with the Traffic Management Centre and Penrith City Council.	Traffic Incident Management Plan	During Early Works	Construction manager	TfNSW QA10 – Section 2.7 and 4.8	N/A
TT16	Construction vehicle movements (both on and offsite) will be managed to minimise noise impacts. Where feasible, this will include (but not be limited to): <ul style="list-style-type: none"> Establishment and use of internal haul routes, or existing major roads where this is not feasible Restriction of heavy vehicle movements to standard construction hours Locating traffic marshalling areas away from residences to minimise noise impacts from idling vehicles Instructing workers on the operation of heavy vehicles entering and exiting the site to minimise noise. 	Vehicle movement plan	During Early Works	Project Manager Construction Manger	REMM NV12	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/ Source	Additional information
TT17	Sufficient parking will be provided such that construction vehicles (including staff vehicles) parking, idling and queuing on public roads will be minimised.	Ancillary Facility Layout	During Early Works	Project Manager Construction Manger	Best practice management measure	N/A

Soil, Water and Contamination

The management measures listed below will enable the Early Works to be carried out in a manner so as to either maintain the NSW Water Quality Objectives where they are being achieved as of 23 April 2021 and contribute towards achievement of the NSW Water Quality Objectives over time where they are not being achieved in accordance with NSW CoA 105.

Table 3: Soil, water and contamination environmental management measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
Soil, Water, Contamination						
Erosion and Sediment Control Plans						
SW1	An Erosion and Sediment Control Plan (ESCP) will be prepared by a person with demonstrated skills and experience in preparing the ESCP in accordance with the Blue Book guidelines (Landcom, 2004) and TfNSW QA G38.	Erosion and Sediment Control Plan	Prior to Early Works	Environmental Site Representative Superintendent	G38 1.2.1 and 1.2.7	N/A
SW2	Erosion and sediment control measures will be implemented and maintained at all work sites in accordance with the principles and requirements in Managing Urban Stormwater – Soils and Construction, Volume 1 (Landcom 2004) and Volume 2D (NSW Department of Environment, Climate Change and Water 2008) and relevant TfNSW Guidelines.	Erosion and Sediment Control Plan	During Early Works	Superintendent Environmental Site Representative	NSW CoA E84	N/A
SW3	ESCPs will be updated to reflect site conditions at the time of works and include a procedure for updating the drawings, a register of all such drawings with the dates of submission, approval, and commencement of work on that section.	Erosion and Sediment Control Plan	During Early Works	Environmental Site Representative	G38 2.2.3	N/A

¹ CoA: Condition of Approval

REMM: Revised Environmental Management Measure

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
SW4	A procedure will be prepared for all identified dewatering activities as part of the ESCP.	Erosion and Sediment Control Plan	During Early Works	Environmental Site Representative	G38 3.4.2	N/A
SW5	Erosion and sediment controls will be installed prior to the commencement of works where possible, including prior to stockpiling material.	Erosion and Sediment Control Plan	Prior to stockpiling material	Superintendent Environmental Site Representative	G38.4 REMM SWH04	N/A
Stockpile Management						
SW6	Stockpiles will be managed in accordance with <i>TfNSW Technical Guideline EMS-TG-010: Stockpile Site Management</i> (Roads and Maritime, 2015) and the <i>Blue Book guidelines</i> . Stockpile materials will only be in designated stockpile sites in accordance with your approved CEMP, with appropriate erosion and sediment controls.	Erosion and Sediment Control Plan Inspection records	Prior to and during Early Works	Superintendent Environmental Site Representative	G38 3.5 REMM SWH04	N/A
SW7	The number of stockpiles, area used for stockpiles, and exposure time of the stockpile will be minimised.	Erosion and Sediment Control Plan	During Early Works	Superintendent Environmental Site Representative	REMM SWH04 REMM AQ01	N/A
SW8	Stockpiles will be located outside of the tree protection zone of trees or native vegetation identified for retention and delineated in accordance with AS 4970. A zone of at least 5 metres from retained trees and outside the drip line will be maintained.	Erosion and Sediment Control Plan Sensitive Area Plans	During Early Works	Superintendent Environmental Site Representative	G38 3.5 REMM SWH04	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
SW10	Stockpiles will be located at least 50 m from areas of likely concentrated water flows and at least 10 m from waterways that are classified as Class 1 and Class 2 from the DPI Fisheries guideline "Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings".	Erosion and Sediment Control Plan	During Early Works	Superintendent Environmental Site Representative	G38 3.5 REMM SWH04	N/A
SW11	Stockpile heights will be to no greater than 2 m, unless otherwise approved by TfNSW, and slopes to no steeper than 2:1. Stockpiles will be managed such that that any slump of the stockpile will not affect erosion and sediment control measures.	Erosion and Sediment Control Plan	During Early Works	Superintendent Environmental Site Representative	G38 3.5 REMM SWH04	N/A
SW12	Stockpiles (including temporary stockpiles) in place for more than 20 days will be stabilised. Stockpiles susceptible to erosion will be stabilised within 5 days of forming each stockpile.	Erosion and Sediment Control Plan	During Early Works	Superintendent Environmental Site Representative	G38 3.5 REMM SWH04 REMM AQ01	N/A
SW13	Dust generation will be minimised through use of stabilisation, regularly watering of exposed and disturbed areas especially during inclement weather conditions.	Erosion and Sediment Control Plan	During Early Works	Superintendent Environmental Site Representative	REMM AQ01 REMM AQ02	N/A
SW14	Topsoil that is not contaminated by noxious weeds will be retained and stockpiled for later spreading on fill batters and other areas.	Erosion and Sediment Control Plan	During Early Works	Superintendent Environmental Site Representative	G38 3.5	N/A
SW15	If any stockpile site is to be located on private land, an approved notice under s.143 of the PoEO 1997 will be obtained from the landowner.	Approved notice under s.143	Prior to commencement of stockpiling	Environmental Site Representative	G38 3.5	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
SW16	Mulch will be managed in accordance with <i>TfNSW Environmental Direction 25: Management of Tannins from Vegetation Mulch</i> .		Prior to Early Works	Superintendent Environmental Site Representative	G38 3.6	TfNSW Environmental Direction 25: Management of Tannins from Vegetation Mulch.
SW17	The growth of weeds in topsoil stockpiles will be managed through active management i.e. seeding or covering and removal/treatment if identified.	Inspection records	During Early Works	Superintendent Environmental Site Representative	G38 3.5	N/A
General						
SW18	Refuelling operations will be attended at all times.	Monitoring records	During Early Works	Superintendent Construction Manager	G36 4.3	N/A
Dewatering Activities						
SW19	Approvals will be obtained from relevant authority for the chosen source(s) before commencing water abstraction.	Erosion and Sediment Control Plan	Prior to Early Works	Superintendent Environmental Site Representative	G38 3.8	N/A
SW20	Should water abstraction from a local waterway be required, a qualified aquatic ecologist will be engaged to assess if it is suitable for water abstraction and for when pumping should cease.	EWMS	Prior to water abstraction from local waterway	Superintendent Environmental Site Representative	Best practice	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
SW21	Any pumps sumps used in natural waterways will be screened with mesh no greater than 5mm.	Erosion and Sediment Control Plan	During water abstraction	Superintendent Environmental Site Representative	Best practice	N/A
SW22	Gypsum is the preferred flocculant to settle suspended sediments. The application rate, method of application will be detailed within the ESCP.	Erosion and Sediment Control Plan	Prior to Early Works	Superintendent Environmental Site Representative	G38 3.3.1	N/A
SW23	Gypsum will be applied within 24 hours of the conclusion of each rain event causing runoff.	Erosion and Sediment Control Plan	During Early Works	Superintendent	Best practice	N/A
SW24	The dewatering system, including intakes and outlets, pumping and discharge locations will be inspected prior to the commencement, and during dewatering.	Inspection records	Prior to commencement of dewatering	Superintendent	G38 3.4.4	N/A
SW25	Dewatering activities will be supervised.	Monitoring records	Prior to commencement of dewatering	Superintendent	G38 3.4.4	N/A
SW26	The following records will be kept in relation to dewatering: <ul style="list-style-type: none"> • Dewatering procedure • Date and time for each discharge at each location • Water quality test results for each discharge • Personnel approving the dewatering activities • Evidence of discharge monitoring, or risk assessment and mitigation measures used to eliminate the risks of pollution or erosion 	Dewatering Management Plan	Prior to Early Works	Superintendent	G38 3.4.5	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
SW27	A Dewatering procedure will be prepared and outline the dewatering methodology, testing requirements, supervision requirements, staff responsibilities and training, and approvals required before any de-watering activity begins. The personnel responsible for approval and/or carrying out dewatering activities must be adequately trained and inducted on the use of the dewatering procedure.	Dewatering procedure	Prior to Early Works	Superintendent Environmental Site Representative	G38 3.4.2 REMM SWH11	N/A
SW28	Water will only be discharged under a permit to discharge. A permit will only be issued once water quality criteria have been met: <ul style="list-style-type: none"> pH = 6.5-8.5 Total Suspended Solids = <50 mg/l No visible oil and grease 	Erosion and Sediment Control Plan Environmental records	Prior to water discharge	Superintendent Environmental Site Representative	Best practice	N/A
Dangerous Goods and Hazardous Substances						
SW29	Storage, handling and use of dangerous goods and hazardous substances will be in accordance with the <i>Work Health and Safety Act 2011</i> and the <i>Storage and Handling of Dangerous Goods Code of Practice</i> (WorkCover NSW, 2005).	Inspection records	During Early Works	Superintendent Environmental Site Representative	Best practice	N/A
SW30	Secure, bunded areas will be provided around storage areas for oils, fuels and other hazardous liquids.	Inspection records	During Early Works	Superintendent Environmental Site Representative	G36 4.3	N/A
SW31	Safety Data Sheets will be obtained for dangerous goods and hazardous substances. The Safety Data Sheets will be stored onsite before the arrival of the dangerous goods and/or hazardous substances.	Safety Data Sheets	During Early Works	Superintendent Environmental Site Representative	Best practice	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
SW32	All hazardous substances will be transported in accordance with relevant legislation and codes, including the Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the 'Australian Code for the Transport of Dangerous Goods by Road and Rail' (National Transport Commission, 2008).	Waste transport dockets	During Early Works	Superintendent Environmental Site Representative	Best practice	N/A
SW33	Chemicals, fuel and lubricants will be stored in suitably located and bunded areas to minimise the impact of any spillage or contamination on the Site and adjoining areas. Storage of chemicals, fuel and lubricant will be 50 m from any aquatic habitat, flood prone areas, or on slopes steeper than 1:10.	Inspection records	During Early Works	Superintendent Construction Manager	G36 4.3	N/A
Spill Response						
SW34	The spill response procedure detailed in the EWEMP will be implemented.	Spill response procedure	Prior to Early Works	Superintendent Environmental Site Representative	G36 4.3	EWEMP Appendix A5
SW35	Spill clean-up kits will be maintained on-site in agreed locations that are accessible and known to all site workers. Adequate quantities of suitable material to counteract spillage will be readily available.	Inspection records	During Early Works	Superintendent Environmental Site Representative	G36 4.3	N/A
SW36	All personnel to participate in induction about use of spill kits prior to commencing works on site.	Induction material	Induction	Superintendent Construction Manager	Best practice	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
SW37	Spill prevention and response will comply with the following: <ul style="list-style-type: none"> Relevant legislation and Australian Standards EPA “Bunding and Spill Management Guidelines” contained within EPA Environmental Protection Manual for Authorised Officers” TfNSW “Code of Practice for Water Management” Worksafe NSW Guidelines and Codes of Practices. 	EWMS	During Early Works	Project Manager Environmental Site Representative	G36 4.3	N/A
SW38	Any activity which may result in spillage of a chemical, fuel or lubricant which drains directly to waters or environmentally sensitive area, will not be undertaken unless appropriate temporary impervious bunding is provided.	Inspection records	During Early Works	Superintendent Environmental Site Representative	G36 4.3	N/A
Monitoring						
SW39	Monitor onsite weather conditions using the Badgerys Creek AWS BOM gauge (#067108) and/or an onsite installed AWS.	Inspection records	During Early Works	Construction Manager Environmental Site Representative	Best practice	N/A
SW40	Pre and post rainfall event inspections will be conducted.	Inspection records	Pre, during and post rainfall	Construction Manager Environmental Site Representative	Best practice	N/A
Contamination						
SW41	Should contaminated material be identified, suitable hardstand or lined areas will be identified to allow for its stockpiling. The stockpile will be stabilised and bunded.	Erosion and Sediment Control Plan	During Early Works	Superintendent Environmental Site Representative	REMM W02	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source ¹	Additional information
SW42	Area of Environmental Interest (AEI) 19 is located immediately adjacent to Luddenham Road Early Works. Should contamination be identified within the works undertaken on Luddenham Road, the unexpected finds procedure will be enacted. Therefore, a Detailed Site Investigation is not required.	Site inspection report	During Early Works	Environmental Site Representative	NSW CoA E89	N/A
SW42	Works adjacent to AEI19 will be delineated from the potential area of contamination and signposted as an exclusion zone.	Site inspection report	During Early Works	Environmental Site Representative	Best practice	N/A
SW43	The Unexpected Contaminated Land and Asbestos Finds Procedure will be followed should unexpected contaminated land or asbestos (or suspected contaminated land or asbestos) be excavated or otherwise discovered during construction.	Environmental management records	Prior to and during Early Works	Construction Manager Environmental Site Representative	NSW CoA E89 G36 4.2.3	Appendix B3 of EWEMP
SW44	The Unexpected Contaminated Land and Asbestos Finds Procedure will be implemented where required.	Environmental management records	During Early Works	Construction Manager Environmental Site Representative	NSW CoA E90 G36 4.2.3	Appendix B3 of EWEMP

Heritage

Table 4: Heritage environmental management measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
Heritage						
Prior to Early Works						
HE1	No Early Works to impact on heritage areas. However, prior to the commencement of Work which may impact on heritage items, archival photographic digital recording must be undertaken.	Archival photographic digital recording	Prior to Early Works	Heritage Consultant	NSW CoA E28	N/A
HE2	At least 5 working days prior to commencing Physical Work on Site in or near an environmentally sensitive area (including heritage sites), an EWMS will be prepared which include the details of the environmental protection measures to be implemented at that location. Clearly delineate the environmentally sensitive area and signpost the locations and boundaries.	EWMS	Prior to Early Works	Environmental Site Representative	G36	N/A
HE3	Prior to the commencement of Early Works, an Unexpected Heritage Find and Human Remains Procedure will be prepared. This procedure will be based on the content and processes outlined in the <i>Unexpected Heritage Items: Heritage Procedure 02</i> (RMS, 2015), which was prepared by suitably qualified professionals in consultation with Heritage NSW. This will be implemented as required during Early Works.	Unexpected Heritage Find and Human Remains Procedure (Appendix B4)	Prior to Early Works	Early Works Contractor	NSW CoA A24 NSW CoA E31	N/A
HE4	All employees, contractors and subcontractors are to receive a Project induction prior to commencing work on site. The induction will include: <ul style="list-style-type: none"> Responsibilities under the <i>Heritage Act 1977 (NSW)</i> Responsibilities pertaining to the Aboriginal Heritage provisions of the <i>National Parks and Wildlife Act 1974 (NSW)</i> 	Induction material	Prior to starting on site Early Works	Environmental Site Representative	Standard industry practice	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
	<ul style="list-style-type: none"> Other relevant legislation and guidelines Location of all Aboriginal archaeological sites and areas of cultural sensitivity identified Location of all non-Aboriginal heritage sites/areas, including cultural plantings, and areas of archaeological potential Implementing the Unexpected Heritage Find and Human Remains Procedure Safe working distance for sensitive structures 					
HE5	All site personnel will undergo Aboriginal cultural awareness training delivered by a traditional owner or an appropriate member of the local Aboriginal community.	Training matrix/records	Prior to impact on heritage items	Environmental Site Representative	G36 (4.9)	N/A
Delineation of Aboriginal and non-Aboriginal heritage sites						
HE6	Environmentally sensitive areas will be clearly delineated and the locations and boundaries will be signposted.	Site inspection report	Prior to Early Works	Superintendent Environmental Site representative	Best practice management measure	N/A
HE7	Where post and rail fencing of heritage significance is identified within the Early Works footprint, direct impacts will be avoided through installation of protective fencing. Should avoidance be impracticable, consultation with a suitably qualified heritage specialist will be undertaken.	Site inspection report	Prior to Early Works	Environmental Site Representative Heritage Consultant	REMM NAH11	N/A
Safe working distances						
HE8	<p>The following structures have the potential to be within the safe working distances for sensitive structures (Group 3 from DIN 4150):</p> <ul style="list-style-type: none"> Item 1: McGarvie Smith Farm 	Monitoring records	Prior to carrying out vibration intensive tasks	Superintendent Environmental Site Representative	REMM CH19	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
	A detailed survey has been undertaken by TfNSW. Safe working distance for cosmetic damage is determined to be 100m.		within the minimum working distances			
HE9	Where the monitoring identifies exceedances in the relevant criteria, or where impacts are identified, additional mitigation measures will be identified and implemented to appropriately manage impacts.	Monitoring records	When vibration exceedances identified	Environmental Site Representative	REMM CH19	N/A
Previously unidentified Aboriginal objects						
HE10	Where previously unidentified Aboriginal objects are discovered, all work must immediately stop in the vicinity of the affected area. Works potentially affecting the previously unidentified objects must not recommence. The Unexpected Finds Procedure will be implemented.	Unexpected Heritage Item Recording Form 418	During Early Works	Project Manager	NSW CoA E33	EWEMP Appendix B4

Air Quality

Table 5: Air quality environmental management measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
Air Quality						
Training						
AQ1	<p>All employees, contractors and sub-contractors are to receive a Project induction prior to commencing work on site. The induction will include:</p> <ul style="list-style-type: none"> Existence and requirements of this EWEMP Relevant legislation and guidelines Location of sensitive receivers Complaints reporting and recording How to implement air quality management measures <p>Specific responsibilities to minimise air quality impacts on the community associated with construction activities</p>	Induction material	<p>Prior to starting on site</p> <p>Early Works</p>	Environmental Site Representative	Standard industry practice	N/A
General						
AQ2	<p>Dust generation will be minimised during Early Works where possible. Where practicable, specific measures will include (but not be limited to):</p> <ul style="list-style-type: none"> Regularly watering exposed and disturbed areas including stockpiles, especially during inclement weather conditions Adjusting the intensity of activities based on measured and observed dust levels, weather forecasts and the proximity of and direction of the works in relation to the nearest surrounding receivers 	Site inspection reports	During Early Works	<p>Superintendent</p> <p>Environmental Site Representative</p>	REMM AQ02	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
	<ul style="list-style-type: none"> Ensuring loads are covered, and any loose materials/debris are removed before vehicles exit the site Minimising the number of stockpiles and amount of material stockpiled where practicable Positioning stockpiling areas as far as possible from surrounding receivers, including potentially ecologically sensitive receivers Limiting stockpiling activities during conditions where winds are blowing strongly in the direction(s) from the stockpiling location to nearby receivers Consultation with nearby developers to co-ordinate and plan activities where practicable to minimise the potential for cumulative dust-related impacts. 					
AQ3	Odorous materials identified on site will be excavated in a staged process and exposed areas of odorous material will be kept to a minimum to reduce the total emissions from the site where feasible.	Site inspection reports	During Early Works	Superintendent Environmental Site Representative	REMM AQ03	N/A

Waste and Resources

Table 6: Waste and resources environmental management measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
Waste and Resources						
General						
W1	The waste minimisation hierarchy principles of avoid/reduce/reuse/recycle/dispose will be used. Waste generation will be avoided, where possible. If avoidance is not reasonably practicable, waste generation will be reduced. Where avoiding or reducing waste is not possible, waste will be re-used, recycled, or recovered. Where re-using, recycling or recovering waste is not possible, waste must be treated or disposed of.	Waste Tracking Register Inspection records	Early Works	Environmental Site Representative	NSW CoA E100	N/A
W2	If required, importation of waste and the storage, treatment, processing, reprocessing or disposal of such waste will be in accordance with a <i>Resource Recovery Exemption or Order</i> issued under the <i>PoEO (Waste) Regulation 2014</i> .	Waste Tracking Register	During Early Works	Environmental Site Representative	NSW CoA E101	N/A
W3	Waste will only be exported to the following for the storage, treatment, processing, reprocessing or disposal of the subject waste: <ul style="list-style-type: none"> • Site licensed by the EPA • Site licenced un accordance with a Resource Recovery Exemption or Order issued under the <i>Protection of the Environment Operations (Waste) Regulation 2014</i>, or • To any other place that can lawfully accept such waste (except in accordance with Condition E15). 	Waste Tracking Register	During Early Works	Project Manager Environmental Site Representative	NSW CoA E102	N/A
W4	All waste will be identified and classified in accordance with <i>NSW EPA's Waste Classification Guidelines</i> .	Waste Tracking Register	During Early Works	Environmental Site Representative	NSW CoA E103 REMM SC08	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
W5	All appropriate waste records and disposal dockets will be retained for audit purposes.	Waste records Disposal dockets	During Early Works	Project Manager	NSW CoA E103 REMM SC08	N/A
W6	<p>A waste tracking register will be maintained and include the following:</p> <ul style="list-style-type: none"> Quantities, classification and source location of each type of waste generated Destination location(s) for all wastes generated Quantities, classification, emplacement location of any waste types imported onto the site Quantities and types of wastes that are subject to a Resource Recovery Order and/or Exemption Disposal records demonstrating that receiving facilities have lawfully accepted the waste type. <p>The waste tracking register will be made available to the Planning Secretary and EPA on request.</p>	Waste Tracking Register	Prior to and during Early Works	Environmental Site Representative	NSW CoA E104	N/A
W8	All waste will be classified in accordance with the <i>NSW EPA's Waste Classification Guidelines</i> , with appropriate records and disposal dockets retained for audit purposes.	Waste Tracking Register	During Early Works	Environmental Site Representative	REMM SC08	N/A
W9	A s143 notice (under the POEO Act) will be obtained from the landowner when transporting or depositing of waste on non-licenced land.	Waste Tracking Register	During Early Works	Environmental Site Representative	Best practice	N/A
W10	The procurement of goods and services will consider goods and services that will minimise the generation of waste.	Procurement records	During Early Works	Environmental Site Representative	REMM GC04	N/A
Energy use						
W11	Wherever feasible and reasonable, construction material will be sourced from within the Sydney region.	Procurement records	During Early Works	Early Works Contractor Project Manager	REMM W03	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
	<p>The procurement of goods and services will consider goods and services that:</p> <ul style="list-style-type: none"> • Are from local suppliers • Make use of recycled materials or materials with a low embodied energy content. • Are energy efficient or have low embodied energy • Minimise the generation of waste. 	Procurement records	During Early Works	Project Manager	REMM GG04	N/A
W12	Construction plant and equipment will be well maintained to maximise fuel efficiency.	Pre-start inspections	During Early Works	Early Works Contractor Project Manager	REMM GG05	N/A

Flooding

Table 7: Flooding environmental management measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
Flooding						
Training						
FL1	All construction personnel will be provided with information/training regarding the importance of flood warning and evacuation requirements	Training matrix/records	Prior to starting on site Early Works	Environmental Site Representative Project Manager	Best practice management measure	N/A
Ancillary Facility						
FL2	The siting of ancillary facilities will be chosen such that they do not worsen the existing flood characteristics of the area	Sensitive Area Maps	Prior to Early Works	Project Manager	Best practice management measure	N/A
General						
FL3	Minimise the extent of obstructions within flood prone areas as far as practicable at all times during construction	Sensitive Area Maps	Prior to Early Work and during Early Works	Project Manager	Best practice management measure	N/A
Monitoring						
FL4	Monitor Bureau of Meteorology forecast for heavy rainfall events in order to allow sufficient time to vacate and prepare the site prior to the commencement of heavy rainfall and flood events.	Monthly Environmental Report	During Early Works	Construction Manager	Best practice management measure	N/A
FL5	Monitor Bureau of Meteorology flood warnings for the Hawkesbury-Nepean catchment	Monthly Environmental Report	During Early Works	Construction Manager	Best practice management measure	N/A

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference or source	Additional information
Heavy rainfall events						
FL6	Relocate waste containers, chemicals and dangerous goods above flood prone areas	Site inspection records	Prior to a heavy rainfall event	Construction Manager	Best practice management measure	N/A
FL7	Locate plant and equipment on high ground when flooding is expected	Site inspection records	Prior to a heavy rainfall event	Construction Manager	Best practice management measure	N/A
FL8	Upon determination of heavy rainfall event, advise staff and workers to prepare for a potential flood event and follow flood procedures for evacuation	Site inspection records	Prior to a heavy rainfall event	Construction Manager Environmental Site Representative	Best practice management measure	N/A
Return to work						
FL9	Conduct safe walk through to determine whether or not it is safe to return to work.	Site inspection records	After a flood event	Construction Manager Environmental Site Representative	Best practice management measure	N/A
FL10	Review and restore erosion and sediment control devices as per the ESCP	Site inspection records	After a flood event	Construction Manager Environmental Site Representative	Best practice management measure	N/A
FL11	Any equipment, materials or debris moved by the flood water will be returned to correct area, or disposed of	Site inspection records	After a flood event	Construction Manager Environmental Site Representative	Best practice management measure	N/A

Urban design, landscape and character

Table 8: Urban design, landscape and character

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/Source	Additional information
Urban design, landscape and character						
Ancillary Facilities						
UD1	Visual impacts of construction ancillary facilities will be minimised through: <ul style="list-style-type: none"> Provision of temporary landscaping Vegetative screening Retention of existing vegetation where possible Minimising light spill (refer to UD3) Retention and use of existing structures and incorporation of architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located. 	Site Inspection report	NSW CoA E61	During Early Works	Project Manager	SEMP Section 6.1
UD2	Project elements such as ancillary facility hoardings will be designed and maintained to minimise impacts on landscape character and visual amenity. This will include selecting colours and materials that are visually recessive and blend into the surrounding landscape where practicable, and the prompt removal of graffiti.	Site Inspection report	REMM LVIA05	During Early Works	Project Manager	EWEMP

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/Source	Additional information
All Early Works Activities						
UD3	Temporary lighting will be implemented with consideration of: <ul style="list-style-type: none"> • The need to orientate lighting to minimise light spill and glare impacts on nearby receivers • The need to minimise vandalism and maintenance requirements • Australian Standard 4282-2019 Control of the obtrusive effects of outdoor lighting, relevant Australian Standards in the series AS/NZ 1158 – Lighting for Roads and Public Spaces • Requirements of the National Airports Safeguarding Framework (NASF) (National Airports Safeguarding Advisory Group, n.d.) for operational lighting • Use of energy efficient lighting, solar lighting, or mains connected lighting. 	Temporary Lighting Design	NSW CoA E62 REMM LVIA07	During Early Works	Project Manager	N/A

Socio-Economic, Land Use and Property

Table 9: Socio-Economic, Land Use and Property environmental management measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/ Source	Additional information
Socio-Economic, Land Use and Property						
General						
SLP1	Areas of land leased for the purposes of the Project will be reinstated at the end of the lease to at least equivalent standard in consultation with the landowner. Therefore, an inspection/photographs of the site prior to occupation will be undertaken.	Site Inspection Report	During Early Works	Project Manager	REMM SLP01	EWEMP
SLP2	During the electrical relocation and water mains installation, disruption to existing services will be minimised where feasible. Affected local residents, land owners, construction sites and businesses on Luddenham Road and Elizabeth Drive will be notified before any planned disruption.	Notification	During Early Works	Project Manager	REMM SLP06	Overarching Communication Strategy
SLP3	Activities will be planned to minimise disruption to existing agricultural operations/activities in surrounding properties where feasible and reasonable (e.g. stock access, access to farm dams, etc) unless otherwise agreed by the landowner.	Program	During Early Works	Project Manager	REMM SPL07	N/A
SLP4	On-going consultation will be carried out with local business owners that may be impacted during construction (including owners of agricultural businesses) in accordance with the Overarching Communication Strategy.	Notification records	During Early Works	Early Works Contractor Public Liaison Officer	REMM SLP12	Overarching Communication Strategy.
SLP5	Employment opportunities for the project will align with the commitments outlined in the Western Sydney City Deal (2018), including targets for Indigenous, social and local employment and procurement.	Procurement Plan	During Early Works	TfNSW	REMM SLP14	N/A

Health and Safety

Table 10: Health and Safety environmental management measures

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/ Source	Additional information
Health and Safety						
Documentation						
HS1	A Work Health and Safety Plan (WHSMP) will be developed in accordance with REMM HS01.	WHSMP	Prior to Early Works	Safety Manager	REMM HS01	WHSMP
HS2	An incident response management plan will be developed and implemented. The response to incidents within the road will be managed in accordance with the memorandum of understanding between TfNSW and the NSW Police Service, NSW Rural Fire Service, NSW Fire Brigade and other emergency services.	WHSMP	Prior to Early Works	Construction Manager	REMM HS03	WHSMP
HS3	Safety Data Sheets will be obtained for dangerous goods and hazardous substances stored onsite before their arrival.	Site inspection report	During Early Works	Construction Manager	REMM HS06	WHSMP SEMP Section 6.1
Ancillary Facilities						
HS4	Measures to mitigate and manage bushfire risk will be developed and included as part of site specific hazard and risk management measures within the WHSMP and SEMP. Measures will include the maintenance of ancillary facilities in a tidy and orderly manner and the storage and management of dangerous goods and hazardous materials in a safe location.	WHSMP SEMP	Prior to Early Works	Construction Manager	REMM HS02	WHSMP SEMP Section 6.1

ID	Management Measure	Evidence of Implementation	When to Implement	Responsibility for implementation	Reference/ Source	Additional information
HS5	Storage, handling and use of dangerous goods and hazardous substances would be in accordance with the <i>Work Health and Safety Act 2011</i> and the <i>Storage and Handling of Dangerous Goods Code of Practice</i> (WorkCover NSW, 2005).	Site Inspection Report	During Early Works	Construction Manager	REMM HS04	WHSMP
HS6	Secure, bunded areas will be provided around storage areas for oils, fuels and other hazardous liquids.	Site Inspection Report	During Early Works	Construction Manager	REMM HS05	WHSMP SEMP Section 6.1
HS7	All hazardous substances will be transported in accordance with relevant legislation and codes, including the Road and Rail Transport (Dangerous Goods) (Road) Regulation 1998 and the 'Australian Code for the Transport of Dangerous Goods by Road and Rail' (National Transport Commission, 2008).	Procurement Documentation	During Early Works	Construction Manager	REMM HS07	WHSMP

Appendix A9

Waste Tracking Register Template

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys Creek

November 2021

Transport for New South Wales

Waste transported off site

Date / time	Source Location		Waste classification	Description of waste (e.g. concrete, asphalt, vegetation)	Quantity of spoil / waste generated (kg/tonnes)	Resource Recovery Order and/or exemption	Transporter (name and waste transport licence, if applicable)	Receiving facility / Destination	Waste use (reused, recycled, stockpiled or disposed)	Invoice no. / tip docket reference
	Longitude	Latitude								

Waste imported to site

Date / time	Emplacement Location		Waste classification	Description of waste (e.g. concrete, asphalt, vegetation)	Quantity of spoil / waste (kg/tonnes)	Transporter (name and waste transport licence, if applicable)	Waste use (reused, recycled, stockpiled or disposed)	Resource Recovery Order and/or Exemption
	Longitude	Latitude						

Appendix B3

Unexpected Contaminated Land and Asbestos Finds Procedure

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys
Creek

November 2021

Transport for New South Wales

1 Introduction

1.1 Purpose

This Unexpected of Contaminated Land and Asbestos Finds Procedure (this Procedure) details the actions to be taken when potential contaminated soil/material is encountered during excavation/construction activities. In the event that hazardous materials are discovered, this Procedure should be implemented.

This Procedure has been developed in accordance with best practice EPA contamination management guidelines and TfNSW specifications.

1.2 Scope

This Procedure is applicable to all activities conducted by site personnel (including sub-contractors) on the Project that have the potential to uncover/encounter contaminated soil/material. This procedure is not applicable to the identification of soils suspected to be contaminated with plant pathogens.

1.3 Induction / training

Where required, all site personnel (including sub-contractors) are to be inducted on the identification of potential contaminated soil/material along with the requirements of this Procedure during inductions and/or regular toolbox talks. Site personnel should be informed of the potential sources of contamination within the Project and indications of contamination in soil and groundwater, such as:

- Odour
- Discolouration/staining of soils
- Evidence of landfilling/discarded drums.

1.4 Roles and responsibilities

The Early Works Contractor's Environmental Site Representative will ensure that this Procedure is effectively implemented, and all site personnel are aware of the requirements of this Procedure.

The Early Works Contractor's Superintendent will be responsible for ensuring that in the event that contaminated land is discovered, site personnel are informed immediately and all work in the vicinity of the find ceases. The Early Works Contractor's Superintendent will be advised of any required actions for the control of discovered contamination on site, such as implementation of exclusion zones and signage, and will be responsible for ensuring the actions are undertaken.

The TfNSW Senior Environment Officer will liaise with the relevant authorities (such as EPA and a Contaminated Land Specialist) where required, and will approve the recommencement of works following any remediation undertaken.

1.5 Review

This Procedure will be updated by the Early Works Contractor and reviewed by the Early Works Contractor's Environmental Site Representative and the TfNSW Senior Environment Officer prior to commencement of construction of the Project.

This Procedure will be updated throughout construction of the Project to include any new identified sites of contamination, if required, and subsequent additional management measures. This Procedure will be reviewed annually, or as required in accordance with the section 6 of the EW EMP.

2 Procedure

The steps to be followed in the event that contaminated material is encountered during construction are outlined below. Indicators of contamination in soils include:

- Discolouration of the soil, including staining and horizontal layers of discolouration
- Odours from soil
- Oily sheen on water leaving soils.

Step 1. Potential contaminated soil/material encountered during construction activities

If potential contaminated soil/material is encountered during excavation/construction activities:

- **Cease work** in the immediate/affected area
- The Early Works Contractor's Foreman/ Site Supervisor will immediately notify the TfNSW Senior Environment Officer and the ER
- Install environmental controls around the site to contain the contaminated material, including diversion of water to minimise potential spread via surface water runoff
- If it is determined that there is a risk of environmental harm from the potential contamination, the EPA will be notified immediately in accordance with the TfNSW Environmental Incident and Classification Procedure (refer to Appendix A6 of the EWEMP)
- Recommence works in an alternate area where practicable.

Step 2. Environmental management and work health safety management

Prior to any contamination investigation, management or remediation activities, appropriate Safe Work Method Statements (SWMS) and EWMS will be prepared by the Early Works Contractor's Environmental Site Representatives and reviewed by the TfNSW Project Manager, TfNSW Senior Environment Officer.

Personal Protective Equipment (PPE) will be worn as per the relevant Safety Data Sheet/s. This may include, but not be limited, to:

- Eye goggles
- Face mask
- Rubber boots

- Rubber gloves
- Work clothes (i.e. long sleeve shirt/pants and steel capped boots).

Step 3. Undertake a site/area contamination investigation

The Early Works Contractor's Environmental Site Representative will assess the situation and if considered necessary, commission a suitably qualified contamination specialist to undertake a contamination investigation in the area of the find.

The material will be classified in accordance with the *Waste Classification Guidelines* (EPA, 2014).

If necessary, the Early Works Contractor's Environmental Site Representative will liaise with the relevant authorities to determine the appropriate management options.

The Early Works Contractor's Environmental Site Representative (in consultation with specialists) will determine the appropriate management measures to be implemented. This may include leaving contamination undisturbed, capping of contamination, treatment or off-site disposal. Material to be disposed of off-site will be transferred to an appropriately licensed waste facility.

If the material is determined to be acid sulfate soil or potential acid sulfate soil, the management procedures outlined in the *Acid Sulfate Soil Manual* (Acid Sulfate Soil Management Advisory Committee, 1998) will be followed.

Step 4. Remedial action

Remedial actions will be incorporated into specific Remediation Action Plans (RAPs). RAPs will be prepared by a suitably qualified and experienced person and in accordance with all guidelines under the *Contaminated Land Management Act* (NSW).

RAPs will be verified by a Contaminated Land Specialist and submitted to the TfNSW Senior Environment Officer for approval prior to commencement of remediation.

Relevant EWMS or SWMS will be reviewed and updated when required.

Step 5. Recommence works

Recommence works once remedial works have been implemented and sampling has validated that the remediation strategy has been successful. The TfNSW Senior Environment Officer will grant approval for the Early Works Contractor to recommence works.

3 Asbestos Management Procedure

The following Asbestos Management Procedure will be adopted in the event that potential asbestos containing material (ACM) or actual asbestos is uncovered during the Early Works. Implementation of this procedure will ensure that asbestos is managed in such a way as to avoid harm to site personnel, visitors and the community.

3.1 Asbestos Finds Procedure

Asbestos management for both friable and non-friable asbestos, will be undertaken as follows:

Step 1 – Cease works in the area potentially impacted by ACM as soon as it is safe to do so and move to the upwind side of the area, or away from the area.

Step 2 – Assess the potential immediate risk to human health posed by the unexpected find and move away from the area if required.

Step 3 – Delineate an exclusion zone around the affected area using fencing and/or appropriate barriers and signage. Keep soil/ACM damp to minimise / prevent the release of fibres to air.

Step 4 – Notify the ESR and TfNSW Senior Environment Officer to assess the unexpected find and determine what further assessment and/or remediation works are required. Implement the incident reporting procedure.

Step 5 – ESR in consultation environmental consultant to implement RAP.

Step 6 – TfNSW to confirm remedial actions have been successful and confirm works may proceed.

3.2 Asbestos Removal

Asbestos removal will be undertaken by suitably qualified personnel and/ or subcontractors who are licensed by SafeWork NSW.

3.2.1 Asbestos Removal Control Plan (ARCP)

An Asbestos Removal Control Plan (ARCP) is required to be completed in accordance with *Work Health and Safety Regulation 2017* (Regulation 464). The ARCP will be developed prior to undertaking any asbestos removal works. The aim of the plan is to outline the specific methods and processes that will be used to ensure the removal is safe and effective.

Additionally, Safe Works Method Statements (SWMS) will also be generated for individual ACM related activities.

3.2.2 Identification

Friable Asbestos

- Requires Class A License

- Any amount of friable asbestos, ACM, asbestos contaminated dust or debris (ACD) or non-friable asbestos.

Licensed Non-friable asbestos

- Requires class B license
- Greater than 10 metres squared of Non-Friable (bonded) asbestos or ACM
- ACD that is associated with removal to 10 square metres or more of non-friable asbestos or ACM.

Unlicensed Asbestos

- No license required
- 10 meters squared or less of Non-Friable (bonded) asbestos or ACM
- ACD that is not more than a minor contamination and is associated with the removal of 10 square meters or less of non-friable asbestos or ACM.

Asbestos Removal from soil

- May require Class A or Class B license depending on type (Friable or Non-Friable)
Asbestos-contaminated soil comprising non-attached pieces of asbestos cement products and other material containing asbestos uncovered in soil.

3.2.3 Notification

Prior to the commencement of licensed asbestos removal works, notification to SafeWork NSW is required. SafeWork NSW requires a minimum of 5 days' notice prior to the removal of asbestos and the notification will include:

- Name, registered business name, ABN, license number and business contact details of the licensed asbestos removalist
- Name and business contact details of the Supervisor who will oversee the removal work
- Client name and contact details
- Name, including registered business or corporate name, of the person with management or control of the workplace
- Workplace address, including specific location if a large workplace
- Kind of workplace where removal work will be performed (workplace type and scope of work)
- Date of notification
- Start date of the removal work and an estimation of how long it will take
- Nature of asbestos to be removed – friable or non-friable
- Type of asbestos, e.g. asbestos-contaminated sheeting, vinyl tiles, lagging, gaskets, etc.
- For friable asbestos (not restricted to soils) the mechanism by which the area will be enclosed
- Estimated quantity of asbestos to be removed

- Number of workers who will perform the removal work and details of their competency to carry out the removal work.

3.2.4 Site Establishment and Signage

The boundaries of the 'Asbestos Works Area' and the 'Asbestos Removal Site' must be determined and defined by the nominated asbestos removal supervisor. All stakeholders must agree on the asbestos removal boundaries before any asbestos removal work commences. In determining the asbestos removal boundaries, consideration shall be given to:

- The use and suitability of various types of enclosures and asbestos removal methods; and
- The impacts of the asbestos removal work, including potential exposures in the surrounding region. In determining the distance between barriers and the asbestos work area a risk assessment should take account of:
 - Whether the ACM are friable or non-friable
 - Activity around the asbestos work area (other workers, visitors, neighbours, the public, etc.)
 - The methods of ACM removal
 - Any existing barriers (walls, doors, etc.)
 - The quantity of ACM to be removed
 - The type of barrier used (e.g. boarding or tape).

The asbestos removal site boundary must be clearly and securely delineated to ensure persons do not enter inadvertently or without authority. Signage must warn persons that asbestos removal work is being carried out, of the dangers of exposure to asbestos and of PPE and other site entry requirements. All boundary delineation and warning/danger signs must remain in place until a clearance to re-occupy has been granted. All warning/danger signage must comply with AS 1319 *Safety signs for the occupational environment*. These signs will be weatherproof, constructed of light-weight material and adequately secured

In circumstances where the erection of fencing or barricades is not feasible, such as on concrete hard stand or within a building, tape may be used as a barrier to define an asbestos work area (for some types of asbestos removal work of short duration). If a sign is not feasible, tape with the words 'asbestos hazard' repeated along its length may be used instead to delineate and communicate the hazard.

3.2.5 Removal Methods

The asbestos removalist will use techniques to eliminate or minimise the generation of asbestos fibres so far as reasonably practicable. They will choose the method of asbestos removal that is most effective at minimising fibre release at the source. The removal methods are listed in preferred order:

- Wet spray method – asbestos fibres are significantly suppressed; however, they are not entirely eliminated so the use of respiratory protective equipment is essential
- Saturation and water injection method – used during friable removal

- Dry method - can only be used if the wet spray method is not suitable, for example if there are live electrical conductors or if equipment could be permanently damaged or made dangerous by contact with water.

The following table outlines the typical removal techniques that may be used to remove ACM in soils.

Table 1: Removal techniques, applications and limitations

Removal Technique	Applicability and Limitations
Hand Picking	<ul style="list-style-type: none"> • suitable for bonded ACM in near surface soils only (i.e. <10 cm) • raking may enhance removal, although only in sandy soils • not applicable for friable asbestos • less effective in areas of dense vegetation
Tilling	<ul style="list-style-type: none"> • mechanical tilling to turn over soil followed by hand picking • suitable for bonded ACM in soils to approx. 30 cm in sandy soils • not applicable for friable asbestos • less effective in areas of dense vegetation, or clayey soils
Mechanical Screening	<ul style="list-style-type: none"> • suitable for large volumes of soil impacted by Bonded ACM • susceptible to generate fibres requiring effective dust/fibre control • not applicable for friable asbestos
Mechanical Excavation	<ul style="list-style-type: none"> • physical excavation of soil containing ACM where impact extends beneath surface soils • generates larger volume of soil that requires further management (i.e. off-site disposal, screening, spreading and handpicking/tilling)

3.2.6 Air Monitoring

All air monitoring will be conducted by licensed asbestos assessor (LAA) in accordance with the requirements outlined. The location and layout of the air monitors will be detailed within the ARCP. Air monitoring requirements will vary depending on the type of asbestos being removed, the location and position of the asbestos. The following rules should be applied when determine if air monitoring is required (extract from *Safe Work Australia – Code of Practice on How to Safely Remove Asbestos* (2016):

- For friable asbestos removal – Air monitoring is mandatory for all friable asbestos removal. This includes prior to dismantling an enclosure and for the purposes of the clearance inspection.
- For more than 10 m² of non-friable asbestos removal – Air monitoring is not required but may be considered to be carried out by an independent licensed asbestos assessor or

competent person to ensure compliance with the duty to eliminate or minimize exposure to airborne asbestos and to ensure the exposure standard is not exceeded

- Public Location – Air monitoring should be considered where the asbestos removal work is being undertaken in or next to a public location
- Exposure air monitoring – Air monitoring should be carried out at other times to determine a worker's exposure to airborne asbestos if, based on reasonable grounds, there is uncertainty as to whether the exposure standard may be exceeded and a risk assessment by a competent person indicates it is necessary. Since most uses of asbestos are prohibited, exposure monitoring should not be required frequently.

Air monitoring may be required when:

- It is not clear whether new or existing control measures are effective
- There is evidence (for example, dust deposits are outside the enclosure) the control measures have deteriorated as a result of poor maintenance
- Modifications or changes in safe work methods have occurred that may adversely affect worker exposure
- There has been an uncontrolled disturbance of asbestos at the workplace.

Air monitoring of the asbestos work area will be carried out by the Early Works Contractor in conjunction with the LAA. Monitors will be placed at several locations by the LAA, prior to the commencement of asbestos work. The results of air monitoring will be made available as soon as possible to all workers on site. The asbestos supervisor will be notified immediately if the fibre count exceeds the recommended level, as set out in Table 2.

Table 2: Exposure standards for asbestos as set out in the National Code of Practice: How to Safely Remove Asbestos

Action level (fibres/mL)	Control/action
Less than 0.01	Continue with current control measures
Greater than and equal to 0.01 and less than or equal to 0.02	Review control measures; investigate the cause and implement controls to eliminate or minimise exposure and prevent further release.

Action level (fibres/mL)	Control/action
Greater than 0.02	<p>Stop removal work, notify the regulator together with air monitoring results by phone followed by fax or written statement. Investigate the cause by conducting a visual inspection of enclosure (if used) and associated equipment in consultation with all workers involved. Implement controls to eliminate or minimise exposure and prevent further release by extending the isolated/barricaded area around the removal area/enclosure as far as reasonably practicable until fibre levels are at or below 0.01 fibres/ml. Wet wipe and vacuum surrounding area and seal any identified leaks. Smoke test the enclosure until it is satisfactorily sealed.</p> <p>Recommence work once further air monitoring confirms fibre levels are at or below 0.01 fibres/ml.</p>

3.2.7 Clearance

Following removal of asbestos / ACM, the licensed asbestos removalist will arrange for a clearance inspection of the area to facilitate the issue of a clearance certificate and allow construction to recommence in the affected area. The clearance inspection is conducted by:

- an independent licensed asbestos assessor, for work that was carried out by a Class A licensed asbestos removalist
- an independent competent person, for asbestos work that is not required to be carried out by a Class A licensed asbestos removalist.

To be independent, the licensed asbestos assessor must not be involved in the removal of asbestos for that specific job and is not involved in a business or undertaking involved in the removal of the asbestos for that specific job.

A clearance certificate will be issued if the independent licensed asbestos assessor or competent person is satisfied that the asbestos removal area and the immediate area are free from visible asbestos contamination. Entry to the area will be permitted following confirmation of certification

3.2.8 Decontamination

Decontamination applies to all workers exiting the asbestos work area, all plant, equipment and tools used in the asbestos work area (at the completion of the asbestos work or at their earlier removal from the area) and, at the completion of the asbestos removal work, the asbestos work area itself.

The methods used for decontamination are based on the *Code of Practice How to Safely Remove Asbestos 2016*

Decontamination of personnel

Personal decontamination must be undertaken each time workers leave the asbestos work area except in extreme emergencies. Personal decontamination shall be done within the asbestos work area in a location where re-contamination cannot occur. This area should be at the entry/exit interface of the site so that workers have to pass through.

Asbestos-contaminated PPE must not be transported outside the asbestos work area except for disposal purposes, after being appropriately decontaminated.

Respiratory protective equipment must be used until all contaminated disposable coveralls and clothing has been vacuum cleaned and/or removed and bagged for disposal, and personal washing has been completed.

Any PPE used while carrying out asbestos work must not be taken home.

Personal hygiene and careful washing are essential. Particular attention shall be paid to the hands, fingernails, face and head.

All contaminated materials, including cleaning rags, plastic sheeting and PPE etc., must be disposed of as asbestos waste.

Decontamination of re-useable PPE

PPE that is to be re-used for asbestos removal work, e.g. boots, helmets, non-disposable respirators, must be fully dismantled and cleaned in a suitable asbestos work area and placed in sealed containers that are labelled 'For asbestos removal work only'. Before removal from the asbestos work area the containers must be decontaminated by vacuuming and/or wiping down with wet cloths. This retained PPE must only be used for asbestos removal work.

Decontamination of plant, equipment and tools

Plant, equipment and tools that are engaged to work within asbestos work areas must be clearly identified during the procurement stage. Providers of plant and equipment to be used in the asbestos work area are to be advised in writing that the plant is required to work within this area. Plant requirements in regard to the operator's cabin air conditioning and air pressurising system filters and other internal combustion engine air filters must be communicated in writing with clear procedures documented on maintenance and decontamination.

After the asbestos removal work is complete, plant equipment and tools must be decontaminated. Any warning tag fitted to plant in respect to the decontamination of air filters must be removed after the contaminated filters have been removed and replaced with new filters for use outside of the asbestos work area.

At the end of the asbestos removal work, all tools should be:

- Decontaminated (i.e. fully dismantled and cleaned) in a suitable asbestos work area; and
- Placed in sealed containers that are labelled 'For asbestos removal work only' (and used only for asbestos removal work); or

- Disposed of as asbestos waste.

3.2.9 Waste Disposal

Asbestos waste will be disposed of as soon as reasonably practicable. Asbestos waste will be disposed at a waste disposal site in accordance with NSW EPA guidelines (including Waste Classification Guidelines (EPA, 2014)) and relevant industry codes of practice.

All ACM materials disposed offsite will be recorded on the Early Works Contractor's waste tracking form(s) and documented within the project waste management register. Additionally, disposal of ACM in excess of 10 square metres or 100kg will be tracked using the NSW EPA Waste locate system.

Asbestos waste transported by trucks

The transportation of asbestos waste by trucks must comply with the following requirements;

- Transporter must have the appropriate EPA license to transport asbestos waste
- Asbestos contaminated soils are wetted down
- Any part of any vehicle in which a person transports asbestos waste is covered, and leak proof during transportation
- Bonded asbestos materials must be securely packaged during transportation
- Friable material is kept in a sealed container during transportation



4 Records

The Early Works Contractor will maintain a register of any unexpected contamination finds, including a map of all contaminated and/or remediated sites. The register will be made available to the TfNSW Environment Officer on request for inclusion in Project Monthly Reports.

Appendix B4

Unexpected Heritage Finds and Human Remains Procedure

M12 Motorway - Temporary Roundabout on Elizabeth Drive, Badgerys Creek

November 2021

Transport for New South Wales

1. Introduction

The Unexpected Heritage Items Procedure (Roads and Maritime, 2015) (the Procedure) was developed to provide a consistent method for managing unexpected heritage items (both Aboriginal and non-Aboriginal) that are discovered during TfNSW activities. The Procedure includes TfNSW's heritage notification obligations under the *Heritage Act 1977* (NSW), *National Parks and Wildlife Act 1974* (NSW), *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) and the *Coroner's Act 2009* (NSW).

The discovery of an 'unexpected heritage item' may include:

- Aboriginal objects
- Historic (non-Aboriginal) heritage items
- Human skeletal remains.

The following guidelines and policies were referenced during the drafting of the Procedure:

- *Assessing heritage significance* (NSW Heritage Office, 2001)
- *Photographic recording of heritage items using film or digital capture* (NSW Heritage Office, 2006)
- *Skeletal remains: Guidelines for management of human skeletal remains* (NSW Heritage Office, 1988)
- *Due diligence code of practice for the protection of Aboriginal objects in NSW* (OEH, 2010)
- *Aboriginal cultural heritage consultation requirement for proponents* (OEH, 2010)
- *Code of practice for the archaeological investigation of Aboriginal objects in NSW* (OEH, 2010)
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011).

2. Unexpected Aboriginal and non-Aboriginal heritage finds procedure

The following procedure has been prepared to accompany the EWEMP. This section outlines the tasks that will be carried out following the discovery of an unexpected heritage item.

This procedure has been prepared in based on the content and processes outlined in the *Unexpected Heritage Items: Heritage Procedure 02* (RMS, 2015) and has been updated to be specific to the Early Works. The RMS procedure was prepared by suitably qualified professionals in consultation with Heritage NSW.

In accordance with the Unexpected Heritage Items Procedure (RMS, 2015), different procedures will be put in place dependent on the items classification. The Unexpected Heritage finds procedure identifies three types of heritage items listed and classified as follows:

1. *Relic: Evidence of past human activity which has local or state heritage significance. It may include items such as bottles, utensils, remnants of clothing, crockery, personal effects, tools, machinery and domestic or industrial refuse*
2. *Aboriginal object: May include a shell midden, stone tools, bones, rock art or a scarred tree*
3. *Work: A building or standing structure. This may include tram tracks, kerbing, historic road pavement, fences, sheds or building foundations*

Step 1. Stop work, protect item, and inform Environmental Site Representative

If an unexpected heritage item is encountered during excavation/construction activities:

- Stop all work in the immediate area of the item and notify the Project Manager or Site Supervisor
- The Project Manager or site supervisor will be responsible for establishing a 'no-go zone' around the item, using high visibility fencing where practicable
- The item will be inspected, documented and photographed using 'Unexpected Heritage Item Recording Form 418'
- The Project Manager or Site Supervisor will identify whether the item is likely a 'relic', 'Aboriginal object' or 'work'.
- If the item is determined to be a 'work', and it is possible to continue works without causing further disturbance, works will continue, and the completed Form 418 will be submitted to the relevant TfNSW Staff within 24 hours
- TfNSW Senior Environment Officer will advise Project Manager whether TfNSW has an approval or safeguard in place (apart from this procedure) to impact on the item. If yes, work will recommence in accordance with the approval, permit or appropriate safeguard and no further action will be required
- The Project Manager or Site Supervisor will liaise with Traffic Management Centre where the delay is likely to affect traffic flow
- Item will be reported as a 'Reportable Event' in accordance with the Roads and Maritime Environmental Incident Classification and Reporting Procedure.

Step 2. Contact and engage an archaeologist and, where required, an Aboriginal site officer

- A suitably qualified and experienced archaeological consultant will be engaged to assess the find
- Where the item is likely to be an Aboriginal object, an Aboriginal Site Officer (ASO) will also be engaged to assess the find
- The archaeological consultant (and ASO, if relevant) will be provided with the photographs.

Step 3. Preliminary assessment and recording of the find

- Should the archaeologist (and ASO, if relevant) determine from the photographs that no site inspection is required because no archaeological constraint exists, such advice will be provided in writing and confirmed by the Project Manager or Site Supervisor
- Site access will be arranged for the archaeologist (and ASO, if relevant) to inspect the item as soon as practicable
- Subject to the archaeologist assessment (and ASO's assessment, if relevant), work will recommence at a set distance from the item
- Should the archaeologist (and ASO, if relevant) provide advice after the site inspection and preliminary assessment that no archaeological constraint exists, such advice should be provided in writing and confirmed by the Project Manager or Site Supervisor
- Should it be required, additional specialist technical advice will be organised
- Should the item be identified as a relic, heritage item or an Aboriginal object the archaeologist will formally record them
- Heritage NSW could be notified informally by telephone at this stage by the archaeologist or project manager. Any verbal conversations with Heritage NSW will be noted on project file for future reference.

Step 4. Prepare an archaeological or heritage management plan

- An archaeological or heritage management plan will need to be prepared in the event of unexpected Aboriginal or non-Aboriginal heritage find
- The archaeological consultant will prepare an archaeological or heritage management plan (with input from the ASO, where relevant) with consideration to the any heritage sub-plans, any conditions of heritage approvals, Minister's Conditions of Approval, and heritage assessment documentation
- The archaeologist will submit this plan as a letter, brief report or email to the Project Manager or Site Supervisor outlining all relevant archaeological or heritage issues
- The Project Manager or Site Supervisor will review the archaeological or heritage management plan.

Step 5. Notify Regulator (if required)

- The archaeological or heritage management plan will be reviewed to confirm if Heritage NSW notification is required
- If yes, a notification letter will be prepared
- The draft notification letter, archaeological or heritage plan and the site recording form will then be sent to TfNSW Senior Environment Officer for review and amended where appropriate
- The signed notification letter, archaeological or heritage management plan and site recording form will be submitted to Heritage NSW and DPIE
- A copy of the final signed notification letter, archaeological or heritage management plan and the site recording form will be kept on file by the Project Manager or Site Supervisor and a copy sent to the TfNSW Senior Environment Officer.

Step 6. Implement archaeological or heritage management plan

- The archaeological or heritage management plan will be modified to take into account any additional advice resulting from notification and discussions with Heritage NSW
- The archaeological or heritage management plan will be implemented. Where impact is expected, this will include such things as a formal assessment of significance and heritage impact assessment, preparation of excavation or recording methodologies, consultation with registered Aboriginal parties, obtaining heritage approvals etc, if required
- Where heritage approval is required, the Environmental Site Representative will be contacted for further advice and support material
- It will then be assessed whether heritage impact is consistent with the project approval
- Where statutory approval is not required and where recording is recommended by the archaeologist, sufficient will be allowed for this to occur.

Step 7. Review EWEMP and approval conditions

- The EWEMP will be updated as appropriate with any changes resulting from final heritage management (e.g. retention of heritage item, salvage of item). The updated EWEMP will incorporate additional conditions arising from any heritage approvals, and Aboriginal community consultation if relevant
- Any changes to the EWEMP will be included in site induction material site workers will be updated during toolbox talks
- Where statutory approval is not required and where recording is recommended by the archaeologist, sufficient time will be allowed for this to occur.

Step 8. Resume work

- The Early Works Contractor will seek written clearance to resume project work from TfNSW Senior Environmental Officer and the archaeologist (and Heritage NSW)
- Archaeological excavation/heritage reporting and other heritage approval conditions will be completed in the required timeframes. This includes artefact retention repositories, conservation and/or disposal strategies.

All heritage/archaeological assessments, heritage location data and its ownership status will be forwarded to the TfNSW Senior Environment Officer. They will ensure all heritage items in TfNSW ownership and/or control are considered for the Roads and Maritime S170 Heritage and Conservation Register.

3. Unexpected Human Remains Procedure

This attachment outlines the procedure for handling Aboriginal human remains in accordance with CoA E31, the *Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977* (NSW Heritage Office 1998) and the *Aboriginal Cultural Heritage Standards and Guidelines Kit* (NPWS 1997).

If construction activity reveals possible Aboriginal human skeletal material (remains), the following procedure is to be followed:

1. As soon as remains are exposed, immediately halt all work at that location and immediately notify the TfNSW Environment Office or Project Manager on site to allow assessment and management
2. Secure the site
3. Contact police as the discovery of human remains triggers a process which assumes that they are associated with a crime. The NSW Police will retain carriage of the process until such time as the remains are confirmed to be Aboriginal or historic
4. Notify DPIE, as the approval authority, when human remains are found
5. Once the police process is complete and if remains are not associated with a contemporary crime contact DPIE. DPIE will determine the process, in consultation with Heritage NSW and/or the Heritage Office as appropriate
6. If the remains are identified as Aboriginal, secure the site and DPIE and notify all RAPs or Aboriginal stakeholders in writing. DPIE will act in consultation with Heritage NSW as appropriate. Notify Heritage NSW in writing according to DPIE instructions
7. If the remains are identified as Non-Aboriginal (historical) remains, secure the site and contact the DPIE. DPIE will act in consultation with the Heritage Division as appropriate. Notify the Heritage Division in writing according to DPIE instructions
8. Once the police process is complete and if the remains are identified as not being human and the appropriate clearances have been given, work can recommence.

Appendix B1

Site Establishment Management Plan

M12 Motorway – Temporary Roundabout Elizabeth Drive, Badgerys Creek



November 2021

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Document control

File Name	M12PPW-ADAP-ALL-EN-PLN-00002_F_S3_EWSEMP
Title	M12 Motorway Temporary Roundabout EWEMP: Site Establishment Management Plan
Document Number	M12PPW-ADAP-ALL-EN-PLN-00002

Approval and authorisation

Plan reviewed by:	Plan reviewed by:
David Bone	Simon Lendrum
Associate Director – EMM Consulting	Environmental Site Representative – CPB Contractors
Date: 10/11/2021	Date: 10/11/2021
Signed 	Signed 

Revision history

Revision	Date	Description
A	19/8/2021	First draft for TfNSW review
B	3/9/2021	Second draft for TfNSW review
C	30/09/2021	Third draft following changing document format and addressing TfNSW comments
D	18/10/2021	Final comments from TfNSW and ER
E	25/10/2021	Address ER comments
F	08/11/2021	Address DPIE comments

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Glossary/Abbreviations

Abbreviations	Expanded text
Approved Extended Hours	1.00pm to 6.00pm Saturdays allowable under NSW CoA E34, beyond standard construction hours as per the <i>Interim Construction Noise Guideline</i> .
Ancillary Facility	A temporary facility for construction of the Project including an office and amenities compound, construction compound, materials storage compound, maintenance workshop, testing laboratory and material stockpile area.
ARSR	Amendment Report Submissions Report
BC Act	<i>Biodiversity Conservation Act 2016</i>
C16	The Northern Road Stage 5/6 Compound C16
CEMS	Contractors Environmental Management System
CLM Act	<i>Contaminated Land Management Act 1997</i>
CoA	Conditions of Approval
CSSI	Critical State Significant Infrastructure
DAWE	Commonwealth Department of the Water, Agriculture and Environment
DPIE	NSW Department of Planning, Industry and Environment
Early Works	Works specified in Appendix B of the Infrastructure Approval which are required to be approved under an Early Works Environmental Management Plan required under Condition A24.
EIS	Environmental Impact Statement
EMS	Environmental Management System
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental Assessment Documentation	All environmental documentation including the EIS, Amendment report, Submissions report and all supplementary reports
Environmental Representative (ER)	A suitably qualified and experienced person independent of project design and construction personnel employed for the duration of construction. The principal point of advice in relation to all questions and complaints concerning environmental performance.
EPA	NSW Environment Protection Authority

Abbreviations	Expanded text
EP&A Act	<i>Environmental Planning and Assessment Act 1979 (NSW)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environmental Protection Licence
ESCP	Erosion and Sediment Control Plan
EWEMP	Early Works Environmental Management Plan
EWFFMP	Early Works Flora and Fauna Management Sub-plan
EWMS	Environmental Work Method Statements
Highly Noise Affected	Highly noise affected level represents the point above which there may be strong community reaction to noise (above 75 dB(A)) as defined in the ICNG (EPA, 2009)
Highly Noise Intensive Works	<p>Works which are defined as annoying under the Interim Construction Noise Guideline (DECC, 2009) including:</p> <ul style="list-style-type: none"> • Use of power saws, such as used for cutting timber, rail lines, masonry, road pavement or steel work • Grinding metal, concrete or masonry • Rock drilling • Line drilling • Vibratory rolling • Bitumen milling or profiling • Jackhammering, rock hammering or rock breaking • Impact piling.
Hold point	Is a verification point that prevents work from commencing prior to approval from TfNSW and CPB
ICNG	<i>Interim Construction Noise Guideline</i> (Environment Protection Authority, 2009)
Minister, the	Minister of the NSW Department of Planning, Industry and Environment (or delegate)
Noise Affected	Where noise affected management level represents the level above which there may be some community reaction to noise, as defined in the ICNG (EPA, 2009).
Non-conformance	Failure to conform to the requirements of Project system documentation including this CEMP or supporting documentation.

Abbreviations	Expanded text
NSW CoA	NSW Conditions of Approval
NVIS	Noise and Vibration Impact Statement
OCS	Overarching Communication Strategy
OOHW	Out-of-hours work
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
Principal, the	TfNSW Services
Project, the	M12 Motorway Project
Primary CoA/REMM	CoA/REMM that are specific to the development of this Plan
QA	Quality Assurance
REMM	Revised Environmental Management Measures
Resource	Resource covers energy, fuel, oil, water and other materials used for construction of the Project
SAP	Sensitive Area Plan
SDS	Safety Data Sheet
Secondary CoA/REMM	CoA/REMM that are related to, but not specific to, the development of this Plan
Secretary	Secretary of the NSW Department of Infrastructure, Planning and Environment, or delegate
SEMP	Site Establishment Management Plan
Standard Working Hours	As defined by the <i>Interim Construction Noise Guideline</i> : Monday to Friday 07:00am to 6:00pm Saturday 8:00 am to 1:00 pm At no time on Sunday or public holidays
TfNSW	Transport for New South Wales (formerly Roads and Maritime Services (RMS))
WHSMP	Work Health and Safety Management Plan
WSIA	Western Sydney International Airport

1 Introduction

1.1 Context

This Early Works Site Establishment Management Plan (SEMP or Plan) forms a Sub-plan to the Early Works Environmental Management Plan (EWEMP) for the M12 Motorway (the Project) Temporary Roundabout Works Elizabeth Drive, Badgerys Creek.

This SEMP has been prepared to address the requirements of the NSW Minister's Conditions of Approval (CoA), Commonwealth CoA, the environmental management measures detailed in the M12 Motorway Environmental Impact Statement (EIS), Revised Environmental Management Measures (REMMs) detailed in the Amendment Report Submissions Report (ARSR), and all applicable legislation and TfNSW Specifications.

1.2 Background and Project description

Transport for New South Wales (TfNSW) is planning to construct and operate the M12 Motorway (the Project) to provide direct access between the Western Sydney International Airport (WSIA) at Badgerys Creek and Sydney's motorway network. The M12 Motorway will run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for about 16 kilometres and is expected to be opened to traffic prior to opening of the WSIA.

These Early Works involve the construction of a temporary roundabout on Elizabeth Drive at Badgerys Creek to provide access to the M12 Motorway's main works area off Elizabeth Drive and to enable construction of the main works.

1.3 Scope of the Plan

This SEMP is related to the Early Works phase only. This includes the establishment of two Ancillary facilities required to support the roundabout works at Elizabeth Drive, Badgerys Creek.

The location of the two sites will be:

- The existing compound for The Northern Road Stage 5 (TNR 5) project has been approved for use as an Ancillary Facility (AF10) and will also be utilised for the Early Works. This site is already approved by TfNSW and DPIE through the Amendment Report Submissions Report March 2021. As it will have a dual use for a period of time for both the TNR5 project and the M12 Early Works, a copy of the approved TNR5 Ancillary Facilities Management Plan covering C16 is included as Appendix E.
- Within the Early Works footprint Minor Ancillary Facilities comprising two (2) site sheds (12m x 3m) for lunch room/office and self-contained amenities and two (2) lockable shipping containers for storage of hand tools, small mechanical equipment, erosion control supplies and the like within the approved Early Works footprint, the preferred location of the Minor Ancillary Facilities is illustrated on Figure 1

These facilities are required to support the Temporary Roundabout works at Elizabeth Drive as described in the Early Works Environmental Management Plan (EWEMP). Construction, as defined by the Infrastructure Approval is not within the scope of the EWEMP and Sub-plans.



- KEY**
- West Package Construction Boundary
 - Indicative area of the temporary roundabout as illustrated in Figure 5 of the M12 Motorway Planning Approval
 - Proposed boundary adjustments subject to further approvals
 - Temporary roundabout design
 - Temporary barrier
 - Temporary site shed
 - Major road (refer to inset)
 - Waterbody
 - Cadastral boundary
 - Local government area (refer to inset)
 - Hollow-bearing tree
 - Plant community type
 - 849 | Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion
 - 850 | Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion
 - LEP-listed heritage
 - Item - General

Figure 1: Early Works Minor Ancillary Facilities location



Figure 2: AF10 Early Works Ancillary Facilities location

1.4 Environmental Management System overview

The Environmental Management System (EMS) for the Early Works is described in Section 3 of the EWEMP. CPB Contractors will have an EMS consistent with the overarching EMS.

This EWSEMP forms part of the environmental management framework for Early Works of the Project, as described in Section 3.1 of the EWEMP.

Management measures identified in this EWSEMP may also be incorporated into site or activity specific Environmental Work Method Statements (EWMS). EWMS incorporate appropriate mitigation measures and controls and identify key procedures to be used concurrently with the EWEMP. Further detail on the EWMS is provided in Section 3.3.2 of the EWEMP; a template EWMS for use by CPB Contractors is provided in Appendix A6 of the EWEMP.

1.4.1 EWSEMP preparation, endorsement and approval

This EWSEMP has been prepared to satisfy the NSW and Commonwealth CoA's in relation to site establishment works during the Early Works for the Project.

This EWSEMP will be reviewed by the TfNSW Utilities Manager and the Environment and Sustainability Manager (or delegate) and endorsed by the ER prior to submission to the Secretary of DPIE for approval. This EWSEMP will be submitted for the approval of the Secretary no later than one month before the establishment of the early works footprint facility.

1.4.2 Interactions with other management plans

This Plan has the following interrelationships with other management plans and documents:

- The EWEMP, which forms the overarching environmental management framework for the Early Works, and all environmental management measures to be implemented during Early Work including:
 - The Early Works Flora and Fauna Management Plan (EWFFMP), which describes how potential impacts of Early Works on flora and fauna will be minimised and managed. The EWFFMP is provided in Appendix B2 of the EWEMP
- CPB Contractors Work Health and Safety Management Plan will address the safety requirements associated with the use of herbicides and pesticides. Safety Data Sheets (SDS) and product labels will also be referenced prior to application of herbicides and pesticides. The Weed Management Procedure identifies all record keeping requirements associated with the use of herbicides and pesticides
- Consultation between TfNSW and CPB Contractors, stakeholders, community and relevant agencies will be undertaken in accordance with the Overarching Communication Strategy (OCS) prepared by TfNSW to address the requirements of NSW CoA B1 and B2
- CPB Contractors environmental documentation.

1.5 Consultation

1.5.1 Consultation for preparation of the SEMP

In accordance with NSW CoA A16, this EWSEMP has been prepared in consultation with the Penrith City Council. A log of the dates of engagement or attempted engagement with Penrith City Council is provided in Table 1-1 in accordance with NSW CoA 5(b).

Table 1-1: Provides a log of engagement or attempted engagement with Penrith City Council.

Agency	Date	Person Contacted	Penrith City Council Comment	CPB Contractors Response 20/10/21
Penrith City Council	8/10/21	Ari Fernando	1. There were no plans of proposed works location noted within the SEMP.	The Early Works Site Establishment Management Plan (EWSEMP) has been prepared to facilitate the use of the existing CPB Contractors Ancillary Facility on The Northern Road and establishment of a minor ancillary facility at the proposed site of the temporary roundabout on Elizabeth Drive. CPB Contractors have prepared an Early Works Environmental Management Plan (EWEMP) to facilitate the works associated with the construction of the temporary roundabout on Elizabeth Drive. Under the CSSI Planning Approval the EWEMP is not required to be issued for consultation.
			2. There were no plans of proposed roundabout shown. Simon promised to provide plans for Council LTC before 12 October and have not provided yet.	A copy of the roundabout design can be found by clicking on this link. TfNSW and CPB Contractors note that these designs aren't relevant for the purposes of consultation on the Site Establishment Management Plan (SEMP) under the M12 Motorway CSSI Planning approval. CPB Contractors has prepared an EWEMP to facilitate the works associated with the construction of the temporary roundabout on Elizabeth Drive. Under the CSSI Planning Approval the EWEMP does not require to be issued for consultation.
			3. Site Establishment Management Plan is not an approval to proceed with construction.	The EWSEMP has been prepared to facilitate the use of the existing approved CPB Contractors Ancillary Facility on The Northern Road and establishment of a minor ancillary facility at the proposed site of the temporary roundabout on Elizabeth Drive. The purpose of the EWSEMP is not to detail road safety improvements such as lighting or regulatory signs and line marking plans. This information is detailed in the respective Traffic Management Plan.

Agency	Date	Person Contacted	Penrith City Council Comment	CPB Contractors Response 20/10/21
			4. There were no site safety improvements such as lighting or regulatory signs and line marking plans attached	The EWSEMP has been prepared to facilitate the use of the existing approved CPB Contractors Ancillary Facility on The Northern Road and establishment of a minor ancillary facility at the proposed site of the temporary roundabout on Elizabeth Drive. The purpose of the EWSEMP is not to detail road safety improvements such as lighting or regulatory signs and line marking plans. This information is detailed in the respective Traffic Management Plan.
			5. It is noted in Appendix A that this SEMP was prepared in consultation with Penrith City Council and Liverpool Council as required by NSW CoA A16. Documentation of engagement is provided below in accordance with NSW CoA[BR1] A5(a).	<p>Below are responses for comment no. 5, 6 and 7:</p> <p>The text in Appendix A is an administrative error. The text is a carryover from the EWSEMP prepared for the Electrical and Water Relocation Early Works to be undertaken on Luddenham Road and Elizabeth Drive and was included by error. Appendix A will be amended to reflect consultation with Penrith City Council in respect to the EWSEMP for the construction of the temporary roundabout on Elizabeth Drive.</p> <p>CPB Contractors notes that as required by CSSI Planning Approval Condition 5(b) all consultation correspondence is required to be appended to the relevant plan issued for consultation. Appendix A will be amended to reflect consultation with Penrith City Council in respect to the EWSEMP for the construction of the temporary roundabout on Elizabeth Drive.</p>
			6. However this was the first time Council has noted a SEMP for a roundabout, and considers this report is flawed to this extent.	Noted

Agency	Date	Person Contacted	Penrith City Council Comment	CPB Contractors Response 20/10/21
			7. Previous comments on SEMP forwarded to us was on a site compound for a site compound on road reserve land on M12 acquired road reserve. Hence our comment was that Council had no concern.	Noted and addressed in earlier comments
			I raise concern about noted comments in Appendix A being very unprofessional	Noted

In accordance with NSW CoA A5, the consolidated evidence of consultation undertaken for the preparation of this plan is provided in Appendix A. Appendix A of this plan includes:

- Documentation of the engagement with the parties identified above that occurred prior to submitting the document to the Secretary for approval
- Documentation of the follow-up with the identified parties where engagement or feedback has not been provided to confirm that they have no feedback or have not attempted to engage or provide feedback after repeated requests
- An outline of the issues raised by the identified parties, a summary of how they have been addressed and a cross reference to the section or Sub-plan of the EWEMP where the issue has been addressed
- A description of the outstanding issues raised by the identified parties and the reasons why they have not been addressed.

1.5.2 Ongoing consultation during Early Works

Consultation between TfNSW, CPB Contractors, stakeholders, the community and relevant agencies regarding the management of site establishment within the Project area will be undertaken during the Early Works as required. The process for the consultation will be documented in the Overarching Communication Strategy (OCS).

2 Purpose and objectives

2.1 Purpose

The purpose of this Plan is to describe how impacts associated with the use and operation of the of the Early Works main ancillary facility, AF10 will be minimised and managed during the M12 Elizabeth Drive Temporary Roundabout Early Works Project.

2.2 Objectives

The objective of this EWSEMP is to ensure that all avoidance, mitigation and management measures relevant to site establishment activities will be implemented, with reference to:

- The Environmental Impact Statement (EIS), Response to Submissions, Amendment Report, and Submissions Report to the Amendment Report prepared for M12 Motorway
- NSW Conditions of Approval (SSI 9364) granted 23 April 2021
- Commonwealth Conditions of Approval (CoA) to the Project on 3 June 2021
- TfNSW QA Specifications G01, G36, G38 and G40.

2.3 Performance outcomes

Performance outcomes have been established based on the specific sensitivities relevant to the early works facilities to allow for full compliance with the relevant legislative requirements, CoA and environmental management measures. These performance outcomes are outlined in Table 2-1.

Table 2-1: Performance outcomes for Ancillary Facilities

Aspect	Performance outcome	Measurement tool
Noise and Vibration	<ul style="list-style-type: none"> • Minimise noise and vibration complaints by implementing appropriate management measures 	<ul style="list-style-type: none"> • Complaints Register
Water Quality	<ul style="list-style-type: none"> • Minimise potential impacts to water quality 	<ul style="list-style-type: none"> • Environmental incident reports
Biodiversity	<ul style="list-style-type: none"> • Vegetation clearing will be undertaken in a manner that avoids and minimises impacts to threatened fauna species 	<ul style="list-style-type: none"> • Pre-clearing survey report
Incident Management	<ul style="list-style-type: none"> • All environmental incidents will be appropriately managed to minimise their impact on the surrounding environment. 	<ul style="list-style-type: none"> • Environmental incident reports
Compliance	<ul style="list-style-type: none"> • Activities to establish and operate the site compounds will be compliant with the State and Commonwealth CoA and the Environmental Assessment Documentation 	<ul style="list-style-type: none"> • Compliance records

3 Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation

All legislation relevant to this SEMP is included in Appendix A1 of the EWEMP. Legislation considered during the development of this Plan includes:

- *Protection of the Environment Operations Act 1997 (POEO Act)*
- *Environmental Planning and Assessment Act 1979 (EP&A Act)*
- *Contaminated Land Management Act 1997 (CLM Act)*
- *Biodiversity Conservation Act 2016 (BC Act)*
- *Heritage Act 1977.*

3.1.2 Additional approvals, licences, permits and requirements

Refer to Appendix A1 of the EWEMP. It is noted that the NSW Environmental Protection Authority (EPA) has confirmed that an EPL is not required for the M12 Early Works; evidence of consultation is provided in Appendix A7 of the EWEMP.

3.1.3 Guidelines and standards

The main guidelines, specifications for policy documents relevant to this plan include:

- Transport for NSW QA Specification G1 – Job Specific Requirements
- Transport for NSW QA Specification G36 – Environmental Protection (Management System)
- Transport for NSW QA Specification G38 – Soil and Water Management
- Transport for NSW QA Specification G40 – Clearing and Grubbing
- *Managing Urban Stormwater: Soils and Construction. Volume 2D: Main Road Construction, DECC (2008)*
- *Managing Urban Stormwater: Soils and Construction. Volume 1: 'Blue Book', Landcom (2004)*
- *Transport for NSW Construction Noise and Vibration Guidelines (TfNSW, 2016)*
- *Transport for NSW Noise Mitigation Guidelines (TfNSW, 2015)*
- *Transport for NSW Noise Criteria Guideline (TfNSW, 2015).*
- *Interim Noise Construction Guideline (ICNG) (EPA, 2009).*

3.2 NSW Conditions of Approval

The primary NSW CoA relevant to this Plan are listed Table 3-1 below. A cross reference is also included to indicate where the condition is addressed in this Plan or other project management documents. Where relevant, secondary conditions relevant to this Plan have been listed in Appendix B.

Table 3-1: Conditions of Approval relevant to the EWSEMP

CoA No.	Condition Requirements	Document Reference
A15	Construction ancillary facilities (excluding minor construction ancillary facilities established under Condition A20), that are not identified by description and location in the documents listed in Condition A1 can only be established and used in each case if:	Appendix E (C16) and Figure 1 Section 4.1
	(a) they are located within or immediately adjacent to the construction boundary; and	Section 4.1
	(b) they are not located next to a sensitive receiver(s) (including where an access road is between the facility and the receiver(s)), unless the sensitive receiver(s) (both the landowner(s) and occupier(s) ²) have given written acceptance to the carrying out of the relevant facility in the proposed location; and <i>² For the purposes of this condition, the term “occupier(s)” refers to residents that occupy a premises or a tenant in a building.</i>	Section 4.1
	(c) they have no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval; and	Section 4.1
	(d) the establishment and use of the facility can be carried out and managed within the outcomes set out in the terms of this approval, including in relation to environmental, social and economic impacts.	Section 4.1
A16	Before establishment of a construction ancillary facility(ies) (excluding minor construction ancillary facilities established under Condition A20), the Proponent must prepare a Site Establishment Management Plan which outlines the environmental management practises and procedures to be implemented for the establishment of the construction ancillary facility(ies). The Site Establishment Management Plan must be prepared in consultation with the relevant council(s) and relevant State government agencies. The Plan must be endorsed by the ER and then submitted to the Planning Secretary for approval one (1) month before the establishment of the construction ancillary facility(ies). The Site Establishment Management Plan must detail the management of the construction ancillary facility(ies) and include:	This EWSEMP Section 1.5.1 Appendix A Section 1.4.1

CoA No.	Condition Requirements	Document Reference
	(a) A description of activities to be undertaken during establishment of the construction ancillary facility(ies) (including scheduling and duration of work to be undertaken at the site);	Section 4.1 Section 4.2.3
	(b) Figures illustrating the proposed site layout and the location of the closest sensitive receiver(s);	Figure 1
	(c) A program for ongoing analysis of the key environmental risks arising from the site establishment activities described in subsection (a) of this condition, including an initial risk assessment undertaken before the commencement of site establishment work;	Initial Risk Assessment Table 6-3 Section 7.5 and 8.1
	(d) Details of how the site establishment activities described in subsection (a) of this condition will be carried out to:	N/A
	(i) Meet the performance outcomes stated in the documents listed in Condition A1, and	Appendix A8
	(ii) Manage the risks identified in the risk analysis undertaken in subsection (c) of this condition; and	Table 6-3
	(e) A program for monitoring the performance outcomes, including a program for noise monitoring consistent with the requirements of Condition C14.	Appendix C Section 7.5
	The Site Establishment Management Plan must be approved before the establishment of a construction ancillary facility(ies) (excluding minor construction ancillary facilities established under Condition A20). Nothing in this condition prevents the Proponent from preparing individual Site Establishment Management Plans for each construction ancillary facility. <i>Note: Condition A16 does not apply to minor construction ancillary facilities established under Condition A20.</i>	Section 1.4.1
A17	Where a construction ancillary facility(ies) has been established for any early works listed in Appendix B and is to be used for construction, a new or revised Site Establishment Management Plan must be prepared where additional activities are required to establish the site for the purposes of construction or there is a change to the site layout. The new or revised Site Establishment Management Plan must be prepared in accordance with	Section 8.2

CoA No.	Condition Requirements	Document Reference
	Condition A16 and approved by the Planning Secretary before commencement of the additional activities or change to site layout.	
A20	Lunch sheds, office sheds, portable toilet facilities, and the like, can be established and used where they have been assessed in the documents listed in Condition A1 or satisfy the following criteria: (a) are located within or adjacent to the construction boundary; and	Figure 1
	(b) have been assessed by the ER to have - (i) minor amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the Interim Construction Noise Guideline (DECC, 2009), traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts, and	Section 5.3.1 Section 5.1 Section 5.2 Section 5.5 Table 6-3
	(ii) minor environmental impact with respect to waste management, soil, water and flooding, and	Section 5.12 Section 5.7 Section 5.8
	(iii) no impacts on heritage items (including areas of archaeological sensitivity), threatened species, populations or ecological communities beyond the impacts approved under the terms of this approval.	Section 5.11 Section 5.10
A24	Before undertaking early works specified in Appendix B, the Proponent must prepare an Early Works Environmental Management Plan. The Plan must include: (b) a site establishment management plan for any proposed construction ancillary facilities (excluding minor construction ancillary facilities established under Condition A20) consistent with the requirements of Condition A16;	This EWSEMP

CoA No.	Condition Requirements	Document Reference
E61	The CSSI must be constructed in a manner that minimises visual impacts of construction ancillary facilities, including but not limited to, providing temporary landscaping and vegetative screening of the construction sites, minimising light spill, and incorporating architectural treatment and finishes within key elements of temporary structures that reflect the context within which the construction sites are located.	Figure 1 Section 5.5 Table 6-3

3.3 Primary Revised Environmental Management Measures (REMMs)

The primary REMMs relevant to this Plan are listed Table 3-2 below. A cross reference is also included to indicate where the condition is addressed in this Plan or other project management documents. Where relevant, secondary conditions relevant to this Plan have been listed in Appendix B.

Table 3-2: Primary REMMs relevant to this Plan

REMM	Condition Requirements	Document Reference
LVIA05	Project elements such as ancillary facility hoardings will be designed and maintained to minimise impacts on landscape character and visual amenity. This will include selecting colours and materials that are visually recessive and blend into the surrounding landscape where practicable, and the prompt removal of graffiti.	Section 5.5 Table 6-3
NV03	Detailed noise assessments will be carried out for ancillary facilities with the potential to involve high noise generating activities (including batching plant operations). The assessments will consider the proposed site layouts and noise generating activities that will occur at the facilities and assess predicted noise levels against the relevant noise management criteria. The assessments will also consider the requirement for appropriate noise mitigation within ancillary facilities and adjacent to construction works, depending on the predicted noise levels. Any mitigation measures required will be implemented before the start of activities that generate noise and vibration impacts.	Section 5.3 Appendix C
HS02	Measures to mitigate and manage bushfire risk will be developed and included as part of site specific hazard and risk management measures within the WHSMP. Measures will include the maintenance of ancillary facilities in a tidy and orderly manner and the storage and management of dangerous goods and hazardous materials in a safe location.	Section 5.13 Table 6-3

3.4 TfNSW QA Specifications

TfNSW QA Specification requirements relevant to the development of this Plan are listed in Table 3-3. TfNSW QA Specification requirements relevant to the EWEMP, as the overarching environmental management document for Early Works (refer to Section 1.4.2) are provided in Section 1.6 of the EWEMP.

Table 3-3: TfNSW QA Specification requirements relevant to the development of this Plan

QA Specification Reference	Requirement	Reference
G36 4.15	Locate and manage ancillary facilities (refer to Specification TfNSW G2) in accordance with the Site Establishment Management Plan in the EWEMP to minimise impacts on the environment and the community.	This EWSEMP
G36 4.16	Prior to Completion, restore any areas disturbed by you (such as areas for ancillary facilities, material storage, access and haul roads and the provision of TfNSW's project accommodation) to a condition similar to that existing before disturbance, unless authorised otherwise by TfNSW	PCLCA-Post Construction

4 Site establishment works

4.1 Overview

Ancillary facilities will be established to support site-based personnel during Early Works. As required by CoA A16 and CoA A24(b), before undertaking Early Works, a Site Establishment Management Plan (SEMP) for any proposed construction ancillary facilities (excluding minor construction ancillary facilities established under CoA A20) must be prepared to outline the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facility(ies).

One Early Works Ancillary Facility, (AF10), is proposed to be utilised as part of the Early Works program. Two (2) Minor Ancillary Facilities are also required to support the Temporary Roundabout Works at Elizabeth Drive, Badgerys Creek.

4.1.1 Ancillary Facility AF10

The existing compound currently used for The Northern Road Stage 5 (TNR 5) project will be utilised for M12 Early Works. This ancillary facility was approved for use by the Planning Secretary under The Northern Road Upgrade Approval (SSI 7127). AF10 is identified by TfNSW within the Amendment Report Submissions Report March 2021 as AF10 and forms part of the documents listed in NSW CoA A1.

AF10 is located at the western extent of the Project, and adjoins the eastern verge of The Northern Road in Luddenham (refer to

Figure 2).

As it will have a dual use for a period of time for both the TNR5 project and the M12 Early Works, a copy of the approved TNR5 Ancillary Facilities Management Plan covering C16 is included as Appendix E. AF10 is located at the western extent of the Project, and adjoins the eastern verge of The Northern Road in Luddenham (refer to

Figure 2). Site access to AF10 is via the existing access point off The Northern Road and Littlefields Road (refer to Appendix E). No changes to the existing access arrangements at this location are required. The nearest receiver to AF10 is located approximately 108m from the nearest point of the ancillary facility. No changes to the layout or proposed operation of the existing ancillary facility are proposed as a result of its utilisation as AF10 for the M12 Temporary Roundabout Early Works

4.1.2 Minor Ancillary Facilities

Two (2) Minor Ancillary Facilities are also required to support the Temporary Roundabout Works at Elizabeth Drive, Badgerys Creek and are located within the Early Works footprint as shown on **Error! Reference source not found..** The Minor Ancillary Facilities comprising of two (2) site sheds (12m x 3m) for lunch room/office and self-contained amenities and two (2) lockable shipping containers for storage of hand tools, small mechanical equipment and erosion control supplies. Access to and from the Early Works footprint and the Minor Ancillary Facilities, will be off Elizabeth Drive and there will be restricted 'left in, left out' traffic movements in place. No private roads will be used for access to the site. The site facilities are approximately 474m from the nearest dwelling, refer to Figure 1.

4.2 Site Establishment Activities

4.2.1 Ancillary Facility AF10

No site establishment works are required. However as detailed in Section 3.2.3 of Appendix E, the following site establishment works were undertaken when the site was initially set up for The Northern Road Stage 5 Project:

- Initial site survey and inspections
- Installation of erosion protection measures
- Clearing and grubbing
- Establishment of Construction site fencing, signage and lighting
- Establishment of Construction site access points, traffic management measures, alternative public access routes, diversions and minor road modifications if required
- Establishment of hardstand (as required)
- Demolition of redundant structures on acquired/leased land
- Relocation and/or removal of farm infrastructure
- Operation and maintenance of stockpiles
- Delivery of materials.

4.2.2 Minor Ancillary Facilities

Early Works site establishment will comprise of:

- Vegetation clearance and earthworks in accordance with the EW Flora and Fauna Management Plan (FFMP) to deliver and site the Minor Ancillary Facilities in the Early Works Footprint
- Installation of hardstand designated parking areas on the North and South sides of Elizabeth Drive work zones (for Minor Ancillary Facilities within the Early Works Footprint – i.e. boundary fence limits) and hardstand for staff amenities as described below
- Delivery and siting of Minor Ancillary Facilities temporary office, lunchroom and amenities portable sheds and lockable shipping container tool sheds in the Early Works Project footprint,
- Installation of perimeter fencing, and environmental controls around the Minor Ancillary Facilities
- Utilisation of the existing approved AF10 compound for materials laydown and storage areas, and as the main site office. No further additional buildings, clearing, vegetation disturbance, earthworks or construction activities are required at AF10.

Temporary stockpiling may be required during Early Works footprint to store excavated material, until it is reused for backfilling upon the completion of the Temporary Roundabout Early Works. Temporary stockpiles will also be located within the AF10 footprint where required. No long term stockpiles in the Early Works area will be allowed due to space constraints.

Temporary stockpile sites will include environmental protection measures such as erosion controls to minimise impacts on sensitive receivers from dust.

Generators used for powering Minor Ancillary Facilities including staff amenities at the Early Works area and will be located away from nearby sensitive receptors (closest sensitive receiver is 422m to the north, see Figure 1 to minimise and or prevent noise nuisance.

Activities to be undertaken to establish the Early Works footprint site are outlined in Table 4-1.

Table 4-1: Site establishment activities for Minor Ancillary Facilities

Stage	Activities
Site clearing works	<ul style="list-style-type: none"> • Install site perimeter fences and hoarding, where necessary • Installation of site sediment and erosion controls and pollution management measures (prior to any vegetation clearance) • Vegetation clearing and grubbing • Stripping topsoil and vegetation • Stripping and stockpiling of topsoil for reuse, where possible
General earthworks	<ul style="list-style-type: none"> • Earthworks to provide platforms for site sheds/offices/toilets/workshops, car parking areas
Site facilities	<ul style="list-style-type: none"> • Mobilise and installation of site facilities including (but not limited to): <ul style="list-style-type: none"> - Site offices - Toilets - Storage facilities - Site security and lighting
Site handover for main construction purposes	<ul style="list-style-type: none"> • Ensure site is adequate for handover based on PCLCA assessment • Rehabilitation by CPB Contractors if site establishment is completed prior to commencement of main works M12 construction.

4.2.3 Duration of site establishment activities for Minor Ancillary Facilities

The site establishment works are scheduled to commence in Q4 of 2021; the duration of site establishment may be up to one week. The site ancillary facilities are expected to be utilised until completion of Temporary Roundabout Early Works by Q1 of 2022.

The EWSEMP will be updated in accordance with NSW CoA A17 if additional activities or a change in site layout is required for the purposes of re-establishing the facility for construction. The sites will be rehabilitated by CPB if site establishment works are completed prior to the commencement of construction activities.

4.3 Site layout and access

An indicative layout of the Early Works footprint facilities is provided in Figure 1 and Appendix E (AF10). No private roads will be used for access to the site.

Access to and from the Early Works footprint for Minor Ancillary Facilities, will be off Elizabeth Drive. No private roads will be used for access to the site. Site facilities are approximately 425m from the nearest dwelling. Site access will be via hardstand access areas and have restricted 'left in, left out' movements.

Site access to AF10 is via the existing access point off The Northern Road and Littlefields Road (refer to Appendix E). No changes to the existing access arrangements at this location are required.

In accordance with NSW CoA A21, boundary screening will be erected around AF10 where required for the duration of Early Works. The existing boundary screening consists of earth bunds between 3 and 4m high and chain wire fencing and screening cloth to minimise visual impacts to sensitive receivers in accordance with NSW CoA A22. In accordance with NSW CoA A23 and B7, signs will be displayed at the entrance of the Early Works footprint facility and the AF10 ancillary facility that displays the following information:

- The CSSI name: M12 Motorway
- Application number: SSI- 9364
- A 24- hour telephone number for the registration of complaints and enquiries about the CSSI: 1800 517 155
- A postal address to which written complaints and enquires may be sent:
 - Transport for NSW (M12 Motorway), PO Box 973, Parramatta, NSW, 2124
- An email address to which electronic complaints and enquiries may be transmitted: m12motorway@transport.nsw.gov.au.

4.4 Plant and Equipment

Plant and equipment expected to be used for site establishment of the Early Works footprint facility may include:

- Small cranes and lifting equipment
- Excavators
- Vibratory rollers
- Concrete trucks
- Concrete vibrators
- Road trucks
- Light vehicles
- Chainsaws
- Mulcher
- Fences
- Portable sheds
- Portable ablutions
- Generators
- Compactors
- Graders
- Watercart
- Waste tanks.

4.5 Working hours

In accordance with NSW CoA E34, AF10 operation will be undertaken during the following working hours:

- 7:00 am to 6:00 pm Monday to Friday
- 8:00 am to 6:00 pm Saturday (subject to prior approval from TfNSW)
- At no time on Sunday or public holidays.

Application to work between 1:00 pm and 6:00 pm on a Saturday (the allowable work hours on Saturdays identified in the Infrastructure Approval) must be submitted to the Principal no later than 12:00 pm on the Thursday immediately prior to the Saturday for which works are proposed, and must include the details of the work activities proposed to be carried out. Approval is at the sole discretion of TfNSW. While not expected to be required, any highly noise intensive works that result in an exceedance of the applicable noise management level at the relevant receiver will be undertaken in accordance with NSW CoA E35, and must only be undertaken:

- Between 8:00 am to 6:00 pm Monday to Friday
- Between 8:00 am to 1:00 pm Saturday
- In continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.

‘Continuous’ includes any period during which there is less than a one hour respite between ceasing and recommencing the work.

As required by NSW CoA E37, CPB will identify and liaise with TfNSW to consult with receivers identified as being subject to levels that exceed the highly noise affected criteria (if required) with the objective of determining appropriate hours of respite unless an agreement is reached with those receivers.

In accordance with the ‘Environmental Planning and Assessment (COVID-19 Development—Construction Work Days) Order (No 3) 2021’ CPB can carry out construction activities on a Saturday, Sunday or public holiday during the hours of work or operation specified for a weekday in the development consent i.e. 8am to 6pm. The works are not permitted to include the carrying out of rock breaking, rock hammering, sheet piling, pile driving or similar activities during these hours.

4.5.1 Noise Screening Assessment

A noise screening assessment (Appendix D) has been undertaken to determine whether a Noise and Vibration Impact Statement (NVIS) in accordance with NSW CoA E40 is required to be prepared.

The noise screening assessment has been undertaken for the closest sensitive receiver during site establishment for Minor Ancillary Facilities in the Early Works Footprint and operational conditions for both the early works footprint Minor Ancillary Facilities and the AF10 facility. The scenarios utilised for the screening assessments adopt a conservative approach, with the assumption that all equipment will be in use at the same time (refer to Section 5.3).

The nearest receiver to AF10 is located approximately 108m from the nearest point of the ancillary facility. As the facility is currently also utilised for the TNR5 project, the M12 staffing levels and operations are not predicted to exceed the TNR5 staffing levels and will generally be indistinguishable from the TNR5 noise levels during combined use. The noise assessment has been undertaken to provide an assessment of the AF10 only use following completion of the TNR5

project. The noise assessment has been undertaken using background data from the M12 EIS and Amendment Report. Results show no exceedance of standard hours noise levels at the receiver. The results are presented in Appendix D.

The nearest receiver from the Early Works Footprint Minor Ancillary Facilities is approximately 474 m from the site, and is unlikely to be affected by the construction or operation of the facility with assessments showing the site to be inaudible for compound operation during standard hours.

4.5.2 Out of Hours Work

CPB Contractors will prepare a procedure for Out of Hours Work (OOHW), prepared in accordance with the *Construction Noise and Vibration Guidelines (Roads and Maritime, 2016)*. The procedure will be prepared to address the requirements of NSW CoA E37 relating to OOHW. Approvals for any changes to the construction hours will be attached to the EWEMP in the OOHW Protocol.

4.5.3 Variation to hours of work

Works associated with the delivery of the Project may be undertaken outside the hours of work identified in Section 4.5 in the following circumstances, in accordance with NSW CoA E36:

- Safety and emergencies:
 - For the delivery of materials required by the NSW Police Force or other authority for safety reasons
 - Where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent material environmental harm
 - On becoming aware of the need for emergency works, CPB will notify the TfNSW Project Manager, the Planning Secretary, the ER and the EPA of the need for those works. CPB will use its best endeavours to notify all affected sensitive receivers of the likely impact and duration of those works.
- Work that causes:
 - $L_{Aeq(15 \text{ minute})}$ noise levels:
 - No more than 5 dB(A) above the rating background level at any residence in accordance with *Interim Construction Noise Guideline (DECC, 2009)*
 - No more than the “Noise affected” noise management levels specified in Table 3 of the *Interim Construction Noise Guideline (DECC, 2009)* at other sensitive land uses
 - $LAF_{max(15 \text{ minute})}$ noise levels no more than 15 dB(A) above the rating background level at any residence during the night time period
 - Continuous or impulsive vibration values, measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.2 of *Assessing Vibration: a technical guideline (DEC, 2006)*
 - Intermittent vibration values measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.4 of *Assessing Vibration: a technical guideline (DEC, 2006)*
- By approval:
 - Where different construction hours are permitted or required under an EPL in force in respect of the Project

- Work not subject to an EPL that are approved under an Out-of-Hours Work Protocol in accordance with NSW CoA E37
- Negotiated agreements with directly affected residents and sensitive land user(s).

Approvals for any changes to the construction hours outlined in Section 4.5 above will be attached to the EWEMP.

5 Environmental aspects and impacts

This section of the Plan provides an overview of potential environmental aspects and impacts that are related to site establishment activities. It is noted that the environmental aspects, impacts and their management for the AF10 compound are included in Appendix E.

5.1 Traffic and transport

Access to and from AF10 will be from the existing approved access via The Northern Road and Littlefields Road, all roads are sealed and the intersection has a signalised entry off the Northern Road permitting left and right movements in and out of Littlefields road.

Access to and from the Early Works footprint Minor Ancillary Facilities will be via left-in, left-out from Elizabeth Drive. No private roads will be used for access to the site. The facilities have been located to minimise the need for heavy vehicles to travel through residential areas. On-site worker parking will be available during the site establishment phase at the Early Works Footprint Minor Ancillary Facility.

Roads identified as potential access routes in the Environmental Assessment Documentation included M7 Motorway, Elizabeth Drive and The Northern Road. The Secretary's approval for the use of local roads by heavy vehicles in accordance with NSW CoA E93 is not required as the use of The Northern Road and Elizabeth Drive has been identified in the Environmental Assessment Documentation. Therefore, a traffic and pedestrian impact assessment in accordance with NSW CoA E94 is not required.

In accordance with NSW CoA E95, a Road Dilapidation Report will be prepared before any local road not identified by the Environmental Assessment Documentation is used by a heavy vehicle for the purposes of the project, unless otherwise agreed by the relevant road authority.

Any potential traffic and transport impacts will be managed in accordance with the environmental management measures listed in Table 6-3.

5.2 Air quality

There is potential for air quality impacts at the Minor Ancillary Facility during site establishment works due to:

- Dust as a result of ground disturbance (earthworks), vegetation clearing and grubbing, removal and/or stockpiling of topsoil
- Emissions due to the use of plant, machinery and vehicles
- Dust due to the storage of equipment
- Dust due to storage of materials
- Dust due to vehicle access on hardstand.

It is not anticipated that there will be any odour generated as a result of the establishment or operation of the Minor Ancillary Facilities.

The Environmental Assessment Documentation concluded that impacts on air quality will be minor in nature. Any potential air quality impacts will be managed in accordance with the environmental management measures listed in Table 6-3.

No earthworks are required for use of the AF10 facility and mains electrical power is connected to the site.

5.3 Noise and vibration

Proposed site establishment works for the Minor Ancillary Facilities may result in potential noise and vibration impacts through the use of heavy machinery. Site establishment works will occur during standard construction hours or approved extended hours where possible, however some works may be required outside these hours. Should out of hours works be required, a NVIS would be developed by CPB in accordance with NSW CoA E40. Construction hours as approved in the CoA are provided in Section 4.5.

Works outside of standard construction hours or approved extended hours may be needed for activities such as the delivery of oversize items. Works outside of these hours will be permitted providing they meet the requirements of NSW CoA E36 or if they are undertaken as per the Out-of-Hours Work Protocol (as per NSW CoA E37) with the prior approval of the Planning Secretary.

The noise screening assessment (Appendix D) is summarised in Table 5-1. The assessment assumes a worst case scenario for plant and equipment for site establishment and operation of the Early Works Footprint Minor Ancillary Facility at the façade of the nearest residential receiver. It is noted that no screening assessment has been deemed necessary for the C16 compound as the site is already established and operational.

No establishment works are required for use of AF10 and a noise assessment has been undertaken and included in Appendix D. The noise assessment has utilised data from the M12 EIS and Amendment Report. Results show no exceedance of noise levels during standard hours at the AF10 location.

5.3.1 Early Works Footprint Minor Ancillary Facility Screening Assessment

The closest receiver is 474 metres to the north of the facility boundary from Elizabeth Drive.

Based on the noise calculations provided in the Noise Screening Assessment (Appendix D) for the activity of installation of site sheds within the Early Works Footprint, the noise model indicates that noise is not predicted to exceed the Background Level at the closest receiver.

Site establishment works will occur during standard construction hours or approved extended hours where possible. Should out of hours works be required, works will be undertaken in accordance with an approved OOHW protocol. Construction hours as approved in the CoA are provided in Section 4.5.

Works outside of standard construction hours or approved extended hours may be needed for activities such as the delivery of oversize items. Works outside of these hours will be permitted providing they meet the requirements of NSW CoA E36 or if they are undertaken as per the Out-of-Hours Work Protocol (as per NSW CoA E37) with the prior approval of the Planning Secretary.

Activities that result in high noise impacts will be subject to respite periods as outlined in NSW CoA E37 and CoA E45-E47.

Any noise and vibration impacts during site establishment activities will be managed in accordance with the environmental management measures listed in Table 6-3.

5.3.2 AF10 Screening Assessment

The closest receiver is 108 metres to the south of the facility boundary.

Based on the noise calculations provided in the Noise Screening Assessment (Appendix D) for the activity of AF10 operation, the noise model indicates that noise levels are predicted to be inaudible at the nearest receiver.

Site establishment works are not required at AF10 as the facility is an existing compound for the TNR5 project.

Should out of hours operation of the facility be required for the M12 early works, works will be undertaken in accordance with an approved OOHW protocol. Operation hours as approved in the CoA are provided in Section 4.5. It is noted that AF10 is not approved for 24 hours seven days a week operation and is not proposed to be used in this manner for the early works.

Operation outside of standard construction hours or approved extended hours may be needed for activities such as the delivery of oversize items. Works outside of these hours will be permitted providing they meet the requirements of NSW CoA E36 or if they are undertaken as per the Out-of-Hours Work Protocol (as per NSW CoA E37) with the prior approval of the Planning Secretary.

Activities that result in high noise impacts will be subject to respite periods as outlined in NSW CoA E37 and CoA E45-E47.

Any noise and vibration impacts during site operation will be managed in accordance with the environmental management measures listed in Table 6-3.

5.4 Land use

The land to be occupied by the Early Works footprint Minor Ancillary Facility is within the existing road verge of Elizabeth Drive. Land uses surrounding the site are rural residential properties and agricultural activities.

AF10 is located within the approved M12 footprint for ancillary facilities and no additional land is required for the operation of the facility

Any ongoing potential land use and property impacts during site establishment activities will be managed in accordance with the environmental management measures listed in Table 6-3.

5.5 Urban design and visual amenity

The Early Works footprint Minor Ancillary Facility will be constructed in a manner that minimises the visual impacts of the site, including the installation of boundary screening as outlined in Section 4.3 in accordance with NSW CoA A21, A22 and A23.

Lighting may be required at night to illuminate vehicle parking area and/or provide security at the Early Works footprint Minor Ancillary Facility. Urban design and visual amenity environmental management measures are listed in Table 6-3.

AF10 is an existing compound and no modifications are required to the site. The site is approved for use under the CoA's and is surrounded by soil bunds to the south and north and the cut batter of The Northern Road to the west. The site is open to the east. The only sensitive receiver is located to the south of the site and is not visible from the compound.

5.6 Social and economic

At the Early Works footprint Minor Ancillary Facility and AF10, social impacts will largely be related to Traffic and Transport (refer to Section 5.1), Air Quality (refer to Section 5.2), Noise and Vibration (refer to Section 5.3) and Visual Amenity Impacts (refer to Section 5.5).

These potential impacts will be managed in accordance with the management and mitigation measures for their respective aspects, listed in Table 6-3.

The Project is expected to contribute to an increase in construction and project-related jobs. It will also provide a stimulus for the local economy (local cafes, restaurants and shops) due to the influx of the early works workforce.

5.7 Soil and water quality

The Environmental Assessment Documentation identified that key soil and water quality issues from site establishment works will contribute to soil erosion and sedimentation. This is a result of ground disturbance. This could potentially lead to the sedimentation of stormwater infrastructure and nearby waterways. Given limited earthworks required for site establishment required at the Minor Ancillary Facilities, soil and water quality impacts are considered minor with the use of standard mitigation measures in place. A site-specific Erosion and Sediment Control Plan has been prepared for the site and is included as an appendix of the EWEMP.

No earthworks are required at the AF10 facility as it is an existing facility.

5.8 Flooding

Based on the existing flood mapping, there is potential for localised flooding within the existing road drainage system. There is no formal road drainage where the location of the proposed Minor Ancillary Facilities. The Minor Ancillary Facilities will be positioned out of the existing drainage alignments to ensure that water flow is not impeded. Access installed to the facilitate access will not impeded water flow within the existing drainage lines.

5.9 Contamination

Key contamination risks within the Early Works footprint facility include handling of hazardous material within the ancillary facility boundary and refuelling activities. No existing contamination risks have been identified within the existing property.

If any unexpected contamination (including asbestos) are encountered, works potentially affecting the find will cease immediately and the Unexpected Contaminated Land and Asbestos Finds Procedure (Appendix B3 of the EWEMP) will be followed. A suitable area will be identified by CPB for the temporary stockpiling of unexpected waste materials.

No earthworks are required at the AF10 facility as it is an existing facility.

5.10 Biodiversity

Native vegetation has been mapped within the boundary of the Early Works footprint facility.

Patches of Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion and Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion are located within the Early Works footprint. No threatened fauna or flora species have been recorded within the Temporary Roundabout footprint.

Vegetation to be removed from the Early Works footprint is required for the construction of the temporary roundabout and associated road works and utilities adjustments. This will occur during the early stages of site establishment works (refer to Table 4-1) and comprises predominantly of the above vegetation.

Accordingly, site establishment works will not directly harm habitat for threatened species, communities or populations. Vegetation clearing including hollow-bearing trees will be required for the construction works associated with the early works, the Minor Ancillary Facilities will be located in cleared areas with no additional clearing of native vegetation required for the establishment of the Minor Ancillary Facilities (Figure 1).

No clearing is required for AF10 as it is an existing compound and does not require additional land for the M12 Early Works project.

5.11 Heritage

There are no heritage items or potential heritage items that have been identified within the vicinity of the proposed site establishment works at the Early Works footprint facility.

No sites or potential sites of Aboriginal heritage have been identified within the proposed Minor Ancillary Facility areas within the Early Works footprint facility.

No earthworks are required at the AF10 facility as it is an existing facility and no heritage items are located in the AF10 facility area.

Any potential heritage impacts will be managed in accordance with the environmental management measures listed in Table 6-3.

If any unexpected heritage items (including human remains) are encountered, works potentially affecting the find will cease immediately and the Unexpected Heritage Finds Procedure (Appendix B4 of the EWEMP) will be followed.

5.12 Greenhouse gas, resource and waste minimisation

Greenhouse gases in relation to the site establishment activities at the site will be relatively minor, and typically associated with the use of plant, vehicles and electricity use.

There will be minor resources i.e. power, water fuel etc. used for site establishment works at the Minor Ancillary Facilities as the site sheds will be temporary in Nature i.e. floated and lift into place. It is not anticipated that any waste materials will be generated from the installation of the temporary structures.

No additional resources will be required for establishment of AF10, mains power connection is available at the AF10 compound.

Any potential greenhouse gas, resource and waste impacts will be managed in accordance with the environmental management measures listed in Table 6-3. In accordance with NSW CoA E104, a waste tracking register is included in Appendix A10 of the EWEMP to track waste movements associated with the Early Works.

5.13 Hazard and risk

Potential hazard and risk impacts at ancillary facilities will include accidental spills of fuels and/or chemicals which could result in contamination of soils and/or waterways, mismanagement of contaminated material and emission of gasses from contaminated material.

Additionally, bushfire is an established natural hazard within this landscape and can occur in South-Western Sydney frequently during the summer months. Prolonged dry conditions, hot temperatures, and low humidity during spring, summer and early autumn are experienced regularly at the Early Works footprint facility site. Along with wind, these climate features contribute significantly to the behaviour of a fire.

A bushfire hazard exists where there is fuel in the form of vegetation, including grass, scrub, bushes and trees. Early Work activities have the potential to generate bushfire risk as a result of activities likely to generate sparks occurring on site. Activities identified as likely to generate sparks include:

- Smoking
- Plant Maintenance
- Driving on site
- Hot works.

Any potential hazard and risks will be managed in accordance with the environmental management and mitigation measures listed in Table 6-3.

6 Site establishment risk assessment and management approach

6.1 Site establishment risk assessment

The risk assessment has been prepared to assess the key environmental risks associated with the site establishment works for the Minor Ancillary Facilities described in Section 4. The risk management process involved an assessment of all specific activities/aspects and resulted in the development of a list of environmental risks (effects and impacts) and a corresponding risk mitigation strategy and risk ranking.

Each environmental risk was categorised, based on the following:

- The environmental aspect
- Relative scale of the potential impact
- Type of potential impact
- Likelihood of occurrence.

The identification of risks included a review of the proposed works, the CoA, REMMs, and review of the environmental risks identified by the Environment Assessment Documentation. The risk matrix identified in Table 6-2 has been used to undertake the risk assessment located in Table 6-3.

Table 6-1: Likelihood criteria

Likelihood	Definition	Probability
Almost certain	Expected to occur frequently during time of activity or project (10 or more times per year)	>90%
Likely	Expected to occur occasionally during time of activity or project 75% to 90% (1 to 10 times per year)	75% to 90%
Possible	More likely to occur than not occur during time of activity or project 50% to 75% (once per year)	50% to 75%
Unlikely	More likely to not occur than occur during time of activity or project 25% to 50% (once every 1 to 10 years)	25% to 50%
Rare	Not expected to occur during the time of the activity or project 10% to 25% (once every 10 to 100 years)	10% to 25%
Almost unprecedented	Not expected to ever occur during time of activity or project (less than once every 100 years)	<10%

Table 6-2: Risk assessment matrix

Likelihood	Consequence					
	Insignificant	Minor	Moderate	Major	Severe	Catastrophic
Almost certain	Moderate	High	High	Very high	Very high	Very high
Likely	Moderate	Moderate	High	High	Very high	Very high
Possible	Low	Moderate	Moderate	High	High	Very high
Unlikely	Low	Low	Moderate	Moderate	High	High
Rare	Very low	Low	Low	Moderate	Moderate	High
Almost unprecedented	Very low	Very low	Low	Low	Moderate	Moderate

Specific measures and requirements to meet the objectives of this EWSEMP and to address impacts resulting from the Early Works footprint facility are outlined in Table 6-3. Furthermore, Early Works management measures are detailed in full in Appendix A8 of the EWEMP.

Table 6-3: Site establishment initial risk assessment

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
Site clearing works (minor ancillary facilities)	Accidental clearing outside of boundary of the Early Works footprint facility	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Daily pre-start outlining the vegetation areas to be cleared Clearing will be undertaken in accordance with the staged Vegetation Clearing Procedure (Section 6.1 of the EWFFMP). All site personnel to undertake site inductions outlining no vegetation or tree removal will be undertaken without prior approval Exclusion zones will be established in accordance with FF15 of the EWFFMP Exclusion zones will be delineated with flagging (or similar) in accordance the Flagging Protocol (Section 4 of the Vegetation Clearing Procedure (Appendix C of the EWFFMP) 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Impacts on unexpected threatened species	Unlikely	Moderate	Moderate	<ul style="list-style-type: none"> Toolbox talks/inductions regarding the potential for unexpected threatened species Threatened species surveys prior to site establishment activities performed by a suitably qualified ecologist (if required). Implementation of the Unexpected Threatened Species or EEC Finds Procedures in accordance with Guide 1 of the <i>Biodiversity Guidelines</i> (RTA, 2011), TfNSW specifications, Appendix D of the EWFFMP (Appendix B2 of the EWEMP). 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Rare	Moderate	Low
	Spreading of noxious weeds via personnel, plant / equipment, topsoil / mulch	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Toolbox talks/inductions regarding the location and treatment of weeds Works will be carried out such that no noxious weeds are imported to the site or around the site including the washing of wheels of all plant prior to transportation to site Hygiene protocols outlined in the Weed and Pathogen Management Plan (Appendix E of the EWFFMP) will be implemented throughout site clearing activities. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Generation of dust	Likely	Moderate	High	<ul style="list-style-type: none"> Site establishment activities with the potential to generate dust will be modified or ceased during high winds to reduce the potential for dust generation Access roads will be maintained and managed to reduce dust generation Temporary stockpiles that have the potential to result in dust generation will be minimised at all times and comply with RMS – Stockpile Site Management Guideline (May 2015) in accordance with SW2 (Appendix A8 of the EWEMP) During high wind and/or dry conditions, programming of dust generating activities is to be considered in order to reduce nuisance to neighbouring properties Adequate dust suppression will be available and applied where required e.g., watercart, misters 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Likely	Minor	Moderate
	Bushfire	Possible	Severe	Very High	<ul style="list-style-type: none"> Prepare and implement a WHSMP that incorporate measure to manage and mitigate bushfire risk All site personnel are inducted on bushfire hazards and how they are to be managed 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Rare	Severe	Moderate

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
					<ul style="list-style-type: none"> Hazardous materials will be appropriately banded with a volume of 110 per cent of the largest receptacle All works involving a fire source will have a hot works permit in place with specific controls to prevent fire risk No smoking (including e-cigarettes) will be allowed on site except at designated areas. Dedicated butt disposals will be located in all designated smoking areas Cutting, welding or grinding will not be undertaken on total fire ban days, unless the works takes place in an area at least 50 metres away from an ignition source and appropriate fire controls are in place. Vehicles will not be driven or idled in areas of long grass on fire ban days or after prolonged periods of dry weather. Mulch stockpiles will be monitored and turned over as required to avoid spontaneous combustion. 	Superintendent, ESR)			
	Erosion and sedimentation impacting nearby dams or downstream watercourses due to exposed land, inadequate controls or control failure	Likely	Moderate	High	<ul style="list-style-type: none"> Erosion and Sediment Control Plans (ESCPs) will be prepared by CPB for all work and implemented in advance of site disturbance All site personnel will undergo a site induction and ongoing toolbox talks outlining erosion and sediment control management measures EWMS will be prepared for high risk activities Hardstand areas and surrounding public roads will be cleaned as required, using methods such as street sweepers In addition to the above mitigation measures management measures SW1 to SW40 from Appendix A8 will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate
	Inappropriate disposal of waste (including, vegetation and contaminated materials) or disposal at an unlicensed waste facility	Possible	Moderate	Moderate	<ul style="list-style-type: none"> All site personnel working on-site will undergo a site induction that will detail waste and resource management measures Additional targeted toolbox talks will be given on waste disposal as required HAZMAT surveys will be undertaken and removal of asbestos will be undertaken prior to demolition activities (if required) Suitably licensed waste contractors will be used for the collection and transport of all waste for either offsite processing and/or disposal to an appropriately licensed facility. Receipts for waste transfer and disposal will be checked to ensure all details are correct and retained for audit purposes. In addition to the mitigation measures specified above, the disposal of waste will be managed in accordance with W3 – W9 in Appendix A8 of the EWEMP. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Moderate	Moderate
	Traffic impacts on local roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Designated haul routes will be used, as identified in the Environmental Assessment Documentation, including the Elizabeth Drive and The Northern Road for heavy vehicles Measures identified in the Traffic Control Plan (TCP) (if developed) will be implemented Drivers will be inducted on the haulage roads including the use of The Northern Road and avoidance of other local roads 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
					<ul style="list-style-type: none"> In addition to the above mitigation measures, TT1 to TT10 of Appendix A8 in the EWEMP will be implemented. 				
	Tracking of mud from site on public roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Site exit points will be fitted with appropriate controls to limit tracking of material out of site as soon as possible to limit the amount of material transported off site. Controls may include hardstand material; wheel washes; rumble grids; rip rap etc. Street sweepers will be used to manage sediment/mud tracking. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Noise and vibration impacts to sensitive receivers	Possible	Minor	Moderate	<ul style="list-style-type: none"> Maximise works during the standard construction hours All construction plant and equipment used on site will be fitted with properly maintained noise suppression devices in accordance with the manufacturer's specifications. Erection of temporary acoustic barriers will be undertaken, where required Community updates will be provided throughout the site establishment works, when necessary Activities that result in high noise impacts will be subject to respite periods as outlined in NSW CoA E37 and NSW CoA E45-E47. The Noise and Vibration Monitoring Program prepared by TfNSW and provided in Appendix C will be implemented throughout the duration of site establishment activities. In addition to the above mitigation measures, noise and vibration impacts will be managed in accordance with NV1 – NV27 outlined in Appendix A8 of the EWEMP. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Contamination of soil or water due to a spill or leak from plant/equipment or chemicals required for construction purposes	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Hazardous substance handling and use will be conducted away from drainage, stormwater lines and waterways and, wherever possible, within defined bunds Safety Data Sheets will be obtained for dangerous goods and hazardous substances stored onsite before their arrival All site personnel will be responsible for ensuring that refuelling undertaken on site will be undertaken in designated areas only, outside riparian areas and well away from drainage, stormwater inlets or waterways Hazardous materials will be stored on drip trays or have secondary containment and be located at least 30m from the dam. Hazardous materials will be appropriately bundled with a volume of 110 per cent of the largest receptacle Any spills or leaks will be immediately contained and absorbed Spill kits will be placed at strategic locations (e.g. access points, plant/ machinery storage areas) In addition to the above mitigation measures, management measures SW29 – SW38 of Appendix A8 of the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate
	Missed opportunities to	Possible	Minor	Moderate	<ul style="list-style-type: none"> Resource recovery will be applied to the management of waste and will include the recovery of resources for reuse-reusable materials generated 	CPB Contractors	Possible	Insignificant	Low

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
	maximise the beneficial re-use of waste				by the site establishment and will be segregated for reuse on site, or off site, where possible <ul style="list-style-type: none"> Recovery of recyclable resources generated during site establishment Recovery of resources for reprocessing, such as the onsite mulching of cleared vegetation for use in landscaping use, in the absence of a higher beneficial use being identified Segregation of resources for recycling for effective processing at recycling facility Prior to the commencement of clearing, a Reuse strategy will be prepared by CPB detailing practicable options to reuse native trees or vegetation that are to be removed (refer to FFMP). 	(e.g. Project Manager, Construction Manager, Superintendent, ESR)			
General earthworks (minor ancillary facilities)	Complete or partial loss of an unexpected heritage item while undertaking general earthworks.	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Any excavations, intrusive works or other operations that have the potential to impact areas of known heritage, cultural or archaeological items must not be undertaken Any item of potential Aboriginal archaeological/cultural heritage conservation significance, or human remains discovered during the site establishment works will be managed in accordance with the Unexpected Finds Procedure provided in Appendix B4 of the EWEMP. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Moderate	Moderate
	Generation of dust	Likely	Moderate	High	<ul style="list-style-type: none"> Site establishment activities with the potential to generate dust will be modified or ceased during high winds to reduce the potential for dust generation Access roads will be maintained and managed to reduce dust generation Temporary stockpiles that have the potential to result in dust generation will be minimised at all times and comply with RMS – Stockpile Site Management Guideline (May 2015) in accordance with SW2 (Appendix A8 of the EWEMP) During high wind and/or dry conditions, CPB will ensure programming of dust generating activities is to be considered in order to reduce nuisance to neighbouring properties Adequate dust suppression will be available and applied where required e.g., watercart, misters In addition to the above mitigation measures, AQ1 to AQ3 from Appendix A8 of the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Likely	Minor	Moderate
	Erosion and sedimentation impacting nearby dams or downstream watercourses due to exposed land, inadequate controls or control failure	Possible	Moderate	Moderate	<ul style="list-style-type: none"> ESCPs will be prepared for all work and implemented in advance of site disturbance All site personnel will undergo a site induction and ongoing toolbox talks outlining erosion and sediment control management measures EWMS will be prepared for high-risk activities Hardstand areas and surrounding public roads will be cleaned as required, using methods such as street sweepers In addition to the above mitigation measures, SW1 – SW40 from Appendix A8 of the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
	Inappropriate disposal of waste (including, vegetation and contaminated materials) or disposal at an unlicensed waste facility	Possible	Moderate	Moderate	<ul style="list-style-type: none"> All site personnel working on-site will undergo a site induction that will detail waste and resource management measures Additional targeted toolbox talks will be given on waste disposal as required HAZMAT surveys will be undertaken and removal of asbestos will be undertaken prior to demolition activities (if required) Suitably licensed waste contractors will be used for the collection and transport of all waste for either offsite processing and/or disposal to an appropriately licensed facility. Receipts for waste transfer and disposal will be checked to ensure all details are correct and retained for audit purposes. In addition to the mitigation measures above, disposal of waste will be managed in accordance with W3 to W9 from Appendix A8 of the EWEMP. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Moderate	Moderate
	Traffic impacts on local roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Designated haul routes will be used, as identified in the Environmental Assessment Documentation, including Elizabeth Drive and The Northern Road for heavy vehicles Measures identified in the Traffic Control Plan (TCP) (if developed) will be implemented Drivers will be inducted on the haulage roads including the use of The Northern Road and avoidance of other local roads In addition to the above mitigation measures, TT1 to TT10 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Tracking of mud from site on public roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Site exit points will be fitted with appropriate controls to limit tracking of material out of site as soon as possible to limit the amount of material transported off site. Controls may include hardstand material; wheel washes; rumble grids; rip rap etc. Street sweepers will be used to manage sediment/mud tracking. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Noise and vibration impacts to nearby sensitive receivers	Possible	Minor	Moderate	<ul style="list-style-type: none"> Maximise works during the standard construction hours All construction plant and equipment used on site will be fitted with properly maintained noise suppression devices in accordance with the manufacturer's specifications Erection of temporary acoustic barriers will be completed, where required Community updates will be provided throughout the site establishment works, when necessary Activities resulting in high noise impacts will be subject to respite periods as outlined in NSW CoA E37 and E45-E47 The Noise and Vibration Monitoring Program (Appendix C) will be implemented throughout the duration of site establishment activities In addition to the mitigation measures above, noise and vibration impacts will be managed in accordance with NV1 to NV27 of Appendix A8 in the EWEMP. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
	Impacts on visual amenity i.e. light spill	Possible	Minor	Moderate	<ul style="list-style-type: none"> Lights will be located as far away as possible and directed away from neighbours/sensitive receivers Boundary screening will be installed in accordance with NSW CoA A21 and A22 In addition to the mitigation measures above, impacts on visual amenity will be managed in accordance with UD1 to UD3 of Appendix A8 in the EWEMP. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Contamination of soil or water due to a spill or leak from plant/equipment or chemicals	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Hazardous substance handling and use will be conducted away from drainage, stormwater lines and waterways and, wherever possible, within defined bunds Safety Data Sheets will be obtained for dangerous goods and hazardous substances stored onsite before their arrival All site personnel will be responsible for ensuring that refuelling undertaken on site will be undertaken in designated areas only, outside riparian areas and well away from drainage, stormwater inlets or waterways Hazardous materials will be stored on drip trays or have secondary containment. Storage of chemicals, fuel and lubricant will be 50 m from any drainage line, aquatic habitat, flood prone areas, and not on slopes steeper than 1:10. Hazardous materials will be appropriately banded with a volume of 110 per cent of the largest receptacle Any spills or leaks will be immediately contained and absorbed Spill kits will be placed at strategic locations (e.g. access points, plant/machinery storage areas) In addition to the mitigation measures above, SW29 to SW38 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate
	Missed opportunities to maximise the beneficial re-use of waste	Possible	Minor	Moderate	<ul style="list-style-type: none"> Resource recovery will be applied to the management of waste and will include the recovery of resources for reuse-reusable materials generated by the site establishment and will be segregated for reuse on site, or off site, where possible Recovery of recyclable resources generated during site establishment Recovery of resources for reprocessing, such as the onsite mulching of cleared vegetation for use in landscaping use, in the absence of a higher beneficial use being identified Segregation of resources for recycling for effective processing at recycling facility Prior to the commencement of clearing, a Reuse strategy will be prepared by CPB detailing practicable options to reuse native trees or vegetation that are to be removed (refer to FFMP). 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Insignificant	Low
General pavement works (minor ancillary facilities)	Generation of dust	Likely	Moderate	High	<ul style="list-style-type: none"> Site establishment activities with the potential to generate dust will be modified or ceased during high winds to reduce the potential for dust generation Access roads will be maintained and managed to reduce dust generation 	CPB Contractors (e.g. Project Manager, Construction Manager,	Likely	Minor	Moderate

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
					<ul style="list-style-type: none"> Temporary stockpiles that have the potential to result in dust generation will be minimised at all times and comply with RMS – Stockpile Site Management Guideline (May 2015) in accordance with SW2 (Appendix A8 of the EWEMP) During high wind and/or dry conditions, CPB will ensure programming of dust generating activities is to be considered in order to reduce nuisance to neighbouring properties Adequate dust suppression will be available and applied where required e.g., watercart, misters In addition to the above mitigation measure, AQ1 – AQ3 of Appendix A8 in the EWEMP will be implemented. 	Superintendent, ESR)			
	Bushfire	Possible	Severe	Very High	<ul style="list-style-type: none"> Prepare and implement a WHSMP that incorporate measure to manage and mitigate bushfire risk All site personnel are inducted on bushfire hazards and how they are to be managed Hazardous materials will be appropriately banded with a volume of 110 per cent of the largest receptacle. All works involving a fire source will have a hot works permit in place with specific controls to prevent fire risk Smoking (including e-cigarettes) will not be allowed on site except at designated areas. Dedicated butt disposals will be located in all designated smoking areas Cutting, welding or grinding will not be undertaken on total fire ban days, unless the works takes place in an area at least 50 metres away from an ignition source and appropriate fire controls are in place Vehicles will not be driven or idled in areas of long grass on fire ban days or after prolonged periods of dry weather. Mulch stockpiles will be monitored and turned over as required to avoid spontaneous combustion. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Rare	Severe	Moderate
	Erosion and sedimentation impacting nearby dams or downstream watercourses due to exposed land, inadequate controls or control failure	Possible	Moderate	Moderate	<ul style="list-style-type: none"> ESCPs will be prepared for all work and implemented in advance of site disturbance All site personnel will undergo a site induction and ongoing toolbox talks outlining erosion and sediment control management measures EWMS will be prepared for high risk activities Hardstand areas and surrounding public roads will be cleaned as required, using methods such as street sweepers In addition to the above mitigation measures, SW1 to SW40 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate
	Inappropriate disposal of waste (including contaminated materials) or disposal at an	Possible	Moderate	Moderate	<ul style="list-style-type: none"> All site personnel working on-site will undergo a site induction that will detail waste and resource management measures Additional targeted toolbox talks will be given on waste disposal as requiredHAZMAT surveys will be undertaken and removal of asbestos will be undertaken prior to demolition activities (if required) 	CPB Contractors (e.g. Project Manager, Construction Manager,	Unlikely	Moderate	Moderate

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
	unlicensed waste facility				<ul style="list-style-type: none"> Suitably licensed waste contractors will be used for the collection and transport of all waste for either offsite processing and/or disposal to an appropriately licensed facility. Receipts for waste transfer and disposal will be checked to ensure all details are correct and retained for audit purposes. In addition to the mitigation measures above, disposal of waste will be managed in accordance with W3 to W9 of Appendix A8 in the EWEMP will be implemented. 	Superintendent, ESR)			
	Traffic impacts on local roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Designated haul routes will be used, as identified in the Environmental Assessment Documentation, including Elizabeth Drive and The Northern Road for heavy vehicles Measures identified in the Traffic Control Plan (TCP) (if developed) will be implemented Drivers will be inducted on the haulage roads including the use of The Northern Road and avoidance of other local roads In addition to the above mitigation measures, TT1 to TT10 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Tracking of mud from site on public roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Site exit points will be fitted with appropriate controls to limit tracking of material out of site as soon as possible to limit the amount of material transported off site. Controls may include hardstand material; wheel washes; rumble grids; rip rap etc. Street sweepers will be used to manage sediment/mud tracking. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Noise and vibration impacts to sensitive receivers	Possible	Minor	Moderate	<ul style="list-style-type: none"> Maximise works during the standard construction hours All construction plant and equipment used on site will be fitted with properly maintained noise suppression devices in accordance with the manufacturer's specifications Erection of temporary acoustic barriers will be completed, where required Community updates will be provided throughout the site establishment works, when necessary Activities resulting in high noise impacts will be subject to respite periods as outlined in NSW CoA E37 and E45-E47 The Noise and Vibration Monitoring Program (Appendix C) will be implemented throughout the duration of site establishment activities In addition to the above mitigation measures, noise and vibration impacts will be managed in accordance with NV1 to NV27 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Impacts on visual amenity i.e. light spill	Possible	Minor	Moderate	<ul style="list-style-type: none"> Lights will be located as far away as possible and directed away from neighbours/sensitive receivers Boundary screening will be installed in accordance with NSW CoA A21 and A22 	CPB Contractors (e.g. Project Manager, Construction Manager,	Unlikely	Minor	Low

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
					<ul style="list-style-type: none"> Boundary screening in the form of chain wire fencing with shade cloth will be installed around the boundary in accordance with NSW CoA A21 and A22. In addition to the above mitigation measures, impacts on visual amenity will be managed in accordance with UD1 to UD3 of Appendix A8 in the EWEMP will be implemented. 	Superintendent, ESR)			
	Contamination of soil or water due to a spill or leak from plant/equipment or chemicals	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Hazardous substance handling and use will be conducted away from drainage, stormwater lines and waterways and, wherever possible, within defined bunds Safety Data Sheets will be obtained for dangerous goods and hazardous substances stored onsite before their arrival All site personnel will be responsible for ensuring that refuelling undertaken on site will be undertaken in designated areas only, outside riparian areas and well away from drainage, stormwater inlets or waterways Hazardous materials will be stored on drip trays or have secondary containment. Storage of chemicals, fuel and lubricant will be 50 m from any drainage line, aquatic habitat, flood prone areas, and not on slopes steeper than 1:10. Hazardous materials will be appropriately banded with a volume of 110 per cent of the largest receptacle Any spills or leaks will be immediately contained and absorbed Spill kits will be placed at strategic locations (e.g. access points, plant/ machinery storage areas) In addition to the above mitigation measures, SW29 to SW38 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate
	Missed opportunities to maximise the beneficial re-use of waste such as concrete and asphalt	Possible	Minor	Moderate	<ul style="list-style-type: none"> Resource recovery will be applied to the management of waste and will include the recovery of resources for reuse-reusable materials generated by the site establishment and will be segregated for reuse on site, or off site, where possible Recovery of recyclable resources generated during site establishment Recovery of resources for reprocessing, such as the onsite mulching of cleared vegetation for use in landscaping use, in the absence of a higher beneficial use being identified Segregation of resources for recycling for effective processing at recycling facility 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Insignificant	Low
Installation of site facilities (minor ancillary facilities)	Generation of dust	Likely	Moderate	High	<ul style="list-style-type: none"> Site establishment activities with the potential to generate dust will be modified or ceased during high winds to reduce the potential for dust generation Access roads will be maintained and managed to reduce dust generation Temporary stockpiles that have the potential to result in dust generation will be minimised at all times and comply with RMS – Stockpile Site 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Likely	Minor	Moderate

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
					<p>Management Guideline (May 2015) in accordance with SW2 (Appendix A8 of the EWEMP)</p> <ul style="list-style-type: none"> During high wind and/or dry conditions, CPB will ensure programming of dust generating activities is to be considered in order to reduce nuisance to neighbouring properties Adequate dust suppression will be available and applied where required e.g., watercart, misters In addition to the above mitigation measure, AQ1 to AQ3 of Appendix A8 in the EWEMP will be implemented. 				
	Generation of odour	Unlikely	Minor	Low	<ul style="list-style-type: none"> It is not anticipated that any odour will be generated as a result of the establishment of the facilities In the event odour is identified, the source of odour will be identified and action taken to address the issue In addition to the above mitigation measure, AQ3 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Bushfire	Possible	Severe	Very High	<ul style="list-style-type: none"> Prepare and implement a WHSMP that incorporate measure to manage and mitigate bushfire risk All site personnel are inducted on bushfire hazards and how they are to be managed Hazardous materials will be appropriately banded with a volume of 110 per cent of the largest receptacle All works involving a fire source will have a hot works permit in place with specific controls to prevent fire risk. Smoking (including e-cigarettes) will not be allowed on site except at designated areas. Dedicated butt disposals will be located in all designated smoking areas Cutting, welding or grinding will not be undertaken on total fire ban days, unless the works takes place in an area at least 50 metres away from an ignition source and appropriate fire controls are in place. Vehicles will not be driven or idled in areas of long grass on fire ban days or after prolonged periods of dry weather. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Rare	Severe	Moderate
	Erosion and sedimentation impacting nearby dams or downstream watercourses due to exposed land, inadequate controls or control failure	Possible	Moderate	Moderate	<ul style="list-style-type: none"> ESCPs will be prepared for all work and implemented in advance of site disturbance All site personnel will undergo a site induction and ongoing toolbox talks outlining erosion and sediment control management measures EWMS will be prepared for high risk activities Hardstand areas and surrounding public roads will be cleaned as required, using methods such as street sweepers In addition to the above mitigation measures, SW1 to SW40 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate
	Inappropriate disposal of waste (including	Possible	Moderate	Moderate	<ul style="list-style-type: none"> All site personnel working on-site will undergo a site induction outlining waste and resource management measures 	CPB Contractors (e.g. Project	Unlikely	Moderate	Moderate

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
	contaminated materials) or disposal at an unlicensed waste facility				<ul style="list-style-type: none"> Additional targeted toolbox talks will be given on waste disposal HAZMAT surveys will be undertaken and removal of asbestos will be undertaken prior to demolition activities (if required) Suitably licensed waste contractors will be used for the collection and transport of all waste for either offsite processing and/or disposal to an appropriately licensed facility. Receipts for waste transfer and disposal will be checked to ensure all details are correct and retained for audit purposes In addition to the mitigation measures above, disposal of waste will be managed in accordance with W3 to W9 of Appendix A8 in the EWEMP will be implemented. 	Manager, Construction Manager, Superintendent, ESR)			
	Traffic impacts on local roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Designated haul routes will be used, as identified in the Environmental Assessment Documentation, including Elizabeth Drive and The Northern Road for heavy vehicles Measures identified in the Traffic Control Plan (TCP) (if developed) will be implemented Drivers will be inducted on the haulage roads including the use of The Northern Road and avoidance of other local roads In addition to the above mitigation measures, TT1 to TT10 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Tracking of mud from site on public roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Site exit points will be fitted with appropriate controls to limit tracking of material out of site as soon as possible to limit the amount of material transported off site. Controls may include hardstand material; wheel washes; rumble grids; rip rap etc. Street sweepers will be used to manage sediment/mud tracking. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Noise and vibration impacts to sensitive receivers	Possible	Minor	Moderate	<ul style="list-style-type: none"> Maximise works during the standard construction hours All construction plant and equipment used on site will be fitted with properly maintained noise suppression devices in accordance with the manufacturer's specifications Erection of temporary acoustic barriers will be completed, where required Community updates will be provided throughout the site establishment works, when necessary Activities resulting in high noise impacts will be subject to respite periods as outlined in NSW CoA E37 and E45-E47 The Noise and Vibration Monitoring Program (Appendix C) will be implemented throughout the duration of site establishment activities In addition to the mitigation measures above, noise and vibration impacts will be managed in accordance with NV1 to NV27 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Impacts on visual amenity i.e. light spill	Possible	Minor	Moderate	<ul style="list-style-type: none"> Lights will be located as far away as possible and directed away from neighbours/sensitive receivers 	CPB Contractors (e.g. Project Manager,	Unlikely	Minor	Low

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
					<ul style="list-style-type: none"> Boundary screening will be installed, where appropriate, in accordance with NSW CoA A21 and A22 In addition to the above mitigation measures, impacts on visual amenity will be managed in accordance with UD1 to UD3 of Appendix A8 in the EWEMP will be implemented. 	Construction Manager, Superintendent, ESR)			
	Contamination of soil or water due to a spill or leak from plant/equipment or chemicals	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Hazardous substance handling and use will be conducted away from drainage, stormwater lines and waterways and, wherever possible, within defined bunds Safety Data Sheets are obtained for dangerous goods and hazardous substances stored onsite before their arrival All site personnel will be responsible for ensuring that refuelling undertaken on site will be undertaken in designated areas only, outside riparian areas and well away from drainage, stormwater inlets or waterways Storage of chemicals, fuel and lubricant will be 50 m from any drainage line, aquatic habitat, flood prone areas, and not on slopes steeper than 1:10. Hazardous materials will be stored on drip trays or have secondary containment. Hazardous materials will be appropriately banded with a volume of 110% of the largest receptacle Any spills or leaks will be immediately contained and absorbed Spill kits will be placed at strategic locations (e.g. access points, plant/machinery storage areas) In addition to the above mitigation measures, SW29 to SW38 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate
	Missed opportunities to maximise the beneficial re-use of waste	Possible	Minor	Moderate	<ul style="list-style-type: none"> Resource recovery will be applied to the management of waste and will include the recovery of resources for reuse-reusable materials generated by the site establishment and will be segregated for reuse on site, or off site, where possible Recovery of recyclable resources will be generated during site establishment Recovery of resources for reprocessing, such as onsite mulching of cleared vegetation for use in landscaping use, in the absence of a higher beneficial use identified Segregation of resources for recycling for effective processing at recycling facility 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Insignificant	Low
Site facilities operation (AF10, minor ancillary facilities)	Traffic impacts on local roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Designated haul routes will be used, as identified in the Environmental Assessment Documentation, including Elizabeth Drive and The Northern Road for heavy vehicles Measures identified in the Traffic Control Plan (TCP) (if developed) will be implemented Drivers will be inducted on the haulage roads including the use of The Northern Road and avoidance of other local roads 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
					<ul style="list-style-type: none"> In addition to the above mitigation measures, TT1 to TT10 of Appendix A8 in the EWEMP will be implemented. 				
	Tracking of mud from site on public roads	Possible	Minor	Moderate	<ul style="list-style-type: none"> Site exit points will be fitted with appropriate controls to limit tracking of material out of site as soon as possible to limit the amount of material transported off site. Controls may include hardstand material; wheel washes; rumble grids; rip rap etc. Street sweepers will be used to manage sediment/mud tracking. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Impacts on visual amenity i.e. light spill	Possible	Minor	Moderate	<ul style="list-style-type: none"> Lights will be located as far away as possible and directed away from neighbours/sensitive receivers Boundary screening will be installed, where appropriate, in accordance with NSW CoA A21 and A22 In addition to the above mitigation measures, impacts on visual amenity will be managed in accordance with UD1 to UD3 as outlined in Appendix A8 of the EWEMP 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Noise and vibration impacts to sensitive receivers	Possible	Minor	Moderate	<ul style="list-style-type: none"> Maximise works during the standard construction hours All construction plant and equipment used on site will be fitted with properly maintained noise suppression devices in accordance with the manufacturer's specifications Erection of temporary acoustic barriers will be completed, where required Community updates will be provided throughout the site establishment works, when necessary Activities resulting in high noise impacts will be subject to respite periods as outlined in NSW CoA E37 and E45-E47 The Noise and Vibration Monitoring Program (Appendix C) will be implemented throughout the duration of site establishment activities In addition to the mitigation measures above, noise and vibration impacts will be managed in accordance with NV1 to NV27 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Generation of dust	Unlikely	Moderate	Moderate	<ul style="list-style-type: none"> Access roads will be maintained and managed to reduce dust generation Temporary stockpiles that have the potential to result in dust generation will be minimised at all times and comply with RMS – Stockpile Site Management Guideline (May 2015) in accordance with SW2 (Appendix A8 of the EWEMP) During high wind and/or dry conditions, CPB will ensure programming of dust generating activities is to be considered in order to reduce nuisance to neighbouring properties Adequate dust suppression will be available and applied where required e.g., watercart, misters In addition to the above mitigation measure, AQ1 to AQ3 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Rare	Moderate	Low

Activity	Potential Impact	Likelihood	Consequence	Risk level prior to mitigation	Mitigation Measure	Responsibility	Likelihood	Consequence	Risk level following mitigation
	Generation of odour	Unlikely	Minor	Low	<ul style="list-style-type: none"> It is not anticipated that any odour will be generated as a result of the operation of the facilities In the event odour is identified, the source of odour will be identified and action taken to address the issue. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Unlikely	Minor	Low
	Contamination of soil or water due to a spill or leak from plant/equipment or chemicals	Possible	Moderate	Moderate	<ul style="list-style-type: none"> Hazardous substance handling and use will be conducted away from drainage, stormwater lines and waterways and, wherever possible, within defined bunds Safety Data Sheets will be obtained for dangerous goods and hazardous substances stored onsite before their arrival All site personnel will be responsible for ensuring that refuelling undertaken on site will be undertaken in designated areas only, outside riparian areas and well away from drainage, stormwater inlets or waterways Hazardous materials will be stored on drip trays or have secondary containment. Storage of chemicals, fuel and lubricant will be 50 m from any drainage line, aquatic habitat, flood prone areas, and not on slopes steeper than 1:10. Hazardous materials will be appropriately bunded with a volume of 110 per cent of the largest receptacle Any spills or leaks will be immediately contained and absorbed Spill kits will be placed at strategic locations (e.g. access points, plant/ machinery storage areas) In addition to the above mitigation measures, SW29 to SW38 of Appendix A8 in the EWEMP will be implemented. 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Possible	Minor	Moderate
	Bushfire	Possible	Severe	Very High	<ul style="list-style-type: none"> Prepare and implement a WHSMP that incorporate measure to manage and mitigate bushfire risk All site personnel will be inducted on bushfire hazards and how they are to be managed Hazardous materials will be appropriately bunded with a volume of 110% of the largest receptacle All works involving a fire source will have a hot works permit in place with specific controls to prevent fire risk. No smoking (including e-cigarettes) will be allowed on site except at designated areas. Dedicated butt disposals will be located in all designated smoking areas. Cutting, welding or grinding will not be undertaken on total fire ban days, unless the works takes place in an area at least 50 metres away from an ignition source and appropriate fire controls are in place Vehicles will not be driven or idled in areas of long grass on fire ban days or after prolonged periods of dry weather 	CPB Contractors (e.g. Project Manager, Construction Manager, Superintendent, ESR)	Rare	Severe	Moderate

7 Compliance management

7.1 Roles and responsibilities

The Project organisational structure and overall roles and environmental responsibilities are outlined in Section 5.1 of the EWEMP. Specific responsibilities for the implementation of environmental management measures during site establishment works are detailed in Table 6-3 and Appendix A8 of the EWEMP.

7.2 Training

All site personnel (including sub-contractors) will undergo site induction training relating to site establishment management issues prior to Early Works commencing. The induction training will address elements related to site establishment management, including:

- Existence and requirements of this EWSEMP, CPB Contractors TNR5 C16 SEMP and all plans and procedures prepared under the SEMP
- Relevant legislation, regulations and conditions of approval
- Incident response, management and reporting
- Environmentally sensitive locations and exclusion zones
- Specific species likely to be affected by the works and how these species can be recognised
- Site flagging protocol
- Fauna rescue requirements
- Boundaries for vegetation clearing
- Fauna and fauna habitat management
- Weed control measures
- General site establishment management measures
- Specific responsibilities for the protection of site establishment
- All requirements of Appendices contained within this SEMP.

Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in site establishment management or those undertaking an activity with a high risk of environmental impact. Site personnel will undergo refresher training at not less than six monthly intervals.

The ER will review and approve the induction training program prior to the commencement of Early Works and monitor implementation.

Daily pre-start meetings conducted by CPB Contractors Foreman/ Site Supervisor will inform the site workforce of any environmental issues relevant to site establishment that could potentially be impacted by, or impact on, the day's activities.

Further details regarding staff induction and training are provided in Section 5.3 of the EWEMP.

7.3 Licences and permits

A number of approvals, permits and licenses have and/or will be obtained for early works. The following approvals and licences have been or will be obtained by TfNSW:

- Infrastructure Approval under Part 5, Division 5.2 of the EP&A Act – SSI 9364 granted by the Minister for Planning on 23 April 2021
- A Commonwealth controlled action approval from the Department of Agriculture, Water and the Environment (DAWE) under Part 8 of the EPBC Act – EPBC 2018/8286 granted by the Minister for Environment on 3 June 2021.

7.4 TfNSW QA Hold Points

Table 7-1: Relevant TfNSW QA Hold Points

Document Reference	Hold Point Clause	Description
G1 Job Specific Requirements – Early Works M12 Motorway	4.2	On-site establishment of compound.
	4.2	On-site establishment of stockpile sites.
G36 Environmental Protection –Early Works M12 Motorway	3.1	Submission of amended CEMP and selected CEMS documents
	3.2.2	Evidence of approvals, licences and permits obtained
	3.2.4	Submission of EWMSs
	3.5.2	Submission of Draft Environmental Induction/Training Materials
	3.7.3	Submission of Complaints Management System
	3.10	Verification that environmental nonconformities has been rectified
	4.2.4	Submission of Remedial Action Plan for contaminated land
	4.7	Building Condition Inspection Reports
	4.11	Copy of completed and signed “s.143 Notice” and supporting documents
	4.13	Working in or near environmentally sensitive areas
	4.15.2	Submission of pre-construction land condition assessment report for each area you intend to occupy for your site facilities
G38 Soil and Water Management –	1.2.7	Submission of evidence of appropriate Erosion and Sediment Control personnel

Document Reference	Hold Point Clause	Description
	3.1	Submission of an ESCP(s) for a section of the Work Under the Contract.
G40 Clearing and Grubbing – Early Works M12 Motorway	2.4	Written notification of intention to clear any area.
	2.4	Relocation of any threatened fauna species in accordance with your approved relocation plan and any associated permits/approvals

7.5 Monitoring

Monitoring will be undertaken to validate the impacts predicted for site establishment, to measure the effectiveness of environmental controls and implementation of this EWEMP and to address approval requirements. In addition to noise and vibration, and water quality monitoring, CPB Contractors Environmental Site Representative will include an assessment of the ancillary facilities activities against the performance outcomes (outlined in Table 2-1). This will be documented in the Monthly Environmental Report to monitor the environmental performance of the Temporary Roundabout Ancillary Facilities. Requirements and responsibilities in relation to monitoring are documented in Section 7 of the EWEMP.

In accordance with NSW CoA A16I and the requirements of NSW CoA C14, a Noise and Vibration Monitoring Program has been developed that includes:

- Noise and vibration monitoring at representative residential and other locations (including at the worst- affected residences), subject to property owner approval, to confirm noise and vibration levels during site establishment and operation
- Noise monitoring during the day, evening and night time periods for the duration of site establishment and operation, covering the range of activities (including worst-case noise management levels) being undertaken
- Method and frequency for reporting monitoring results
- Procedures to identify and implement additional mitigation measures where monitoring indicates noise and/or vibration levels in excess of noise and vibration criteria.

The Noise and Vibration Monitoring Program is provided in Appendix C.

Monitoring of discharge water quality (if required) will be undertaken against the criteria derived from the ANZECC Guidelines for NSW Lowland Rivers and the Blue Book (*Landcom, 2004*):

- pH: 6.5-8.5
- Total Suspended Solids: 50 mg/l
- Oil and grease: no visual identification.

7.6 Inspections

Inspections of sensitive areas and activities with the potential to be impacted by site establishment will occur for the duration of the Early Works. Requirements and responsibilities in relation to inspections are documented in Section 7 of the EWEMP.

7.7 Auditing

7.7.1 Independent audits

Independent audits are not required for Early Works.

7.7.2 Internal audits

Internal auditing will be undertaken by CPB on a six-monthly basis during Early Works to verify compliance with:

- This SEMP
- Approval requirements (CoAs and REMMS)
- Any relevant legal and other requirements (e.g. licenses, permits, regulations, TfNSW contract documentation, including specifications).

An audit checklist will be developed and amended as necessary to reflect changes to this EWEMP, subsequent approvals and changes to Acts, regulations or guidelines.

All internal environmental audits will be undertaken in accordance with AS/NZS ISO 19011.

7.8 Reporting and identified records

Reporting requirements and responsibilities are documented in Section 7.5 of the EWEMP.

CPB Contractors will be required to maintain accurate records substantiating all activities associated with Early Works or relevant to the conditions of approval, including measures taken to implement this SEMP. Records will be made available to the DPIE and DAWE, within the timeframe nominated in the request.

In addition, key identified records relevant to this SEMP as specified by TfNSW QA G01, G36, G38 and G40 are identified in Table 7-2.

Table 7-2: Identified Records

Document Reference	Identified Records Clause	Description
G1 Job Specific Requirements – Early Works M12 Motorway	4.1	Pre and post construction land condition assessment reports
	4.2	Plans of proposed compound
G36 Environmental Protection –Early	2	Alternative environmental control measures

Document Reference	Identified Records Clause	Description
Works M12 Motorway	3	Early Works Environmental Management Plan (EWEMP), Plans & Sub-Plans, procedures and EWMS
	3.2.2	Approvals, licences and permits
	3.5	Records of communications and environmental induction training
	3.6	Extended working hours and associated advice to Principal and relevant authorities
	3.7.1	A report for each occasion when the Site is visited by the EPA and/or other Government Agencies
	3.7.3	Reports on complaints about any environmental issue and actions
	3.8	Records of emergency responses
	3.9	Records of environmental management performance monitoring and measurement
	3.9	Environmental audit reports
	3.10	Records of corrective and preventative measures to address nonconformities of environmental obligations
	3.11	CEMS and EWEMP compliance records
	3.12	Records of review of effectiveness and proper implementation of CEMP
	4.3	Records of spill prevention measures and responses
	4.4.2	Report on the conformity, or otherwise, of mobile non-road diesel plant and equipment used for the Work Under the Contract with the relevant United States Environmental Protection Agency, European Union (EU) standards or approved equivalent emission standards

Document Reference	Identified Records Clause	Description
	4.7	Building Condition Inspection Reports
	4.8	Report any injury or death of threatened species to the Principal
	4.11	Waste Management Register
	4.11	"s.143 Notices" for transporting and depositing of waste
	4.12	Pesticide Records Sheets
	4.14	Environmental incident and investigation reports
	4.15.2	Pre-construction land condition assessment reports
	4.15.3	Post-construction land condition assessment reports
	4.16	Contamination/ Validation Reports verifying that the restoration has been completed satisfactorily
	4.17.2	Real time monitoring records of the locations of all heavy vehicles used for off-Site haulage.
	5	Audit Reports
G38 Soil and Water Management –Early Works M12 Motorway	3.1.2	Register of inspection and maintenance measures
	3.4	Dewatering procedure records
	3.5	Approval notices to locate stockpiles on private land
	3.8	Approvals and licences to extract water
G40 Clearing and Grubbing – Early Works M12 Motorway	2.4	Report on the presence of weeds and unsound trees
	2.4	Clearing and Grubbing Plan

8 Review and improvement

8.1 Continuous improvement

Continuous improvement of this Plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets
- CPB will be responsible for ensuring Project environmental risks are identified and included in the risk register and appropriate mitigation measures implemented throughout the Project as part of the continuous improvement process. The process for ongoing risk identification and management during Early Works is outlined in Section 1.11 of the EWEMP.

8.2 SEMP update and amendment

The processes described in Section 1.11 of the EWEMP may result in the need to update or revise this Plan. Any revisions to the SEMP will be in accordance with the process outlined in Section 1.11 of the EWEMP including submission to the Environmental Representative for approval in accordance with NSW CoA A34(i).

In accordance with NSW CoA A17, a new or revised SEMP must be prepared for the Ancillary Facilities if, upon the completion of Early Works but prior to construction of the Project, additional activities are required to establish the facilities or there is a change to the layout. In this case, the new or revised SEMP must be prepared in accordance with NSW CoA A16 and approved by the Secretary of DPIE before commencement of the additional activities or change to site layout.

Appendix A – Consultation Correspondence

The SEMP was prepared in consultation with the Penrith City Council as required by NSW CoA A16. Documentation of engagement is provided below in accordance with NSW CoA A5(a).

Issues raised

From: [Lendrum, Simon](#)
To: [Ari Fernando](#); [Charles Wiafe](#) (WiafeC@liverpool.nsw.gov.au); [David Drozd](#)
Cc: [Kollakompil, Noel](#); [dbone](#); [Suzette Graham](#); [Foster Walker](#)
Subject: RE: Early Construction Works Consultation - CPB Contractors - Roundabout on Elizabeth Drive Badgerys Creek
Date: Wednesday, 20 October 2021 5:24:28 PM

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi Ari,

Thank you for your response and I seek to provide clarity to address comments in your recent email.

CPB's responses are shown as blue text in your email below.

Should you have any further comments please don't hesitate to get in touch.

Regards,

Simon Lendrum

Senior Environment Advisor



Level 2, 177 Pacific Highway, North Sydney, NSW 2060, Australia

T M 0427 353 937

E Simon.Lendrum@cpbcon.com.au

From: Ari Fernando <ari.fernando@penrith.city>
Sent: Monday, 18 October 2021 1:18 PM
To: Lendrum, Simon <Simon.Lendrum@cpbcon.com.au>; Charles Wiafe (WiafeC@liverpool.nsw.gov.au) <wiafec@liverpool.nsw.gov.au>; David Drozd <David.Drozd@penrith.city>
Cc: Kollakompil, Noel <Noel.Kollakompil@cpbcon.com.au>; dbone <dbone@emmconsulting.com.au>; suzette.graham <suzette.graham@rms.nsw.gov.au>
Subject: Re: Early Construction Works Consultation - CPB Contractors - Roundabout on Elizabeth Drive Badgerys Creek

CAUTION: This email originated from outside of the Organisation.

Simon

I refer to your Site Establishment Management Plan dated September 2021. as attached titled;

"M12 Motorway – Temporary Roundabout Elizabeth Drive, Badgerys Creek"

As the title noted, this is a "prescribed traffic control device" on a State Road, for the purpose of NSW Transport Administration Act 1988 & NSW Road Transport Act 2013.

These devices require formal approval from relevant Section of the TfNSW and/or both Liverpool & Penrith City Councils as Elizabeth Road is on Council boundary.

PI note following comments.

1. There were no plans of proposed works location noted within the SEMP.

The Early Works Site Establishment Management Plan (EWSEMP) has been prepared to facilitate the use of the existing CPB Contractors Ancillary Facility on The Northern Road and establishment of a minor ancillary facility at the proposed site of the temporary roundabout on Elizabeth Drive. CPB Contractors have prepared an Early Works Environmental Management Plan (EWEMP) to facilitate the works associated with the construction of the temporary roundabout on Elizabeth Drive. Under the CSSI Planning Approval the EWEMP is not required to be issued for consultation.

2. There were no plans of proposed roundabout shown. Simon promised to provide plans for Council LTC before 12 October and have not provided yet.

A copy of the roundabout design can be found by clicking on this [link](#). TfNSW and CPB Contractors note that these designs aren't relevant for the purposes of consultation on the Site Establishment Management Plan (SEMP) under the M12 Motorway CSSI Planning approval. CPB Contractors has prepared an EWEMP to facilitate the works associated with the construction of the temporary roundabout on Elizabeth Drive. Under the CSSI Planning Approval the EWEMP does not require to be issued for consultation.

3. Site Establishment Management Plan is not an approval to proceed with construction.

The EWSEMP has been prepared to facilitate the use of the existing approved CPB Contractors Ancillary Facility on The Northern Road and establishment of a minor ancillary facility at the proposed site of the temporary roundabout on Elizabeth Drive. The purpose of the EWSEMP is not to detail road safety improvements such as lighting or regulatory signs and line marking plans. This information is detailed in the respective Traffic Management Plan.

4. There were no site safety improvements such as lighting or regulatory signs and line marking plans attached

The EWSEMP has been prepared to facilitate the use of the existing approved CPB Contractors Ancillary Facility on The Northern Road and establishment of a minor ancillary facility at the proposed site of the temporary roundabout on Elizabeth Drive. The purpose of the EWSEMP is not to detail road safety improvements such as lighting or regulatory signs and line marking plans. This information is detailed in the respective Traffic Management Plan.

5. It is noted in Appendix A that this SEMP was prepared in consultation with Penrith City

Council and Liverpool Council as required by NSW CoA A16. Documentation of engagement is provided below in accordance with NSW CoA [BR11](#) A5(a).

6. However this was the first time Council has noted a SEMP for a roundabout, and considers this report is flawed to this extent.

7. Previous comments on SEMP forwarded to us was on a site compound for a site compound on road reserve land on M12 acquired road reserve. Hence our comment was that Council had no concern.

I raise concern about noted comments in Appendix A being very unprofessional

Below are responses for comment no. 5, 6 and 7:

The text in Appendix A is an administrative error. The text is a carryover from the EWSEMP prepared for the Electrical and Water Relocation Early Works to be undertaken on Luddenham Road and Elizabeth Drive and was included by error. Appendix A will be amended to reflect consultation with Penrith City Council in respect to the EWSEMP for the construction of the temporary roundabout on Elizabeth Drive.

CPB Contractors notes that as required by CSSI Planning Approval Condition 5(b) all consultation correspondence is required to be appended to the relevant plan issued for consultation. Appendix A will be amended to reflect consultation with Penrith City Council in respect to the EWSEMP for the construction of the temporary roundabout on Elizabeth Drive.

Regards

Ari Fernando
Penrith City Council.

1.

From: Lendrum, Simon <Simon.Lendrum@cpbcon.com.au>
Sent: Friday, October 8, 2021 3:32 PM
To: Ari Fernando <ari.fernando@penrith.city>
Cc: Kollakompil, Noel <Noel.Kollakompil@cpbcon.com.au>; dbone <dbone@emmconsulting.com.au>
Subject: Early Construction Works Consultation - CPB Contractors

**EXTERNAL EMAIL: This email was received from outside the organisation.
Use caution when clicking any links or opening attachments.**

Hi Ari,

Thank you for your time earlier today to discuss matters concerning CPB's upcoming package of works.

CPB Contractors Pty Ltd will be undertaking a package of early construction works in preparation for construction of the new M12 motorway.

CPB intends to commence these works early November and continue into the middle of the first quarter of next year.

These works will require the establishment of amenity site sheds for a small amount of construction workers to use for the duration of the works.

The sheds will be within the existing road corridor so there is no need for special traffic considerations as these are part of the construction works needed for the roundabout.

Penrith Council has already been consulted regarding TfNSW's early electrical works Site Establishment Management Plan (SEMP).

TfNSW's early electrical works SEMP covers the same location as CPB's upcoming works and it's assumed that comments about the location would have already been addressed.

I would like to prepare the attached SEMP in consultation with Penrith City Council.

Could you please read the plan and make any necessary comments by next Friday 15th October?

Should you have any queries please don't hesitate to get in contact.

Regards

Simon Lendrum

Senior Environment Advisor



Level 2, 177 Pacific Highway, North Sydney, NSW 2060, Australia

T M 0427 353 937

E Simon.Lendrum@cpbcon.com.au

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Appendix B – Secondary CoA and REMMs

Secondary CoA

CoA No.	Condition Requirements	Document Reference
A21	Boundary screening must be erected around all construction ancillary facilities that are adjacent to sensitive receivers for the duration of construction of the CSSI unless otherwise agreed with affected residents, business operators and landowners.	Section 4.3 Section 5.5
A22	Boundary screening required under Condition A21 of this approval must minimise, as far as practicable, visual impacts on adjacent sensitive receivers.	Section 4.3 Section 5.5
A23	The CSSI name; application number; telephone number, postal address and email address required under Condition B7 of this approval must be made available on site boundary fencing / hoarding at the entrance of each ancillary facility before the commencement of construction.	Section 4.3
A24	Before undertaking early works in Appendix B, the Proponent must prepare an Early Works Environmental Management Plan. The Plan must include:	This Plan
	(b) A site establishment management plan for any proposed construction ancillary facilities (excluding minor construction ancillary facilities established under Condition A20) consistent with the requirements of Condition A16.	This Plan
A34	For the duration of Work until the commencement of operation, or as agreed with the Planning Secretary, the approved ER must:	Section 8.2 Section 1.11 of EWEMP
	(i) Consider any minor amendments to be made to the CEMP, CEMP Sub-plans, Construction Monitoring Programs, Site Establishment Management Plans and Early Works Environmental Management Plan that involve updating or are of an administrative nature and do not increase impacts to nearby sensitive receivers, and ensure they are consistent with the terms of this approval and the documents approved by the Planning Secretary and, if satisfied such amendment is necessary, approve the amendment. This does not include any modifications to the terms of this approval.	

CoA No.	Condition Requirements	Document Reference
E40	Noise and Vibration Impact Statements (NVIS) must be prepared for any Work that may exceed the noise management levels and vibration criteria specified in Condition E38 at any residence outside the construction hours identified in Condition E34, or where receivers will be highly noise affected. The NVIS must include specific mitigation measures identified through consultation with affected sensitive land user(s) and the mitigation measures must be implemented for the duration of the Work. A copy of the NVIS must be provided to the ER prior to the commencement of the associated Work. The Planning Secretary may request a copy/ies of the NVIS.	Section 4.5 Section 5.3 Appendix C
E41	Owners and occupiers of properties at risk of exceeding the screening criteria for cosmetic damage must be notified before Work that generates vibration commences in the vicinity of those properties. If the potential exceedance is to occur more than once or extend over a period of 24 hours, owners and occupiers must be provided with a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the owner and occupier. These properties must be identified and considered in the Noise and Vibration CEMP Sub-plan required by Condition C4 and the Communication Strategy required by Condition B1.	Appendix C
E93	The Planning Secretary's approval is required before any heavy vehicles used for spoil and fill haulage or concrete deliveries (for the purpose of the CSSI) are driven on local roads within one (1) kilometre of early works, construction and construction ancillary facilities and that are not identified for use by heavy vehicles in the documents listed in Condition A1. The local roads must be identified in the Early Works Environment Management Plan and Traffic Management CEMP Sub-plan.	Section 5.1 - Only the Northern Road and Elizabeth Drive will be utilised as identified in the Environmental Assessment Documentation
E94	All requests to the Planning Secretary for approval to use local roads in accordance with Condition E93, must include a traffic and pedestrian impact assessment and be prepared in consultation with the relevant local council(s). The assessment must be undertaken by appropriately qualified and experienced person and must include a swept path analysis if required by the Department. The outcomes and recommendations of the traffic and pedestrian impact assessment must be incorporated into the Site Establishment Management Plan or Traffic Management CEMP Sub-plan as relevant.	Section 5.1 - Only the Northern Road and Elizabeth Drive will be utilised as identified in the Environmental Assessment Documentation

CoA No.	Condition Requirements	Document Reference
E95	<p>Before any local road is used by a heavy vehicle for the purposes of the CSSI, a Road Dilapidation Report must be prepared for the road unless otherwise agreed by the relevant road authority. A copy of the Road Dilapidation Report must be provided to the relevant road authority within three (3) weeks of completion of the survey and at least two (2) weeks before the road is used by heavy vehicles associated with the construction of the CSSI.</p> <p>If damage to roads occurs as a result of the construction of the CSSI, the Proponent must rectify the damage to restore the road to at least the condition it was in pre-construction in consultation with the relevant road authority. Rectification works must be undertaken within three (3) months of the subject road no longer being used for the construction of the CSSI unless an alternative timeframe is agreed to by the relevant road authority.</p>	Section 5.1

Secondary REMMs

REMM	Condition Requirements	Document Reference
SWH01	A construction soil and water management plan (CSWMP) will be prepared for the Project. The plan will outline measures to manage soil and water impacts associated with the construction works, including contaminated land. The CSWMP will provide:	Table 6-3
	<ul style="list-style-type: none"> Measures to manage stockpiles including locations, separation of waste types, sediment controls and stabilisation. 	
SWH04	Stockpiles will be managed to minimise the potential for mobilisation and transport of dust and sediment in runoff in accordance with TfNSW <i>Stockpile Sites Management Guideline</i> (Roads and Maritime, 2015). This will include:	Table 6-3
	<ul style="list-style-type: none"> Minimising the number of stockpiles, area used for stockpiles, and time that they are left exposed 	
	<ul style="list-style-type: none"> Locating stockpiles away from drainage lines, waterways and areas where they may be susceptible to wind erosion 	
	<ul style="list-style-type: none"> Stabilising stockpiles, establishing appropriate sediment controls and suppressing dust as required. 	
AQ02	Dust generation will be minimised during construction where possible. Where practicable, specific measures will include (but not be limited to):	Table 6-3

REMM	Condition Requirements	Document Reference
	<ul style="list-style-type: none"> Regularly watering exposed and disturbed areas including stockpiles, especially during inclement weather conditions 	
	<ul style="list-style-type: none"> Adjusting the intensity of activities based on measured and observed dust levels, weather forecasts and the proximity of and direction of the works in relation to the nearest surrounding receivers 	
	<ul style="list-style-type: none"> Ensuring loads are covered, and any loose materials/debris are removed before vehicles exit the site 	
	<ul style="list-style-type: none"> Minimising the number of stockpiles and amount of material stockpiled where practicable 	
	<ul style="list-style-type: none"> Positioning stockpiling areas as far as possible from surrounding receivers, including potentially ecologically sensitive receivers 	Section 6.11 of EWFFMP
	<ul style="list-style-type: none"> Limiting stockpiling activities during conditions where winds are blowing strongly in the direction(s) from the stockpiling location to nearby receivers. 	Appendix A8 of EWEMP
AQ03	<ul style="list-style-type: none"> Odorous materials identified on site will be excavated in a staged process and exposed areas of odours material will be kept to a minimum to reduce the total emissions from the site where feasible. 	Table 6-3 Section 5.2
W04	Suitable areas will be identified to allow for contingency management of unexpected waste materials, including contaminated materials. Suitable areas will be required to be hardstand or lined areas that are appropriately stabilised and bunded, with sufficient area for stockpile storage.	Section 0 Table 6-3



Appendix C – Noise and Vibration Monitoring Program

Appendix C

Noise and Vibration Monitoring Program

M12 Motorway – Temporary Roundabout Elizabeth Drive, Badgerys Creek



November 2021

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Document control

File Name	M12PPW-ADAP-ALL-EN-PLN-00002_F_S3_ Appendix C
Title	M12 Motorway Noise and Vibration Monitoring Program for Temporary Roundabout Construction
Document number	M12PPW-ADAP-ALL-EN-PLN-00002

Approval and authorisation

Plan reviewed by:	Plan reviewed by:
David Bone	Simon Lendrum
Associate Director – EMM Consulting	Environmental Site Representative – CPB Contractors
Date: 10/11/2021	Date: 10/11/2021
Signed 	Signed 

Revision history

Revision	Date	Description
A	29/09/2021	First draft for TfNSW review
B	09/09/2021	Second draft for TfNSW review
C	30/09/2021	Internal review and template changes
D	18/10/2021	Final comments from TfNSW and ER
E	25/10/2021	Address ER comments
F	08/11/2021	Address DPIE comments

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Glossary/Abbreviations

Abbreviation	Expanded Text
AF1 (Early Works)	Ancillary facility located at the western extent of the Project, and adjoins the eastern verge of the Northern Road in Luddenham
Ambient noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
Attenuation	The reduction in the level of sound or vibration
BS	British Standard
CNVG	Construction Noise and Vibration Guideline
CoA	Condition of Approval
DAWE	Commonwealth Department of Agriculture, Water and the Environment
dBA	Decibels using the A-weighted scale measured according to the frequency of the human ear.
DEC	Former NSW Department of Environment and Conservation
DECC	Former NSW Department of Environment and Climate Change
DPIE	NSW Department of Planning, Industry and Environment
EES	NSW Environment, Energy and Science (a part of DPIE)
EIS	Environmental Impact Statement
EMS	Environmental management system
EWEMP	Early Works Environmental Management Plan
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
EMM	Environmental Management Measure
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.

Abbreviation	Expanded Text
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
ER	Environmental Representative
ERG	Environmental Review Group
EWMS	Environmental Work Method Statements
Feasible and reasonable	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account mitigation benefits and cost of mitigation versus benefits provided, community views and nature and extent of potential improvements.
Highly Noise Affected	The highly noise affected level represents the point above which there may be strong community reaction to noise (above 75dB(A)), as defined in the ICNG (EPA, 2009).
LAeq (15min)	The A-weighted equivalent continuous (energy average) A-weighted sound pressure level of the construction works under consideration over a 15-minute period and excludes other noise sources such as from industry, road, rail and the community.
LA (max)	the A-weighted maximum noise level only from the construction works under consideration, measured using the fast time weighting on a sound level meter.
Monitoring Program, this	Construction Noise and Vibration Monitoring Program
NCA	Noise Catchment Areas
NML	Noise Management Level
Noise Affected	The noise affected level represents the point above which there may be some community reaction to noise, as defined in the ICNG (EPA, 2009).
POEO Act	<i>NSW Protection of the Environment Operations Act 1997</i>

Abbreviation	Expanded Text
RBL	The Rating Background Level for each period is the medium value of the ABL values for the period over all of the days measured. There is therefore an RBL value for each period (day, evening and night)
SEMP	Site Establishment Management Plan
SWL	Sound Power Level
SPL	Sound Pressure Level
TfNSW	Transport for New South Wales
VDV	Vibration dose value
WSIA	Western Sydney International Airport

1 Introduction

1.1 Background

Transport for New South Wales (TfNSW) is planning to construct and operate the M12 Motorway (the Project) to provide direct access between the Western Sydney International Airport (WSIA) at Badgerys Creek and Sydney's motorway network. The M12 Motorway will run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for about 16 kilometres and is expected to be opened to traffic prior to opening of the WSIA.

TfNSW proposes to carry out Early Works associated with construction of a temporary roundabout at Elizabeth Drive near Badgerys Creek, including site establishment activities, before the main construction activities for the Project begin (refer to Figure 1 of the Early Works Site Establishment Management Plan). Accordingly, an Early Works Environmental Management Plan (EWEMP or Plan) and associated Early Works Flora and Fauna Management Plan (EW FFMP) and Site Establishment Management Plan (SEMP) have been prepared. These plans provide a management system to ensure that CPB Contractors establish and maintain best practice controls to manage potential environmental impacts during Early Works.

1.2 Scope of the Program

This Noise and Vibration Monitoring Program (this Monitoring Program) has been developed in accordance with NSW Condition of Approval (CoA) A16(e) and CoA C14. It forms an appendix to the Early Works Site Establishment Management Plan (SEMP) for the Temporary Roundabout Works at Elizabeth Drive, and describes the environmental noise and vibration monitoring activities to be undertaken by CPB Contractors during site establishment and operation activities associated with minor ancillary facilities and the main compound site AF10. The AF10 facility will be managed in accordance with the approved EWSEMP.

The purpose of this Monitoring Program is to:

- Provide a procedure to monitor noise and vibration impacts during site establishment works and operation at the Early Works footprint site facility and minor ancillary facilities, and in response to complaints.
- Meet the requirements of the CoA for the Project
- Meet any relevant legal and other requirements for the Project.

1.3 Responsibilities

Site personnel or sub-contractors with suitable experience and qualifications will undertake the monitoring outlined in this Monitoring Program.

CPB Contractors Construction Manager is responsible for ensuring that all legal and other requirements described in this Monitoring Program are met.

1.4 Approval, review and modification

In accordance with NSW CoA C15, this Monitoring Program will be endorsed by the Environmental Representative (ER), and will be submitted to the Secretary for approval at least one month before commencement of construction.

Site establishment and operation will not commence until the Secretary has approved this required Monitoring Program and all relevant baseline data for the specific construction activity has been collected. This Monitoring Program will be implemented for the duration of use of the Early Works Temporary Roundabout construction or for any longer period specified by the Secretary, whichever is the greater.

This Monitoring Program will be reviewed every six months by TfNSW in consultation with CPB Contractors.

In accordance with NSW CoA C17, minor amendments to this Monitoring Program may be approved by the ER. Any amendments to the Monitoring Program will be documented in subsequent revisions of this Monitoring Program.

A copy of the updated Monitoring Program and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure outlined in the EWEMP. Site personnel with responsibilities relevant to noise and vibration monitoring will be informed of any amendments to the Monitoring Program and training provided where required.

1.5 Consultation

In accordance with NSW CoA C11(a) consultation with Penrith City Council has been undertaken on the EWSEMP. Refer to Appendix A of the SEMP for a record of the consultation carried out during the development of this Monitoring Program.

1.6 Guidelines

The main guidelines, specifications and policy documents relevant to this monitoring program include:

- TfNSW QA Specification G36 – Environmental Protection (Management System).
- TfNSW *Construction Noise and Vibration Guidelines* (Roads and Maritime 2016)
- NSW *Interim Construction Noise Guideline (ICNG)*, Department of Environment and Climate Change (DECC) 2009
- NSW Road Noise Policy, Dept. of Environment, Climate Change and Water 2011
- NSW Noise Policy for Industry, Environment Protection Authority 2017
- NSW *Assessing Vibration – a technical guideline (AVTG)* (DEC 2006)
- Australian Standard 2659.1 – 1998 *Guide to the use of sound measuring equipment – portable sound level meters*
- Australian Standard IEC 61672.1 *Electroacoustic – Sound Level Meters – Specifications*
- Australian Standard 2775 *Mechanical Mounting of Accelerometers*

- Australian Standard AS/NZS 2107:2000 Acoustics - *Recommended design sound levels and reverberation times for building interiors*
- Australian Standard 2834-1995 *Computer Accommodation, Chapter 2.9 Vibration*
- Australian Standard AS 2187.2 *Explosives - Storage and use - Part 2 Use of explosives*
- Australian Standard 1055 Acoustics – *Description and Measurement of Environmental Noise*
- Australian Standard AS2436-1981 *Guide to Noise Control on Construction, Maintenance and Demolition Sites*
- British Standard BS 6472-2008, '*Evaluation of human exposure to vibration in buildings (180Hz)*'
- British Standard 7385: Part 2-1993 '*Evaluation and measurement of vibration in buildings*'
- German Standard DIN4150-1999 *Structural vibration Part 3: Effects of vibration on Structures.*

1.7 Conditions of Approval

The NSW CoA relevant to this Monitoring Program and their applicability to each stage of the Project are listed in Table 1-1. A cross reference is also included to indicate where the condition is addressed in this Monitoring Program or other project management documents.

Table 1-1: NSW CoA relevant to the preparation of this Monitoring Program

CoA no.	Condition requirement	Reference
A16	<p>Before establishment of a construction ancillary facility(ies) (excluding minor construction ancillary facilities established under Condition A20), the Proponent must prepare a Site Establishment Management Plan which outlines the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facility(ies). The Site Establishment Management Plan must be prepared in consultation with the relevant council(s) and relevant State government agencies. The Plan must be endorsed by the ER and then submitted to the Planning Secretary for approval one (1) month before the establishment of the construction ancillary facility(ies). The Site Establishment Management Plan must detail the management of the construction ancillary facility(ies) and include:</p> <p>(e) a program for monitoring the performance outcomes, including a program for noise monitoring consistent with the requirements of Condition C14.</p>	This monitoring program
A46	The Planning Secretary must be notified in writing via the Major Projects website within seven (7) days after the Proponent becomes aware of any non-compliance.	Section 5.3 Appendix A5 of the EWEMP
A47	A non-compliance notification must identify the CSSI and the application number for it, set out the condition of approval that the CSSI is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	Section 5.3 Appendix A5 of the EWEMP
C11	<p>The following Construction Monitoring Programs must be prepared in consultation with the relevant government agencies identified for each to compare actual performance of construction of the CSSI against the performance predicted in the documents listed in Condition A1 or in the CEMP:</p> <p>(a) Noise and Vibration: Relevant Council(s)</p>	Section 1.5 Appendix A of the SEMP
C12	Details of all the information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant Construction Monitoring Programs, including copies of all correspondence from those agencies as required by Condition A5.	Section 1.5 Appendix A of the SEMP

CoA no.	Condition requirement	Reference
C13	<p>Each Construction Monitoring Program must provide:</p> <ul style="list-style-type: none"> a. details of baseline data available; b. details of baseline data to be obtained and when; c. details of all monitoring of the CSSI to be undertaken; d. the parameters of the CSSI to be monitored; e. the frequency of monitoring to be undertaken; f. the location of monitoring; g. the reporting of monitoring results and analysis of results against the relevant criteria; h. procedures to identify and implement additional mitigation measures where results of monitoring indicate unsatisfactory CSSI impacts; i. a consideration of SMART principles j. any consultation to be undertaken in relation to the monitoring programs; and k. Any specific requirements as required by Condition C14. 	<p>Section 2</p> <p>Section 4</p> <p>Section 5</p> <p>Section 1.5</p>
C14	<p>The Construction Noise and Vibration Monitoring Program must include, but not be limited to:</p>	
	(a) noise and vibration monitoring at representative residential and other locations (including at the worst- affected residences), subject to property owner approval, to confirm construction noise and vibration levels;	<p>Section 4.1</p> <p>Section 4.2</p>
	(b) noise monitoring during the day, evening and night time periods throughout the construction period, covering the range of activities (including worst-case construction noise levels) being undertaken;	Section 4.1

CoA no.	Condition requirement	Reference
	(c) method and frequency for reporting monitoring results; and	Section 5
	(d) procedures to identify and implement additional mitigation measures where monitoring indicates noise and/or vibration levels in excess in excess of noise and vibration criteria.	Section 6
C15	The Construction Monitoring Programs must be endorsed by the ER and then submitted to the Planning Secretary for approval at least one (1) month before the commencement of construction.	Section 1.4
C16	Unless otherwise agreed with the Planning Secretary, construction must not commence until all of the relevant Construction Monitoring Programs have been approved by the Planning Secretary, and all relevant baseline data for the specific construction activity has been collected.	Section 1.4
C17	The Construction Monitoring Programs, as approved by the Planning Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction and for any longer period set out in the monitoring program or specified by the Planning Secretary, whichever is the greater.	Section 1.4
C18	The results of the Construction Monitoring Programs must be submitted to the Planning Secretary, and relevant government agencies, for information in the form of a Construction Monitoring Report at the frequency identified in the relevant Construction Monitoring Program.	Section 5
E38	Mitigation measures must be implemented with the aim of achieving the following construction noise management levels and vibration objectives:	Appendix A8 of the EWEMP
	(a) construction 'Noise affected' NML established using the <i>Interim Construction Noise Guideline</i> (DECC, 2009);	Section 3
	(b) vibration criteria established using the <i>Assessing vibration: a technical guideline</i> (DEC, 2006) (for human exposure);	
	(c) BS 7385 Part 2-1993 " <i>Evaluation and measurement for vibration in buildings Part 2</i> " as they are "applicable to Australian conditions"; and	

CoA no.	Condition requirement	Reference
	<p>(d) the vibration limits set out in the <i>German Standard DIN 4150-3: Structural Vibration- effects of vibration on structures</i> (for structural damage).</p> <p>Any construction or early works identified as exceeding the noise management levels and/or vibration criteria must be managed in accordance with the respective Noise and Vibration CEMP Sub-plan or Early Works Environmental Management Plan.</p> <p><i>Note: The ICNG identifies ‘particularly annoying’ activities that require the addition of 5 dB(A) to the predicted level before comparing to the construction NML.</i></p>	
E76	<p>The Proponent must offer pre-construction surveys to the owners of surface and sub-surface structures and other relevant assets identified at risk from vibration, including all listed heritage items and buildings/structures of heritage significance as identified in the documents listed in Condition A1. Where the offer is accepted, the survey must be undertaken by a suitably qualified and experienced engineer and/or building surveyor prior to the commencement of vibration generating works that could impact on the structure/asset. The results of each survey must be documented in a Pre-construction Condition Survey Report and the report must be provided to the owner of the item(s) surveyed no later than one (1) month before the commencement of all other potentially impacting works.</p>	Section 5.4
E77	<p>Where pre-construction surveys have been undertaken in accordance with Condition E76, subsequent post-construction surveys of the structure / asset must be undertaken by a suitably qualified and experienced engineer and/or building surveyor to assess damage that may have resulted from the vibration-generating works. The results of the post-construction surveys must be documented in a Post-Construction Condition Survey Report for each item surveyed. The Post-construction Condition Survey Reports must be provided to the owner of the structures/assets surveyed, and no later than four (4) months following the completion of construction activities that have the potential to impact on the structure / asset.</p>	Section 5.4

2 Baseline Data

2.1 Noise and vibration sensitive receivers

The noise and vibration assessment in the EIS, Response to Submissions, Amendment Report and Amendment Report Submissions Report (collectively Environmental Assessment Documentation) identified and considered potential construction noise and vibration impacts for each habitable dwelling or park along the Project alignment and within 1200 m either side of the new or existing road centre line.

Sensitive receivers potentially affected by site establishment activities and the operation of the Early Works Footprint Minor ancillary Facilities comprise of one residential receivers located on the northern side of Elizabeth Drive; located about 425 metres to the north of the Early Works footprint.

The AF10 facility has one residential receiver located 108m from the AF10 location.

2.2 Noise Catchment Areas

Noise catchment areas (NCAs) that reflect land uses and the nature and types of receivers within each NCA were established as part of the noise assessment. The Early Works temporary roundabout footprint is located within NCA08 at the southern extent of the project, which is primarily rural residential with the nearest receivers located to the north.

The AF10 location is in NCA10.

2.3 Existing noise environment (baseline data)

The ambient noise environment is dominated by a combination of road traffic noise in the vicinity of major roads and general environmental noise (such as wind and insects) in the more rural locations.

Unattended noise surveys in the Project area were conducted at 15 locations as part of the preparation of the Environmental Assessment Documentation, namely the M12 EIS in 2017, and the Amendment Report in 2020. The measured noise levels were used to determine the existing noise environment and to set criteria to assess the potential impacts from the Project. The monitoring equipment was generally located at receivers which would have line-of-sight to the Project or to existing major roads. The locations in which background noise monitoring surveys were carried out, in proximity to the M12 Early Works Temporary Roundabout, are shown on **Error! Reference source not found.**

The rating background level (RBL) is used to determine the appropriate noise management level (NML). The RBL is the overall single-figure background noise level measured in each relevant assessment period (during or outside the recommended standard hours). A summary of the noise monitoring results and adopted RBLs is provided in Table 2-1.

Table 2-1: Ambient noise monitoring results (dBA)

EIS ID	Background noise (RBL) – Periods based on extended construction hours ¹					Average noise level LA _{eq} (period) based on Road Noise Policy ²	
	Morning shoulder	Day	Evening	Evening Shoulder	Night	Day 15 hour	Night 9 hour
L08	58	46	50	57	34	60	59
L13	50	42	38	48	33	64	60
L14	50	42	39	48	33	55	52
L15	50	39	40	47	34	52	49

Source: M12 Motorway EIS Section 7.7 Table 7-108

Attended noise monitoring locations will be at the property boundary for the nearest sensitive receiver on Littlefields Road.

¹ RBL periods are based on extended construction hours: Morning shoulder is 6:00 am to 7:00 am Monday to Friday; Daytime is 7:00 am to 6:00 pm Monday to Saturday and 8:00 am to 6:00 pm Sunday and Public Holidays; Evening is 7:00 pm to 10:00 pm Monday to Friday and 6:00 pm to 10:00 pm Saturday, Sunday and Public Holidays; Evening shoulder is 6:00 pm to 7:00 pm Monday to Friday; Night-time is 10:00 pm to 6:00 am Monday to Friday, 10:00 pm to 7:00 am Saturday and 10:00 pm to 8:00 am Sunday and Public Holidays

² LA_{eq} periods are based on the Road Noise Policy: Daytime is 7:00 am to 10:00 pm; Night-time is 10:00 pm to 7:00 am.

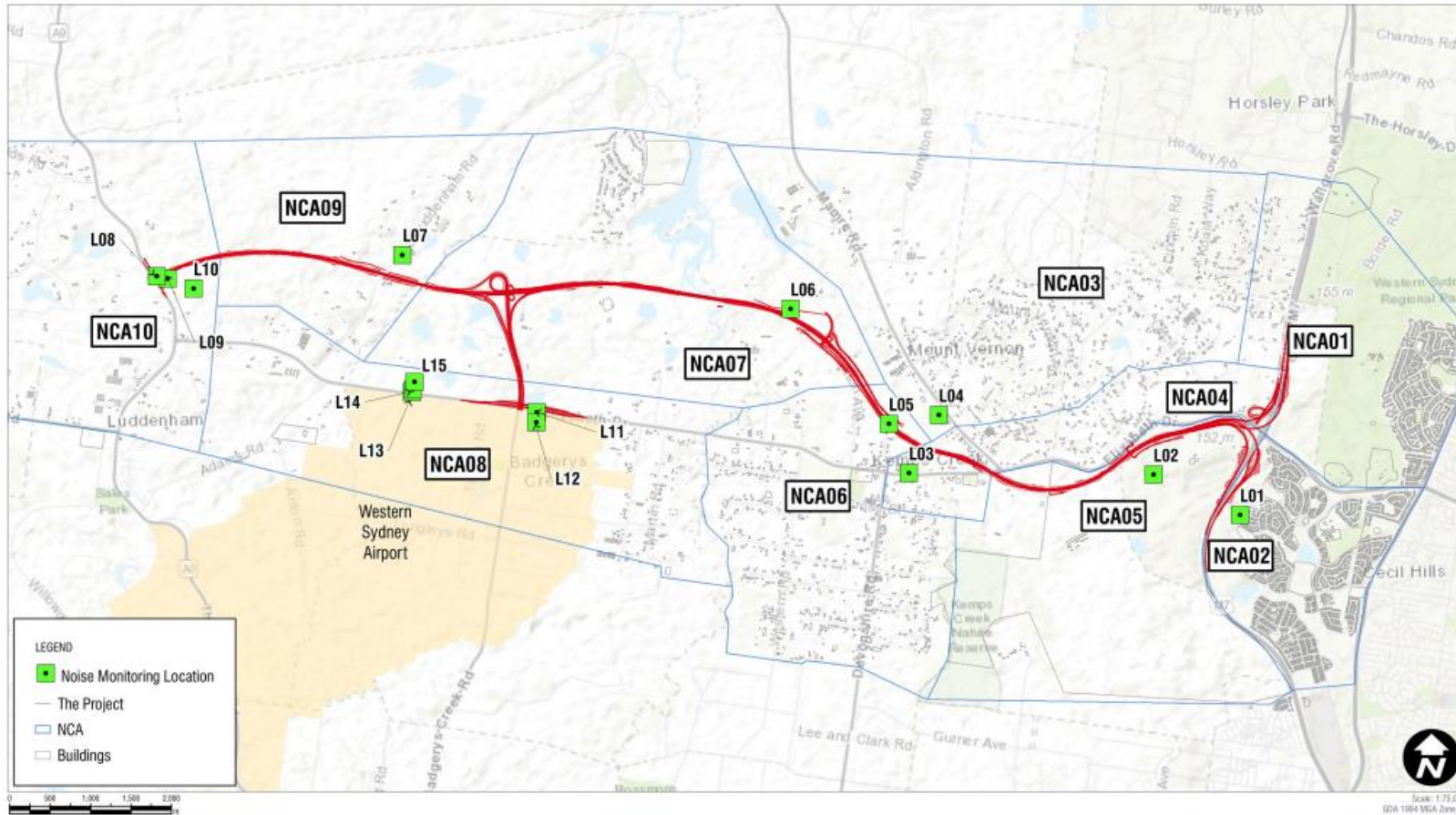


Figure 2-1: Noise Catchment Area and noise monitoring locations relevant to Temporary Roundabout Early Works

3 Noise and vibration criteria

3.1 Construction noise criteria

The noise criteria adopted for site establishment and operational activities at the minor ancillary facilities in the Temporary Roundabout Footprint and the operation of the Temporary Roundabout Early Works Ancillary Facility AF10, for residential receivers within NCA08 and NCA10 are set out in

Table 3-1: Construction NMLs and sleep disturbance screening criteria at residences within NCA08

NML (LR _{Aeq(15min)} R (dBA))							Sleep disturbance screening criteria (RBL + 15 dB)
Standard construction (RBL + 10dB)	Approved extended hours (RBL + 10dB)	Out-of-hours (RBL + 5dB)					
Day ³	Day (Saturday 1pm -6pm ⁴)	Morning shoulder ⁵	Day ⁶	Evening ⁷	Evening shoulder ⁸	Night ⁹	
NCA08 – Minor Ancillary Facility locations							
52	54	47	47	44	44	38	48
NCA10 – AF10 ancillary facility location							
54	56	49	49	49	49	41	51

³ Daytime period is the standard construction hours of 7:00 am to 6:00 pm Monday to Friday and 8:00 am to 1:00 pm Saturday.

⁴ Approved extended hours include Saturday from 1:00 pm to 6 pm

⁵ Morning shoulder period is 6:00 am to 7:00 am Monday to Friday. Where the morning shoulder RBL is higher than the daytime RBL, the daytime RBL was adopted.

⁶ Daytime OOH period is 7:00 am to 8:00 am and 8:00 am to 6:00 pm Sunday and Public Holidays.

⁷ Evening period is 7:00 pm to 10:00 pm Monday to Friday and 6:00 pm to 10:00 pm Saturday, Sunday and Public Holidays

⁸ Evening shoulder period is 6:00 pm to 7:00 pm Monday to Friday. Where the evening shoulder RBL is higher than the evening RBL, the evening RBL was adopted.

⁹ Night-time period is 10:00 pm to 6:00 am Monday to Friday, 10:00 pm to 7:00 am Saturday and 10:00 pm to 8:00 am Sunday and Public Holidays.

3.2 Construction vibration criteria

3.2.1 Disturbance to building occupants

Maximum and preferred values for continuous and impulsive vibration for the Project are defined in Table 3-2.

Table 3-2: Continuous and impulsive vibration acceleration (m/s^2) 1-80 Hz

Location	Assessment period ¹	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Continuous vibration					
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night-time	0.007	0.005	0.014	0.010
Impulsive vibration					
Residences	Daytime	0.30	0.21	0.60	0.42
	Night-time	0.10	0.071	0.20	0.14

Intermittent vibration impact is assessed using vibration dose values (VDVs). The VDV method is more sensitive to peaks in the acceleration waveform and makes corrections to the criteria based on the exposure duration. The acceptable vibration dose values (VDV) for intermittent vibration for the Project are defined in Table 3-3.

Table 3-3: Acceptable vibration dose values ($\text{m/s}^{1.75}$) for intermittent vibration

Location	Daytime ¹		Night-time ¹	
	Preferred Values	Maximum Values	Preferred Values	Maximum Values
Residences	0.20	0.40	0.13	0.26

Notes: ¹Daytime is 7.00am to 10.00pm and night-time is 10.00pm to 7.00am

3.2.2 Structural damage

British Standard (BS) 7385 has been adopted as a guide to assess the likelihood of building damage from ground vibration. BS 7385 suggests levels at which 'cosmetic', 'minor' and 'major' categories of damage.

Table 3-4 sets out the BS 7385 criteria for cosmetic, minor and major damage. Where heritage structures are impacted, German Standard DIN 4150-3 vibration criteria will be applied. The criteria applicable to heritage buildings is identified in Table 3-6.

Table 3-4: BS 7385 structural damage criteria

Group	Type of structure	Damage level	Peak component particle velocity ¹ (mm/s)		
			4 – 15 Hz	15 – 40Hz	≥40Hz
1	Reinforced or framed structures Industrial and heavy commercial buildings	Cosmetic	50	50	50
		Minor ²	100	100	100
		Major ²	200	200	200
2	Un-reinforced or light framed structures Residential or light commercial type buildings	Cosmetic	15 - 20	20 - 50	50
		Minor ²	30 - 40	40 - 100	100
		Major ²	60 - 80	80 - 200	200

Notes: ¹ Peak Component Particle Velocity is the maximum Peak particle velocity in any one direction (x, y, z) as measured by a tri-axial vibration transducer.

² Minor and major damage criteria established based on BS 7385 Part 2 (1993) Section 7.4.2

Table 3-5: DIN 4150-3 vibration guideline for heritage buildings

Type of structure	Guideline values for vibration velocity (mm/s)			
	Vibration at the foundation at a frequency of			Vibration at the horizontal plane of the highest floor at all frequencies
	1 - 10 Hz	10 - 50 Hz	50 - 100 Hz ¹	
Heritage buildings	3	3 - 8	8 - 10	8

Notes: ¹ At frequencies above 100 Hz the values given in this column may be used as minimum values.

3.2.3 Safe working distances

Where vibration intensive plant such as rock breakers and vibratory rollers are used, vibration must be managed to minimise disturbance to building occupants and to avoid damage to buildings and other structures.

Table 3-6 indicates the safe working distances recommended by the CNVG for typical items of vibration intensive plant that must be complied with unless otherwise approved by TfNSW.

Table 3-6: Safe working distances for vibration intensive plant (TfNSW, 2013)

3BPlant item	4BRating/description	5BSafe working distance	
		6BCosmetic damage (British Std 7385)	7BHuman response (DECCW)
Vibratory roller	<50 kN (typically 1-2 t) <100 kN (typically 2-4 t) <200 kN (typically 4-6 t) <300 kN (typically 7-13 t) >300 kN (typically 13-18 t) >300 kN (> 18 t)	5 m 6 m 12 m 15 m 20 m 25 m	15 m to 20 m 20 m 40 m 100 m 100 m 100 m
Small hydraulic hammer	300 kg – 5 to 12 t excavator	2 m	7 m
Medium hydraulic hammer	900 kg – 12 to 18t excavator	7 m	23 m
Large hydraulic hammer	1600 kg – 18 to 34 t excavator	22 m	73 m
Vibratory pile driver	Sheet piles	2 m to 20 m	20 m
Pile boring	≤800 mm	2 m	n/a
Jackhammer	Hand held	1 m	Avoid contact with structure

The safe working distances presented in

Table 3-6 are indicative and will vary depending on the item of plant (particularly its power rating) and local geotechnical conditions. The cosmetic damage thresholds apply to typical buildings under typical geotechnical conditions and vibration monitoring is recommended at specific sites. Where structures are more sensitive such as heritage items, more stringent conditions may be applicable and will be considered individually by CPB Contractors.

In accordance with NSW CoA E40, a Noise and Vibration Impact Statement (NVIS) must be prepared for any work that may exceed noise management levels and vibration criteria for any work outside of the construction hours identified in NSW CoA E34, or where receivers are highly noise affected. No out of hours works are proposed for site establishment. Further, the nearest residential receiver is located 505m from the nearest point of the Temporary Roundabout works footprint, greater than safe working distance for cosmetic damage and well in exceedance of the safe working distance for human exposure (100m). No establishment works are required at AF10, a NVIS is therefore not required.

As required by NSW CoA E41, if the potential vibration criteria exceedance is to occur more than once or extend over a period of 24 hours, sensitive receivers will be provided with a schedule of potential exceedances on a monthly basis for the duration of the potential exceedances, unless otherwise agreed by the sensitive receiver. In relation to human response, the safe working distances relate to continuous vibration. For most construction activities, vibration emissions are intermittent and higher vibration levels over shorter periods are acceptable. Additional assessment will be undertaken where the human response criteria are exceeded.

4 Monitoring Procedures

4.1 Noise monitoring

The overarching noise monitoring procedure to be adopted for the Project is provided in Table 4-1. Noise monitoring will be undertaken by a CPB Environmental Site Representative.

All noise monitoring will be undertaken in accordance with Australian Standard AS 2659.1 – 1998: *"Guide to the use of sound measuring equipment – portable sound level meters"*, or any revisions of that standard which may be made by Standards Australia, and the compliance monitoring guidance provided in the *"NSW Noise Policy for Industry"* (EPA, 2017). CPB will undertake noise monitoring as directed by an authorised officer of the EPA.

Table 4-1: Noise monitoring procedure

Monitoring details	Frequency	Test procedure
Attended noise surveys will be carried out to verify noise environment, RBL and NML	Prior to the commencement of construction	<ul style="list-style-type: none"> Surveys to be carried out at the property boundary at the residential receiver locations identified in Figure 2-1 Noise monitoring equipment will continuously measure existing noise levels in 15-minute periods during the daytime, evening and night-time periods for the survey period. All equipment must carry current National Association of Testing Authorities (NATA) or manufacturer calibration certificates
Attended monitoring will be carried out at the commencement of site establishment activities	Within the first month during the day, evening and night period (if works are being conducted outside of daytime hours)	<p>The testing method includes:</p> <ul style="list-style-type: none"> Sound level meter configured for "Fast" time weighting and "A" frequency weighting The test environment will be free from reflecting objects where possible. Where the noise monitoring is conducted within 3.5 metres of large walls or a building facade, then a reflection correction of up to -2.5 dBA will be applied to remove the effect of increased noise due to sound reflections from such structures Tests will not be carried out during rain or when the wind speed at the test site exceeds 5 m/s Conditions such as wind velocity, wind direction, temperature, relative humidity and cloud cover will be recorded. These may be obtained from the nearest Bureau of Meteorology monitoring station or on-site weather station/observations
Attended OOHW noise monitoring at sensitive receivers identified in Section 2 of this Monitoring Program	As required during OOHW	
Attended monitoring where a complaint is received and monitoring is considered an appropriate response to determine if noise levels exceed predicted 'worst'	Related to noise complaint	

Monitoring details	Frequency	Test procedure
case' Construction noise levels		<ul style="list-style-type: none"> The monitoring period should be sufficient such that the measured noise levels are representative of the noise over a 15-minute period At a minimum L_{eq}, L_{max}, L_{10} and L_{90} levels will be measured and reported Noise monitoring will also be undertaken for non-sensitive receivers predicted to be impacted by moderate exceedances of the NML from work in standard hours. <p>The observations of the person undertaking the measurements will be reported including audibility of construction noise (no more than 15dB(A)), other noise in the environment and any discernible construction activities contributing to the noise at the receiver.</p>
Attended monitoring to confirm noise levels are no more than 5 dB(A) above RBL for the OOHW period using the L_{Aeq} (15min) descriptor for works undertaken in accordance with NSW CoA E38	During works undertaken in accordance with NSW CoA E38	
Spot checks of noise intensive plant where it is required to check the noise emission from the plant against manufacturer's specifications	When a noise intensive piece of equipment commences works on site	<p>The test procedure for construction plant will be guided by the stationary test procedures according to Australian Standard AS 2012.1.</p> <ul style="list-style-type: none"> Sound level meter configured for "Fast" time weighting and "A" frequency weighting The test environment will be free from reflecting objects <p>Tests will not be carried out during rain or when the wind speed at the test site exceeds 5 m/s</p>
Where required for the purposes of refining site establishment methods or techniques to reduce noise levels	As required	

Where actual noise levels exceed the predicted worst case levels, the source of excessive noise generations will be identified, and any additional feasible and reasonable measures available will be implemented to either reduce noise emissions or reduce the impacts on receivers.

Details of site activity and equipment usage will be noted during construction noise monitoring.

4.1.1 Noise monitoring equipment

All monitoring will be undertaken by competent personnel, suitability trained and experienced in undertaking noise measurements. Noise monitoring equipment used will be at least Type 2 instruments and calibrated in accordance with manufacturer specifications or relevant Australian Standards. The calibration of the monitoring equipment will be checked in the field before the noise measurement period.

Acoustic instrumentation employed in the noise monitoring surveys will carry current manufacturer conformance certificates and comply with the guidelines identified in Section 1.6.

4.2 Vibration monitoring

The overarching vibration monitoring procedure to be adopted for the Project is provided in Table 4-2. Vibration monitoring will be undertaken by CPB Contractors Environmental Site Representative. Dilapidation surveys will be the responsibility of CPB Contractors Project Manager.

All vibration monitoring will be undertaken in accordance with the technical guidance provided in the "Environmental Noise Management - *Assessing Vibration: a technical guideline*" (DEC, 2006). Vibration monitoring results may be assessed and reported against the acceptable values of human exposure to vibration set out in Tables 2.2 and Table 2.4 of the guideline.

CPB Contractors will undertake vibration monitoring as directed by an authorised officer of the EPA. Given the distance to the nearest receiver (425 m) for the minor ancillary facility establishment it is envisaged that vibration monitoring will not be required, however, should a complaint be received relating to potential vibration impact from the site establishment activities at the Temporary Roundabout site, the following procedure will be undertaken.

Table 4-2: Vibration monitoring procedure

Monitoring details	Frequency	Test procedure
At the commencement of vibratory compaction work within 50 m of residential buildings	As required	Attended vibration monitoring will be undertaken when checking the safe working distances from construction plant or in response to a complaint. The testing method includes:
Where a complaint is received in relation to human exposure to vibration levels and monitoring is considered an appropriate response	As required	<ul style="list-style-type: none"> • Transducer to be affixed to ground or building in general accordance with AS 2775- 2004 • Monitoring to be conducted for at least three distances from the plant, including a representative distance for the nearest sensitive structures and/or receivers
Where a complaint is received in relation to suspected property damage due to vibration impacts and monitoring is considered an appropriate response	As required	<ul style="list-style-type: none"> • The testing will be conducted at each location to obtain a suitable representation of the range of vibration levels that would occur from the tested plant • The plant will be tested in the settings in which it is expected to operate. For vibratory rollers this may include both "High" and "Low" settings
Where an activity may occur within safe working distances for cosmetic damage for no more than one day continuously	As required	<ul style="list-style-type: none"> • PPV with sufficient temporal resolution to determine vibration impacts and the dominant frequency of the vibration will be recorded for assessment against the structural and cosmetic damage criteria. In situations in which human comfort is also of concern then a metric which is appropriate for calculating vibration does values.
Where required for the purposes of refining site establishment methods to reduce vibration levels	As required	
Where an activity may occur within safe working distances	As required	Continuous vibration monitoring will be undertaken in situations where there is a risk that vibration from a

Monitoring details	Frequency	Test procedure
for cosmetic damage for a period of more than one day continuously		<p>particular construction activity may exceed the cosmetic damage criteria at a sensitive structure. This will be where activities may occur within the safe working distances for cosmetic damage identified in Section 3.2 of this Monitoring Program.</p> <p>The testing method includes:</p> <ul style="list-style-type: none"> • Transducer to be affixed to ground or building in general accordance with AS 2775- 2004 • Vibration logger to continuously measure vibration levels while the relevant works are occurring within the safe working distance for cosmetic damage • Measurement to be conducted as close as possible to the sensitive structure. • A warning system will be implemented with the monitoring system including one or both of the following: <ul style="list-style-type: none"> ◦ Audible and/or visual warning alarm ◦ SMS and/or email alerts to site personnel. • PPV with sufficient temporal resolution to determine vibration impacts and the dominant frequency of the vibration will be recorded for assessment against the structural and cosmetic damage criteria. In situations in which human comfort is also of concern then a metric which is appropriate for calculating vibration does values.
Dilapidation surveys of buildings and structures where construction works occurs within the safe working distance for cosmetic damage	Prior to that work being undertaken and post-Construction	<p>At a minimum, dilapidation surveys and reports will comprise:</p> <ul style="list-style-type: none"> • A visual inspection of the structure, including all internal and external walls, ground level floors and external pavements, all connections of other structures above ground level and their connection at ground level and any exposed foundations • Full written building Condition Survey Report outlining the condition of the internal and external components of each property • A series of photographs of each identified defect/crack • A sketched floor plan showing the exact location of each defect and measurements of crack width/defect size • Identification of any condition changes relative to Pre-construction and the likely cause of the change (Post-Construction only)

Where vibration is found to exceed safe levels, impacts will be reduced by changing work methods and / or equipment, or through the provision of building protection measures where possible. In the event that a complaint relating to property damage is received, an inspection of the property will be undertaken and an interim building condition survey prepared.

Attended vibration monitoring will be undertaken where required to determine site-specific minimum working distances for structural damage and human response, where specific minimum working distances in Table 4-3 are approached.. Details of site activity and equipment usage will be noted during monitoring.

Table 4-3: Recommended minimum working distance for vibration intensive plant

19B19BPlant item	20B20BRating/description	21B21BSafe working distance	
		22B22BCosmetic damage (British Std 7385)	23B23BHuman response (DECCW)
Vibratory roller	<50 kN (typically 1-2 t) <100 kN (typically 2-4 t) <200 kN (typically 4-6 t) <300 kN (typically 7-13 t) >300 kN (typically 13-18 t) >300 kN (> 18 t)	5 m 6 m 12 m 15 m 20 m 25 m	15 m to 20 m 20 m 40 m 100 m 100 m 100 m
Small hydraulic hammer	300 kg – 5 to 12 t excavator	2 m	7 m
Medium hydraulic hammer	900 kg – 12 to 18t excavator	7 m	23 m
Large hydraulic hammer	1600 kg – 18 to 34 t excavator	22 m	73 m
Vibratory pile driver	Sheet piles	2 m to 20 m	20 m
Pile boring	≤800 mm	2 m	n/a
Jackhammer	Hand held	1 m	Avoid contact with structure

4.2.1 Vibration monitoring equipment

CPB Contractors will identify the vibration monitoring equipment to be used and a maintenance/calibration program to ensure equipment is implemented. Monitoring methods and instrumentation employed in the vibration monitoring surveys will comply with *AS2775.2004 Mechanical vibration and shock—Mechanical mounting of accelerometers* and *AS2670.1 Evaluation of human exposure to whole body vibration*.

5 Reporting

5.1 Monthly Environmental Report

CPB Contractors will prepare Monthly Environmental Reports for the duration of Early Works, for submission to the Transport for NSW Senior Environment Officer (or delegate) for review.

Information to be detailed in the reports includes:

- Results summary and analysis of the environmental monitoring
- Performance of this Monitoring Program
- Summary of complaints received that are related to noise and vibration.

Refer to Section 7.5 of the EWEMP for further detail on environmental reporting.

5.2 Noise and Vibration Monitoring Report

In accordance with NSW CoA C18 CPB Contractors will prepare Noise and Vibration Monitoring Reports detailing the results of the monitoring undertaken in accordance with this Monitoring Program. Reports will be prepared within the first month of site establishment and every three months thereafter until site closure and rehabilitation is complete. Reports will include, but not be limited to, the following information:

- The date(s) and time at which the monitoring was undertaken
- The locations and description of monitoring undertaken
- The name of the person who undertook the monitoring
- Tabulations of monitoring data
- Compliance monitoring results with the criteria identified in Section 3 of this Monitoring Program
- Identification of exceedances of the nominated criteria and descriptions of the causes of these exceedances
- Details of any alteration to the Monitoring Program
- Summary of any complaints received regarding noise and vibration.

Monitoring records will be:

- Kept in a legible form, or in a form that can readily be reduced to a legible form
- Kept for at least four years after the monitoring or event to which they relate took place
- Produced in a legible form to any authorised officer of the NSW Department of Planning, Industry and Environment (DPIE), the Commonwealth Department of Agriculture, Water and the Environment (DAWE) or EPA upon request, within the timeframe nominated in the request.

CPB Contractors will maintain accurate records of all noise and vibration monitoring activities.

5.3 Reporting on exceedances

In the event that the criteria identified in Section 3 of this Monitoring Program are exceeded, CPB Contractors will investigate and report the exceedance to the TfNSW Project Manager who will then report to the TfNSW Environment and Sustainability Manager (or delegate) and the ER within seven days of identification of the exceedance. Details of exceedances will be provided in the Monthly Environmental Reports.

The investigation into the exceedance will determine if the exceedance is related to Project activities or noise from another source. If the exceedance is attributed to Project activities, the exceedance will be classified as a non-compliance, incident or reportable event as defined by the M12 Environment Incident Classification and Reporting Procedure, (Appendix A5 of the EWEMP).

It is noted that in accordance with the POEO Act, a pollution incident does not include an incident or set of circumstance involving only the emission of any noise. As a result, noise exceedances cannot be classified as a Material Harm incident and do not require incident notification and reporting outlined in NSW CoA A44 and A45.

5.4 Building Condition Survey Reports

Prior to commencement of any works, a suitably qualified person will undertake building and structure condition surveys of all buildings and structures identified as being located where construction works occur within the safe working distance for cosmetic damage, in accordance with NSW CoA E76. The results of the surveys will be documented in a Building Condition Survey Report for each building and structure surveyed. Copies of Building Condition Survey Reports will be provided to the landowners of the buildings and structures surveyed and, if agreed by the landowner, the relevant Council within three weeks of completing the surveys, and no later than one month prior to the commencement of works.

After the completion of the works, a suitably qualified person will undertake building and structure condition surveys of all buildings and structures surveyed under the requirements of NSW CoA E77. The results of the surveys will be documented in a Building Condition Survey Report for each building and structure surveyed. Copies of the Building Condition Survey Reports will be provided to the landowners of the buildings and structures surveyed and, if agreed by the landowner, the relevant Council within three weeks of completing the surveys, and no later than one month prior to the commencement of works.

5.5 Complaints management and reporting

Recording and reporting of complaints will be undertaken in accordance with the Complaints Management System for the Project (refer to Section 5.5.3 of the EWEMP).

6 Adaptive management

Should noise and vibration monitoring results directly attributable to site establishment activities exceed the criteria set out in Section 3 of this Monitoring Program, the following steps will be undertaken:

- Analysis of the results by CPB Contractors Environmental Site Representative in more detail with a view of determining possible causes for the exceedance
- Site inspection by CPB Contractors Environmental Site Representative
- Advising relevant personnel of the problem
- Identifying and agreeing on actions and/or additional mitigation measures to resolve or mitigate the exceedance
- Implementing actions to rectify or mitigate the exceedance, including stop work arrangements where necessary or if directed by the ER
- Identifying and implementing additional mitigation measures.

Where actual noise levels are found to exceed the predicted worst case levels, the source of excessive noise generations will be identified, and any additional feasible and reasonable measures available will be implemented to either reduce noise emissions or reduce the impacts on receivers.

Where vibration is found to exceed safe levels, impacts will be reduced by changing work methods and / or equipment, or through the provision of building protection measures where possible. In the event a complaint relating to property damage is received, an inspection of the property will be undertaken and an interim building condition survey prepared.

Mitigation measures and preventative / corrective actions will be developed in accordance with TfNSW specifications and the procedure for dealing with non-compliance with environmental management measures outlined in Appendix A9 of the EWEMP. CPB Contractors will be required to verify and document the effectiveness of any management measures or preventative / corrective actions implemented to avoid further exceedances.

The timing for any improvement will be agreed between CPB Contractors Project Engineer/Superintendent and TfNSW Project Manager and Senior Environment Officer (or delegate) based on the level of risk or reoccurrence of the exceedance (e.g. a significant risk will require immediate action).

CPB Contractors will communicate regularly with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and cumulative noise and vibration impacts are minimised.



Appendix D – Noise Screening Assessment

M12 Temporary Roundabout Site Establishment Noise Screening Assessment

Numbered order of each activity	Construction Activity	Modelled equipment	Impact description (RBL of NCA08 is 42dB (day))	Period
1	Remove trees Northern side of Elizabeth Drive. Also required for site establishment.	Chainsaw. Mulcher not to be used at night.	No predicted noise impact for daytime period (i.e. below RBL) at closest sensitive receiver. Up to 4dBA exceedance of RBL for night time period 10pm-5am	day
2	Remove trees on the Southern Side of Elizabeth Drive. Also required for site establishment.	Chainsaw. Mulcher not to be used at night.	No predicted noise impact for daytime period (i.e. below RBL) at closest sensitive receiver. Up to 4dBA exceedance of RBL for night time period 10pm-5am	day
3	Installation of sheds for site Establishment	Crane	No predicted noise impact for daytime period (i.e. below RBL) at closest sensitive receiver. Up to 4dBA exceedance of RBL for night time period 10pm-5am	day



Appendix E – TNR5 C16 Ancillary Facility Management Plan


Appendix B8

Construction Ancillary Facilities Management Plan

The Northern Road Upgrade Stages 5 and 6 between Eaton Road and Glenmore Parkway

Project number:	N1075
Document number:	TNR5&6-EN-MPL-AFMP
Revision date:	16/11/2020
Revision:	7

Document Control

Rev.	Date	Prepared by	Updated by	Remarks
0	14 Nov 2018	P Mayes	N/a	Initial draft
1	17/01/19	T Doczy	N Fryday	Updated to Version 1 following consultation
2	12/02/19	C McAleer	N Fryday	Updated to Version 2 following DPE Comments
3	27/02/19	C McAleer	N Fryday	Updated following consultation
4	22/03/19	C. McAleer	C. McAleer	Update to section 3.2.1
5	16/05/19	K Weekes	C. McAleer	Update to include TNR Stage 6
6 A	02/09/19	T. Ferris	C. McAleer	Updated following DPE comments
B	16/11/20	S.Lendrum	V.Chaplin	Updated per document review requirements. Document revision number updated to "B" (instead of "01") to be aligned with the TeamBinder Register
Signature:		S.Lendrum		

Details of Revision Amendments

Document Control

The Project Manager is responsible for ensuring that this document is reviewed and approved. The Project Environmental Site Representative (ESR) is responsible for updating this document to reflect changes to environmental, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Manager and/or client before being distributed / implemented.

Document Review

Revision	Date	Reviewed by	Details
0	14 Nov 2018	S Pathammavong	Initial draft for review
1	17 Jan 2019	T Doczy	Revision 1 following consultation
2	12 Feb 2019	T Doczy	Revision 2 following DP&E submission
3	27/02/2019	C McAleer	Revision 3 following consultation
4	22/03/2019	C McAleer	Update to section 3.2.1
5	16/05/219	C McAleer	Update to include TNR Stage 6
6 A	02/09/19	T. Ferris	Updated following CP&E Comments
B	16/11/20	S.Lendrum	Updated per document review requirements. Document revision number updated to "B" (instead of "01") to be aligned with the TeamBinder Register

Distribution of controlled copies

Copyno.	Issued to	Version
1	Project Manager	
2	Project Environmental Site Representative	
3	Construction Manager	
4	Quality Manager	
5	Stakeholder & Community Relations Manager	
6	Transport for NSW Project Manager	
7	Transport for NSW Environment Manager	
8	Environmental Representative	

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Acronyms and abbreviations

Term	Definitions
Ancillary Facility	<p>A temporary facility for construction of the project including an office and amenities compound, construction compound, material crushing and screening plant, materials storage compound, maintenance workshop, testing laboratory and material stockpile area.</p> <p>Where an approved CEMP contains a stockpile management protocol, a material stockpile area located within the construction footprint is not considered to be an ancillary facility.</p>
CAFMP	Construction Ancillary Facility Management Plan
CAP	<p>Construction Area Plan</p> <p>This CPB document is prepared during the construction planning for each major work area to inform the broader project team, including the relevant functional support teams, of the scope and work overview. It outlines the execution and delivery stages and includes general construction method, risk assessment, constructability reviews, logistics and discipline interfaces.</p>
CCEMP	Contractors (or CPB) Construction Environmental Management Plan
CCS	Community Communication Strategy
CCHMP	CPB Contractor Heritage Management Plan
CIP	CPB Community Involvement Plan
CMS	Complaint Management System
CPB	CPB Contractors Pty Ltd
NSW CoA	Conditions of approval in the NSW Infrastructure Approval SSI 7127 Conditions of Approval

Term	Definitions
Compliance audit	Verification of how implementation is proceeding with respect to a environmental management plan (EMP) (which incorporates the relevant approval conditions)
CSSI	Critical State Significant Infrastructure
CSWMP	Construction Soil and Water Management Plan
DEOH	Defence Establishment Orchard Hills
DoEE	Commonwealth Department of the Environment and Energy
DP&E	NSW Department of Planning and Environment
DPI	NSW Department of Primary Industries
Ecologically sustainable development	Using, conserving and enhancing the community's resources so that the ecological processes on which life depends are maintained and the total quality of life now and in the future, can be increased (Council of Australian Governments, 1992).
EEC	Endangered Ecological Communities
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
ER	Environmental Representative
ESCP	Erosion and Sedimentation Control Plan
EWMS	Environmental Works Method Statement

Term	Definitions
Federal-CoA	Commonwealth Department of the Environment and Energy Condition of Approval
G38	Transport for NSW Specification G38 – Environmental Management
Heritage item	A place, building, work, relic, archaeological site, tree, movable object or precinct of heritage significance, that is listed or may be eligible to be listed under one or more of the following registers: the State Heritage Register under the Heritage Act 1977 (NSW), a state agency heritage and conservation register under section 170 of the Heritage Act 1977 (NSW), a Local Environmental Plan under the EP&A Act, the World, National or Commonwealth Heritage lists under the Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth), and an Aboriginal object or Aboriginal place as defined in section 5 of the National Parks and Wildlife Act 1974 (NSW)
Highly Noise Intensive Works	<p>Works which are defined as annoying under the ICNG including:</p> <ul style="list-style-type: none"> ■ Use of power saws, such as used for cutting timber, masonry, road pavement or steel work ■ Grinding metal, concrete or masonry ■ Rock drilling ■ Vibratory rolling ■ Bitumen milling or profiling ■ Jackhammering, rock hammering or rock breaking, and ■ Impact piling <p>Note:, these works may not apply in every ancillary facility</p>
ICNG	NSW EPA Interim Construction Noise Guideline
NML	Noise Management Level
NCA	Noise Catchment Area
NSW-CoA	Condition of the NSW Infrastructure Approval
OACEMP	Transport for NSW Overarching Construction Environmental Management Plan

Term	Definitions
OEH	NSW Office of Environment and Heritage
OOHW	Out of hours work
QA	Quality Assurance
Principal, the	Transport for NSW (TfNSW) formerly
Project, the	The Northern Road Upgrade – Mersey Road, Bringelly to Glenmore Parkway, Glenmore Park
REMM	Revised Environmental Management Measure
SEARs	Secretary's Environmental Assessment Requirements (Secretary of the NSW Department of Planning and Environment)
SEP	Site Environment Plan
SPIR	Submissions and Preferred Infrastructure Report
Task Observations	<p>A Task Observation is an activity that involves the review of a task being performed to determine if the task is being conducted in accordance with the relevant Work Pack and / or Safe Work Method Statement.</p> <p>It is also used to identify deficiencies in awareness, knowledge, process or equipment</p>
TfNSW	Transport for NSW (formerly Roads and Maritime Services (RMS))
Work Pack	A CPB Work Pack is a collective set of documents that provides an integrated and planned method of delivering elements of the work with consideration to all necessary factors including safety, environmental, quality, community, legislative, production and cost

1. Overview

1.1 Project Background

The Northern Road Upgrade – Mersey Road, Bringelly to Glenmore Parkway, Glenmore Park (the Project) comprises the upgrade of 16 km of The Northern Road as part of the broader Western Sydney Infrastructure Plan. The Project is being delivered in stages, and CPB Contractors will construct Stage 5 and Stage 6. Stage 5 is the section between Littlefields Road and Glenmore Parkway, Glenmore Park. Stage 6 is the section between Eaton Road and Littlefields Road, Luddenham.

Transport for NSW (TfNSW) completed a final environmental impact statement for the upgrade (the EIS) in December 2017 (Jacobs 2017) to facilitate assessment under both State and Federal planning approval pathways. The EIS identified a range of environmental, social and planning issues associated with the construction and operation of the project and proposed measures to mitigate and manage those potential impacts. The final EIS responds to issues raised during the public exhibition of the draft EIS (June to August 2017) and describes and assesses proposed changes and design refinements to the project, which were included in the Submissions and Preferred Infrastructure Report (SPIR) prepared in December 2017.

The NSW Minister for Planning approved the project under Section 5.19 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 31 May 2018 (Infrastructure Approval SSI 7127). The project must be carried out in accordance with the Division 5.2 Approval and all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the EIS as amended by the SPIR and documented in the final EIS.

The project was referred to the Australian Government Minister for the Environment and Energy under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as the project has the potential to significantly impact on MNES including EPBC listed Cumberland Plain Shale Woodlands and Shale-Gravel transition Forest. The project would also significantly impact upon areas of Commonwealth Land associated with the Defence Establishment Orchard Hills (DEOH) and land purchased by the Australian Government for the Western Sydney Airport. The draft and final EISs incorporated the assessment requirements under the EPBC Act.

The Australian Government's approval was received on 15 June 2018 subject to a number of conditions being met (EPBC 2016/7696).

1.2 Project Description (Stage 5 and Stage 6)

The Northern Road Upgrade between Eaton Road and Glenmore Parkway consists of an approximately 11 km upgrade to The Northern Road between Eaton Road, Luddenham and Glenmore Parkway, Glenmore Park, and includes complex interchange Upgrades. The key features are:

- upgrade and widening of approximately 8.5 km of existing The Northern Road from Elizabeth Drive, Luddenham to Glenmore Parkway, Glenmore Park;
- approximately 2.5km of new road between Eaton Road and just south of the existing Elizabeth Drive, Luddenham to realign the section of The Northern Road that currently runs through the village of Luddenham;
- access to the Luddenham town centre from north of the realigned The Northern Road and the existing The Northern Road;
- wide central median to allow future widening south of Bradley Street;
- new traffic light intersections at Littlefields Road, Kings Hill Road, Chain-O-Ponds Road and Bradley Street;
- new intersections including traffic lights at Defence Establishment Orchard Hills and Elizabeth Drive and a give-way intersection at Eaton Road;
- modified intersections at Grover Crescent and Longview Road, Gates Road the existing Elizabeth Drive;
- side street changes, improvements or u-turn facilities at Vineyard Road extension and Gates Road, Littlefields Road extension and Chain-O-Ponds Road, Eaton Road and Elizabeth Drive;
- an incident response facility at Elizabeth Drive;
- heavy vehicle inspection bays at Grover Crescent (northbound) and Longview Road (southbound), Mulgoa;
- construction of footpaths and shared pedestrian/cycle paths;
- adjustment of utilities and construction of ITS;
- landscaping; and
- property adjustment as required.

1.3 Context for Environmental Management

An Overarching Construction Environmental Management Plan (OACEMP) *The Northern Road Upgrade – Mersey Road, Bringelly to Glenmore Parkway, Glenmore Park Overarching Construction*

Environmental Management Plan, September 2018, and associated sub plans have been prepared by Transport for NSW and approved by the Department of Planning and Environment (DP&E). The strategies defined in the OACEMP have been developed to address the NSW and Federal conditions of approval and the management measures presented in the Environmental Impact Statements (EIS) and Submissions and Preferred Infrastructure Report (SPIR).

All Principal Contractors working with Transport for NSW to construct the Project will prepare a Contractors Construction Environmental Management Plan (CEMP) in accordance with the OACEMP. This Construction Ancillary Facility Management Plan (CAFMP) forms Appendix B8 of the CPB Contractors CEMP.

This AFMP incorporates management strategies to be implemented for approved ancillary facilities C9 – C19 for Stages 5 and 6 of the Project. Note C20 and C21 are not proposed to be used for Stage 5 construction activities.

Separate consistency reviews (in accordance with Condition of Approval A15) have been submitted to DP&E for approval for:

- a concrete batch plant within the current boundary of the ancillary facility C16 ; and
- the conversion of three existing residences to minor ancillary facilities. These residences are located within or adjacent to The Northern Road alignment.

Mitigation and management measures identified in this CAFMP will be incorporated into site or activity specific Environmental Work Method Statements (EWMS). EWMS will be developed and endorsed by the Environment Representative (ER) prior to associated works. Construction personnel will be required to undertake works in accordance with the identified mitigation and management measures.

Used together, the OACEMP, CEMP, strategies, procedures and EWMS form a project management system that identifies the required environmental management actions for personnel and contractors.

1.4 Consultation

This CAFMP has been developed in consultation with the NSW Environment Protection Authority (EPA), Penrith City Council and Liverpool City Council. In accordance with CoA A6 and A8, a summary of consultation during the preparation of this CAFMP is provided in **Annexure B**.

CPB Contractors will continue to carry out consultation with the EPA, Penrith City Council and Liverpool City Council regarding issues relevant to Stage 5 and 6 ancillary facilities throughout construction of the Project.

All community consultation will occur in accordance with the Transport for NSW Community Communication Strategy (CCS) and CPB Community Involvement Plan (CIP) developed for the Project.

1.5 Approvals Pathways

The process for establishing new ancillary facilities in an active construction zone within the approved Project footprint is described in Section 2.3 of the OACEMP and shown in Figure 1-1.

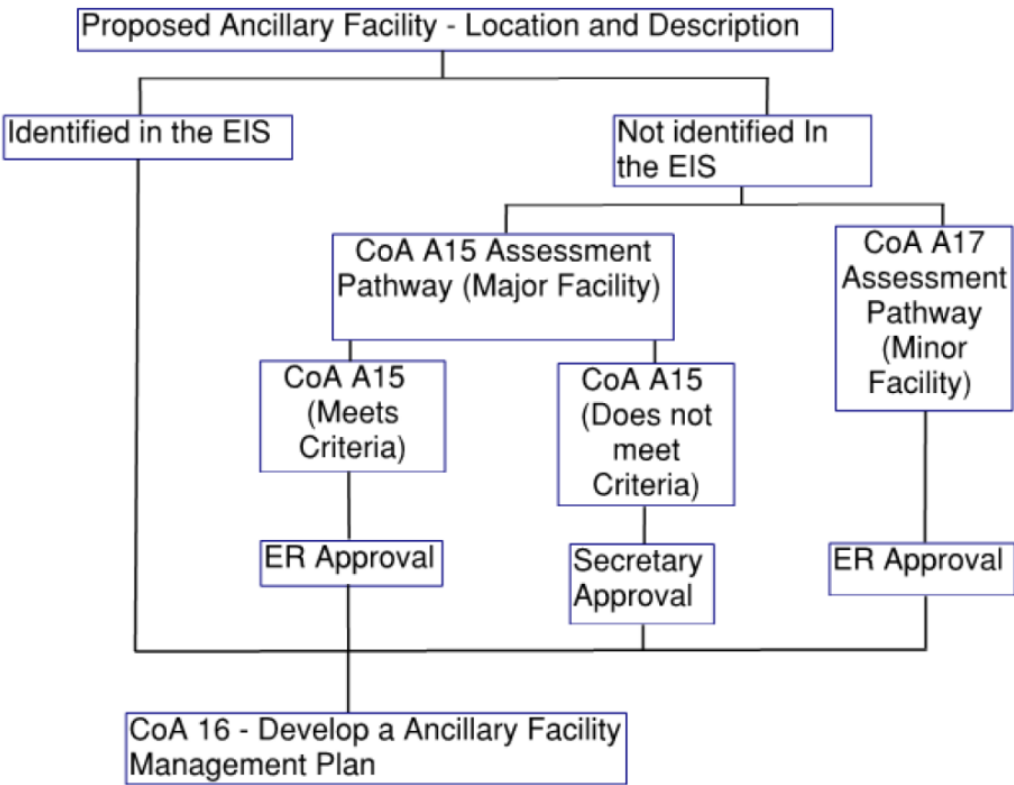


Figure 1-1 Approval pathways for Ancillary Facilities

1.6 Objectives and Targets

The key objective of this CAFMP is to ensure that the potential impacts to the environment and community resulting from construction and operation of the ancillary facilities are minimised and within the scope permitted in the specifications and the project approvals. To achieve this objective, the following measures will be undertaken:

- Ensure appropriate controls and procedures are implemented during construction activities to avoid or minimise real and potential impacts to the environment and surrounding community;
- Ensure appropriate measures are implemented to address the requirements specified by Transport for NSW, the Environment Representative, the Australian Government Department of Environment and Energy (DoEE), the NSW Department of Planning and Environment (DP&E) and other relevant agencies;
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 4 of this plan;
- The following targets have been established for the management of impacts resulting from operation of the ancillary facilities during the Project:
 - Ensure compliance with the relevant legislative requirements, Ministerial Conditions of Approval and those contained in the final EIS and Transport for NSW' QA Specification G1, G2-C2, G36, G38 and the OACEMP;
 - Minimise any impacts on the surrounding residents and businesses and other sensitive receivers.

2. Environmental Requirements

2.1 Relevant Legislation

Local, State and Commonwealth legislation that apply criteria to the management of compound and ancillary facilities on the project include:

- *Environmental Planning and Assessment Act 1979 (EP&A Act);*
- *Protection of the Environment Operations Act 1997 (POEO Act);*
- *Protection of the Environment Operations (General) Regulation 2009;*
- *Threatened Species and Conservation Act 1995 (TSC Act) and amendments;*
- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (Commonwealth);*
- *Heritage Act 1977 (Heritage Act);*
- *Work Health and Safety Act 2011;*
- *Environmentally Hazardous Chemicals Act 1985;*
- *Pesticide Act 1999;*
- *Contaminated Land Management Act 1997 (CLM Act);*
- *Waste Management Waste Avoidance and Resource Recovery Act 2001 (WARR Act);*
- *National Parks and Wildlife Act 1974 (NPW Act);*
- *Biosecurity Act 2015; and*
- *Biodiversity Conservation Act 2016 (BC Act).*

2.2 Guidelines

Local, State and Commonwealth guidelines that apply criteria to the management of compounds and ancillary facilities on the project include:

- Transport for NSW QA Specification G1 – General requirements;
- Transport for NSW QA Specification G2-C2 – General requirements (major contracts);
- Transport for NSW QA Specification G36 – Environmental Protection;
- Transport for NSW QA Specification G38 – Soil and Water Management;
- Transport for NSW QA Specification R44 – Earthworks;
- Stockpile Site Management Guideline, Transport for NSW 2015;
- The Northern Road Upgrade – Mersey Road, Bringelly to Glenmore Parkway, Glenmore Park OACEMP 2018;

- Interim Construction Noise Guideline (DECC, 2009);
- Construction noise and vibration guidelines (CNVG) Version 4.0 (Transport for NSW, 2018);
- EPA Waste Classification Guidelines (EPA, 2014);
- Biodiversity Guidelines: Protecting and managing biodiversity on RTA Projects (Roads and Traffic Authority, 2011);
- Managing Urban Stormwater: Soils and Construction (4th Edition) Volume 1 (Landcom, 2004) (the “Blue Book”);
- Managing Urban Stormwater: Soils and Construction. Volume 2D: Main Road, DECC (2008);
- German Standard DIN 4150-3: 2015 - Vibration in buildings – Part 3: Effects on structures (Deutsches Institute fur Normung, 2015);
- British Standards BS 6472-1992 Evaluation of human exposure to vibration in buildings (1-80Hz);
- British Standard BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground borne vibration; and
- Assessing vibration: a technical guideline (DEC, 2006).

2.3 Compliance with Conditions of Approval

The CoA relevant to this plan are listed in Table 2-1. A cross reference is also included to indicate where the condition is addressed in this assessment or other Project management documents.

Table 2-1 Conditions of Approval relevant to Ancillary Facilities

CoA No.	Condition Requirements	Reference within this document
A15	<i>Ancillary facilities that are not identified by description and location in the documents listed in Condition A1 must meet the following criteria, unless otherwise approved by the Secretary:</i> <i>(a) the facility is development of a type that would, if it were not for the purpose of the CSSI, otherwise be exempt or complying development; or</i>	Section 3 and Section 4
	<i>(b) the facility is located as follows:</i> <i>i. at least 50 metres from any waterway unless an erosion and sediment control plan is</i>	Section 3 and Section 4

	<p><i>prepared and implemented so as not to adversely affect water quality in the waterway in accordance with Managing Urban Stormwater series;</i></p> <p><i>ii. within or adjacent to land upon which the CSSI is being carried out;</i></p> <p><i>iii. with ready access to a road network;</i></p> <p><i>iv. to prevent heavy vehicles travelling on local streets or through residential areas in order to access the facility, except as identified in the documents listed in Condition A1;</i></p> <p><i>v. so as to be in accordance with the Interim Construction Noise Guideline (DECC 2009) or as otherwise agreed in writing with affected landowners and occupiers;</i></p> <p><i>vi. so as not to require vegetation clearing beyond the extent of clearing approved under other terms of this approval except as approved by the ER as minor clearing;</i></p> <p><i>vii. so as not to have any impact on heritage items (including areas of archaeological sensitivity) beyond the impacts identified, assessed and approved under other terms of this approval;</i></p> <p><i>viii. so as not to unreasonably interfere with lawful uses of adjacent properties that are being carried out at the date upon which construction or establishment of the facility is to commence;</i></p> <p><i>ix. to enable operation of the ancillary facility during flood events and to avoid or minimise, to the greatest extent practicable, adverse flood impacts on the surrounding environment and other properties and infrastructure; and</i></p> <p><i>x. so as to have sufficient area for the storage of raw materials to minimise, to the greatest extent practicable, the number of deliveries required outside standard construction hours.</i></p>	
CoA A16	<p><i>Before establishment of any ancillary facility (other than minor ancillary facilities described in Condition A17), the Proponent must prepare an Ancillary Facilities Management Plan which details the management of the ancillary facilities. The Ancillary Facilities Management Plan must be prepared in consultation with the EPA and the relevant council(s) and submitted to the Secretary for approval one month prior to installation of ancillary facilities. The Ancillary Facilities Management Plan must detail the management of the ancillary facilities and include:</i></p>	This CAFMP Section 1.4 Annexure B
	<p><i>(a) a description of activities to be undertaken during Construction (including scheduling of construction);</i></p>	Section 3
	<p><i>(b) a program for ongoing analysis of the key environmental risks arising from the activities described in subsection (a) of this condition, including an initial risk assessment undertaken prior to the commencement of Construction of the CSSI; and</i></p>	Section 4 Section 6 Annexure C

	<p><i>(c) details of how the activities described in subsection (a) of this condition will be carried out to:</i></p> <p><i>i. meet the performance outcomes stated in the documents listed in Condition A1;</i></p> <p><i>and</i></p> <p><i>ii. manage the risks identified in the risk analysis undertaken in subsection (b) of this condition.</i></p>	Section 5 Annexure C
CoA A17	<p><i>Minor ancillary facilities comprising lunch sheds, office sheds, and portable toilet facilities, that are not identified in the documents listed in Condition A1 and which do not satisfy the criteria set out in Condition A15 of this approval must satisfy the following criteria:</i></p>	Section 3.5
	<p><i>(a) have no greater environmental and amenity impacts than those that can be managed through the implementation of environmental measures detailed in the CEMP required under Condition C1 of this approval; and</i></p>	Section 3.5
	<p><i>(b) have been assessed by the ER to have:</i></p> <p><i>i. minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the ICNG, traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts;</i></p> <p><i>ii. minimal environmental impact with respect to waste management and flooding;</i></p> <p><i>and</i></p> <p><i>iii. no impacts on biodiversity, soil and water, and heritage items beyond those already approved under other terms of this approval.</i></p>	Section 3.5
CoA A18	<p><i>Boundary fencing must be erected around all ancillary facilities that are adjacent to sensitive receivers for the duration of Construction unless otherwise agreed with the affected receivers(s).</i></p>	Section 5
CoA A19	<p><i>Boundary fencing required under Condition A18 of this approval must minimise visual, noise and air quality impacts on adjacent sensitive receivers.</i></p>	Section 5
CoA A24	<p><i>(h) For the duration of the Works until the completion of Construction, the approved ER must: review the assessment of the impacts of minor ancillary facilities comprising lunch sheds, office sheds and portable toilet facilities as required by Condition A17 of this approval</i></p>	Section 3.5

E23	<p><i>Works must only be undertaken during the following standard construction hours:</i></p> <p><i>(a) 7:00 am to 6:00 pm Mondays to Fridays, inclusive;</i></p> <p><i>(b) 8:00 am to 1:00 pm Saturdays; and</i></p> <p><i>(c) at no time on Sundays or public holidays.</i></p>	<p>Section 3.3</p> <p>Section 4.2</p>
E24	<p><i>"Except as permitted by an EPL, highly noise intensive works that result in an exceedance of the applicable noise management level at the same receiver must only be undertaken:</i></p> <p><i>(a) between the hours of 8:00 am to 6:00 pm Monday to Friday;</i></p> <p><i>(b) between the hours of 8:00 am to 1:00 pm Saturday; and</i></p> <p><i>(c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.</i></p> <p><i>For the purposes of this condition, 'continuous' includes any period during which there is less than a one hour respite between ceasing and recommencing any of the work the subject of this condition."</i></p>	<p>Section 3.3</p> <p>Section 4.2</p>
E25	<p><i>"The Proponent must identify and consult with receivers identified as being subject to levels that exceed the Highly Noise Affected criteria with the objective of determining appropriate hours of respite unless an agreement is reached with those receivers."</i></p>	<p>Section 3.3</p> <p>Section 4.1</p> <p>Table 4-4</p>
E26	<p><i>Notwithstanding Condition E23 works associated with the CSSI may be undertaken outside the specified hours in the following circumstances:</i></p> <p><i>(a) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or</i></p> <p><i>(b) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm; or</i></p> <p><i>(c) where it causes LAeq(15 minute) noise levels:</i></p> <p><i>i. no more than 5 dB(A) above the rating background level at any residence in accordance</i></p> <p><i>with the Interim Construction Noise Guideline (DECC, 2009), and</i></p> <p><i>ii. no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (DECC, 2009) at other sensitive land uses, and</i></p> <p><i>iii. continuous or impulsive vibration values, measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), and</i></p> <p><i>iv. intermittent vibration values measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006); or</i></p>	<p>Section 3.3</p> <p>Section 4.2</p> <p>Table 4-4</p>

	<p><i>(d) no more than 15 dB(A) above the night time rating background level at any residence during the night time period, when measured using the LA1 (1 minute) noise descriptor; or</i></p> <p><i>(e) where different hours are permitted or required under an EPL in force in respect of the works, in which case those hours must be complied with.</i></p>	
E27	<i>On becoming aware of the need for emergency works in accordance with Condition E26 the Proponent must notify the ER and the EPA (if an EPL applies) of the need for those works. The Proponent must also use its best endeavours to notify all affected sensitive receivers of the likely impact and duration of those works.</i>	Section 3.3
E28	<i>Construction vehicles arriving at the project site and construction compounds outside the standard construction hours described in Condition E23 must not queue with idling engines.</i>	Section 3.3 Section 4.2.3 Section 5
E29	<i>The Proponent must consult with potentially affected community, religious, educational institutions and noise and vibration-sensitive businesses to identify periods during which they would be adversely affected by noise generating works, and must not schedule those works during those periods unless the Proponent and the potentially affected institution or business have made other arrangements (at no cost to the affected receiver), or the Secretary has otherwise approved the works</i>	Section 3.3 Section 4.2
E30	<i>The Proponent must ensure that all works for the delivery of the CSSI are coordinated with utility works, including those works undertaken by third parties, to minimise cumulative impacts of noise and vibration and to maximise respite for affected sensitive receivers</i>	Section 3.3
E31	<p><i>Temporary acoustic barriers (2.4 metres high) are to be installed as soon as site establishment works at the ancillary facility are completed and before undertaking any works which are required to be conducted at the facility.</i></p> <p><i>The schedule for installing and removing the acoustic barriers, and justification for not installing acoustic barriers in certain locations, must be described in the Ancillary Facilities Management Plan for the project prepared in accordance with Condition A16. Acoustic barriers must be inspected and maintained to remain effective throughout the use of the construction compound.</i></p>	Sections 4 and 5

3. Ancillary Facility Details

3.1 Ancillary facilities assessed in the EIS

The Environmental Impact Statement (EIS) as amended by the SPIR for the Project identified a number of compounds and ancillary facilities that would be required for the construction of the Project, including locations for hardstand areas, temporary building and offices, parking areas, material laydown and storage areas.

Temporary ancillary facilities would provide support to the construction of the project. The final EIS stated that the final type, location and number of ancillary facilities would be determined by the construction contractor and identified in the Ancillary Facilities Management Plan.

The final EIS assessed 14 locations in proximity to The Northern Road Stage 5 and 6 road construction activities.

The location of the ancillary facilities assessed in the final EIS relevant to Stage 5 and 6 activities is provided in Figure 3-1 and Figure 3-2.

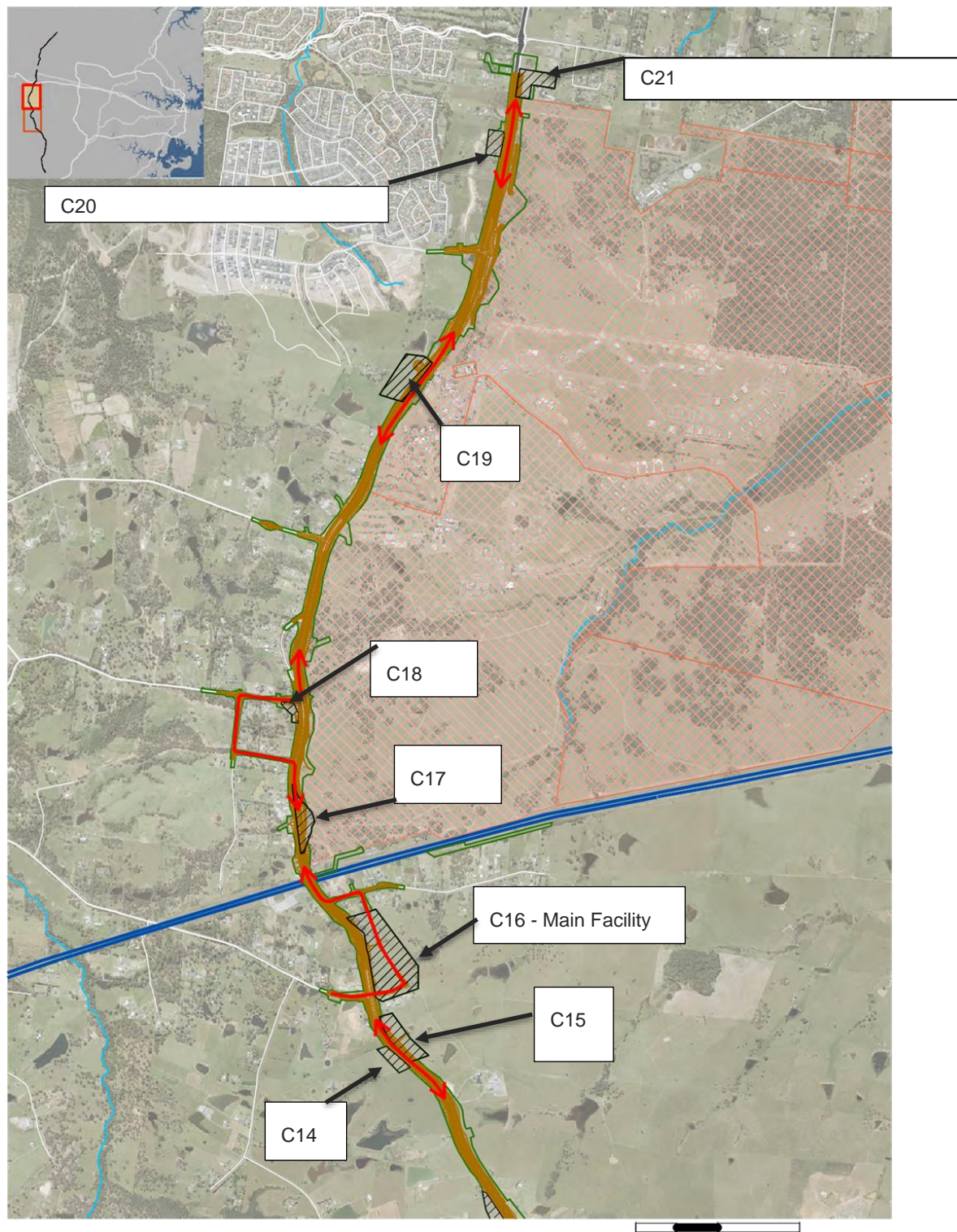


Figure 3-1 Location of ancillary facilities relevant for Stage 5 activities.

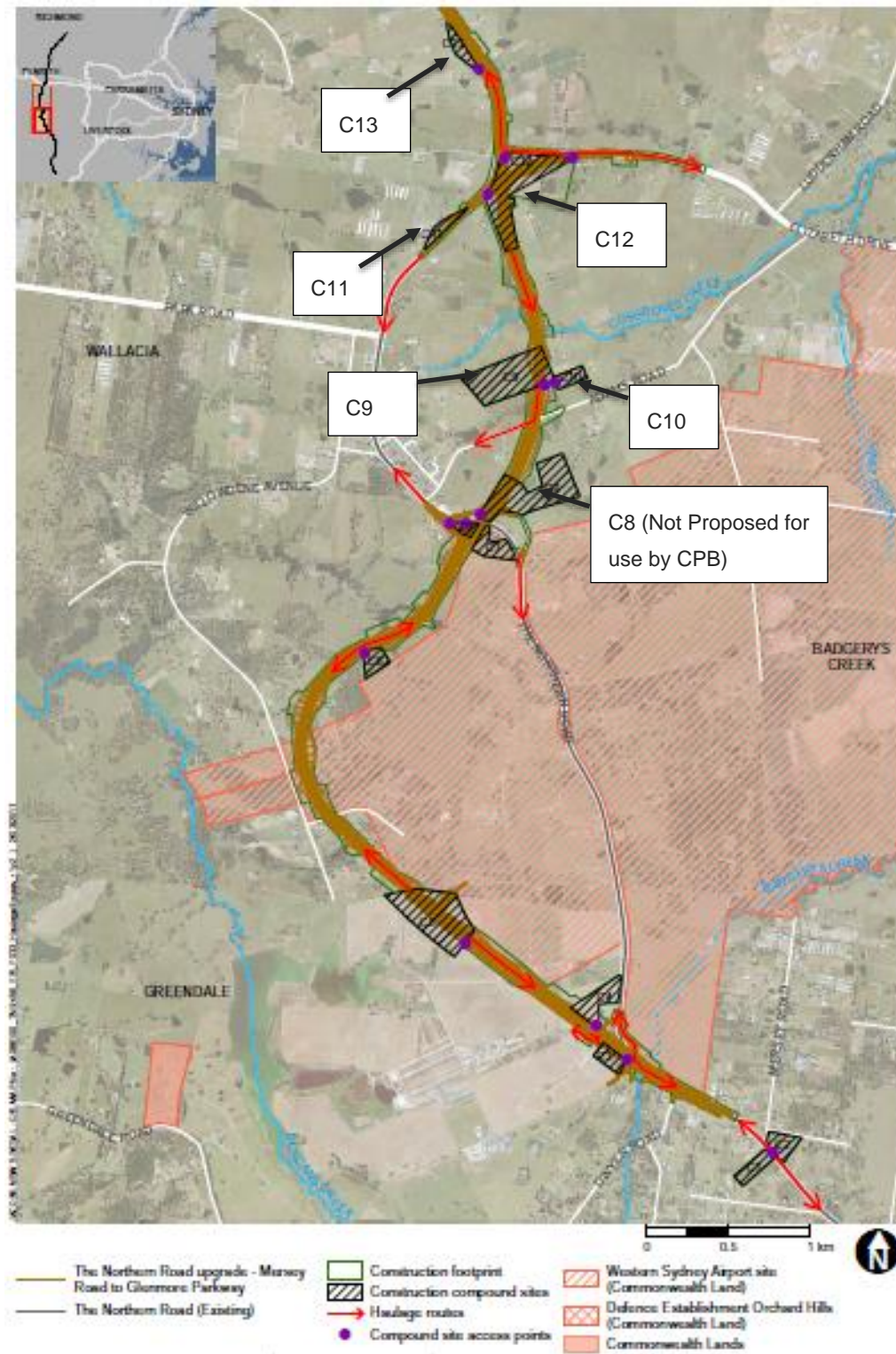


Figure 3-2 Location of ancillary facilities relevant for Stage 6 activities.

The key features of ancillary facilities relevant to Stage 5 and 6 of the Project are included in [Table 3-1](#).

Table 3-1 Ancillary facilities assessed in the final EIS relevant to Stage 5 and 6

Location	Purpose	Activities Assessed within final EIS	Proposed CPB Activities	Proposed timing for use by CPB (indicative)
C9	Staff amenities, shed and parking	<ul style="list-style-type: none"> Secondary compound site The site would consist of portable toilets, shed, lunch room and car parking. 	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts; Stockpiling of topsoil, mulch and drainage backfill material Portable toilets 	<ul style="list-style-type: none"> June 2019 to January 2021
C10	Materials storage, stockpiling	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Stockpiling of topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> June 2019 to January 2021
C11	Materials storage, stockpiling	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Stockpiling of topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> June 2019 to January 2021
C12	Materials storage, stockpiling, main compound	<ul style="list-style-type: none"> Main compound site The site would consist of office facilities for the contractor and TFNSW, toilets, amenities, tool sheds and car parking. 	<ul style="list-style-type: none"> Compound site The site would consist of office facilities for the contractor and TFNSW, toilets, amenities, tool sheds and car parking. 	<ul style="list-style-type: none"> June 2019 to January 2021
C13	Materials storage, stockpiling	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Stockpiling of topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> June 2019 to January 2021
C14	Staff amenities, shed and parking Materials storage, stockpiling	<ul style="list-style-type: none"> Alternative site compound or small site office shed with amenities and car parking, and storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> Car parking, and storage of concrete pits, pipes and culverts. Stockpiling of topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> April 2019 to January 2021

Location	Purpose	Activities Assessed within final EIS	Proposed CPB Activities	Proposed timing for use by CPB (indicative)
C15	Materials storage, stockpiling	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Stockpiling of topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> April 2019 – January 2021
C16	Materials storage, stockpiling, main compound	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. Main compound site 	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Stockpiling of topsoil, mulch and drainage backfill materials. Main compound site Possible batch plant following Consistency Assessment in accordance with Condition of Approval A15 	<ul style="list-style-type: none"> February 2019 until August/September 2021
C17	Stockpiling	<ul style="list-style-type: none"> Stockpile site early in construction. However, once the new southbound carriageway is completed, it is unlikely to be used further as a stockpile site. 	<ul style="list-style-type: none"> Stockpile site 	<ul style="list-style-type: none"> April 2019 to January 2021
C18	Materials storage, stockpiling	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Stockpiling of topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> April 2019 to January 2021
C19	Materials storage, stockpiling	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Stockpiling of topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> May 2019 to September 2020
C20	Staff amenities, shed and parking	<ul style="list-style-type: none"> The site would consist of office facilities for the contractor and TFNSW, toilets, amenities, tool sheds and car parking. 	<ul style="list-style-type: none"> May be used temporarily 	<ul style="list-style-type: none"> Nov 2020 to April 2021

Location	Purpose	Activities Assessed within final EIS	Proposed CPB Activities	Proposed timing for use by CPB (indicative)
C21	Materials storage, stockpiling	<ul style="list-style-type: none"> Storage of concrete pits, pipes and culverts. Could be used to stockpile topsoil, mulch and drainage backfill materials. 	<ul style="list-style-type: none"> May be used by CPB for site office / toilets / storage 	<ul style="list-style-type: none"> Oct 2020 to Dec 2020

Site establishment activities relevant to ancillary facilities will generally include:

- establishment of temporary ancillary facilities;
- establishment of Construction site fencing, signage and lighting;
- establishment of Construction site access points, traffic management measures, alternative public access routes, diversions and minor road modifications if required;
- demolition of redundant structures on acquired/leased land; and
- relocation and/or removal of farm infrastructure.

All office/site shed facilities shall be managed in accordance with Managing the Work Environment and facilities Code of Practice (Safe Work Australia, 2018).

3.2 Ancillary Facilities scope and activities

The final EIS identified and assessed a number of compounds and ancillary facilities that would be required for the construction of the Project, including locations for hardstand areas, temporary building and offices, parking areas, material laydown and storage areas. Detailed description of the facilities is provided in the following sections.

3.2.1 Ancillary facility C16 - Main Compound

Ancillary facility C16, which is located along The Northern Road at the intersection of Littlefields Road, Mulgoa, was identified within the final EIS as part of the ancillary facilities proposed for the project.

The C16 compound facility has been assessed for the following activities:

- Storage of concrete pits, pipes and culverts;
- Topsoil and mulch stockpile location and drainage backfill materials;
- Main compound site.

As the main compound, C16 will also include offices and vehicle parking for personnel working on the Project. The scale of operations to be undertaken at site C16 will represent a significant proportion of the works to be undertaken across all the identified ancillary facilities.

Works to be undertaken at C16 include generally the following:

- Pre-start meetings/toolbox talks and site meetings;
- Primary location for the removal of waste materials (Putrescible, recyclables and septic);
- Storage of fuels and chemicals;
- Establishment of an Emergency evacuation point;
- Parking of heavy and light vehicles;
- Stockpiling of procured materials (Pipe, small precast products, fittings etc) Materials;
- Stockpiling of excavated materials and/or mulch;
- Storage of inert construction materials;
- Storage of Pre- cast concrete units (e.g. culverts);
- Storage of PVC and poly pipe;
- Storage of Bedding sand and backfill materials.

Light vehicles will use the site daily. Heavy vehicles will deliver construction materials to the site and will sometimes be parked at the site. Small power tools will be used. Indicative plant, equipment and material to be stored at the ancillary site are listed below:

- Heavy vehicles (for deliveries only);
- Light vehicles.

Ancillary Facility set up

The following scope of works will generally be undertaken at the C16 facility:

- Initial site survey and inspections;
- Installation of erosion protection measures;
- Clearing and grubbing;
- Establishment of Construction site fencing, signage and lighting;

- Establishment of Construction site access points, traffic management measures, alternative public access routes, diversions and minor road modifications if required;
- Establishment of hardstand;
- Installation and operation of offices and amenities, including parking;
- Demolition of redundant structures on acquired/leased land;
- Relocation and/or removal of farm infrastructure;
- Operation and maintenance of stockpiles;
- Delivery of materials.

Equipment generally required for the establishment of Ancillary facility C16 includes;

- Earth moving equipment, (e.g. Grader, Dozer, Excavator);
- Water Cart;
- Rollers;
- Trucks;
- Generator (until main power is connected, will not be operated outside normal work hours);
- Hand tools; plate compactors, drills, shovels, etc.;
- Ablution blocks;
- Storage containers.

Equipment / materials generally required for the operation of ancillary facility C16 includes;

- 6m x 3m self bunded dangerous goods container, the bund capacity will be 120% of the largest stored container, for storage of;
 - Concrete curing chemicals (any IBCs to be bunded with 110% capacity);
 - Paints;
 - Adhesives;
 - Cleaning products;
- There will be no fuel cell on site, refuelling will be completed with tankers on an as required basis. The fuels are in 20ltr jerry cans for small motors;
- Lidded skip bins for putrescible, recyclable and office waste to prevent pests and vermin;
- Open skip bins to store construction wastes;

- Sewage storage tanks at ablution facility – these will have high level alarms set at 80% capacity;
- Licenced waste transporters will be used to remove wastes from site to an appropriately licenced facility and all waste tipping dockets and tracking dockets will be retained on site;
- Waste bulk materials like excavated soils, demolition wastes may be temporarily stored at the stockpile area until they are classified under the NSW EPA waste classification guidelines and removed from site to licenced facility;
- Excavator (for maintenance and operation of active stockpiles);
- Trucks (for deliveries);
- Watercart (for dust suppression as required).

As previously mentioned in Section 1.3, a concrete batch plant is being proposed within the current boundary of the ancillary facility C16 and this is subject to a separate consistency review (in accordance with Condition of Approval A15, refer to Table 2.1) has been submitted to DP&E.

3.2.2 Ancillary facilities C9, C10, C11, C13, C14, C15, C18 and C19

Ancillary facilities C9, C10, C11, C13, C14, C15, C18, C19, C20 and C21 are located along The Northern Road, at:

- C9 - North of Eaton Road, Luddenham (Southbound carriageway)
- C10 - North of Eaton Road, Luddenham (Southbound carriageway)
- C11 – The Northern Road, Luddenham, existing alignment (Northbound carriageway)
- C13 – North of Elizabeth Drive, Luddenham (Northbound carriageway)
- C14 - South of Littlefields Road, Mulgoa (Northbound carriageway)
- C15 - South of Littlefields Road, Mulgoa (Southbound carriageway)
- C18 – South of Chain-O-Ponds Road (Northbound Carriageway)
- C19 – South of Bradley Street, Mulgoa, Adjacent to Defence Establishment Orchard Hills (DEOH) (Northbound Carriageway)
- C20 – South of Glenmore Parkway, Mulgoa (Northbound carriageway)
- C21 – South of Glenmore Parkway, Mulgoa (Southbound carriageway)

Ancillary facilities C9, C10, C11, C13, C14, C15, C18 and C19 will all primarily be used for the longer-term storage of stockpiled material and short-term secure storage of construction materials, (e.g. pipes and fittings, geofabric).

Works to be undertaken at C9, C10, C11, C13, C14, C15, C18 and C19 will be significantly reduced in scale in comparison to Ancillary facility C16 and will include generally the following;

- Establishment of an Emergency evacuation points;
- Short term parking of heavy and light vehicles;
- Stockpiling of procured materials (pipe, small precast products, fittings etc);
- Stockpiling of excavated materials and/or mulch;
- Storage of inert construction materials;
- Storage of Pre- cast concrete units (e.g. culverts);
- Storage of PVC and poly pipe;
- Storage of bedding sand and backfill materials.

Light vehicles will use the site daily. Heavy vehicles will deliver construction materials to the site and will sometimes be parked at the site. Small power tools will be used. Indicative plant, equipment and material to be stored at the ancillary site are listed below:

- Heavy vehicles (for deliveries only) during standard construction hours, or where required to occur outside of standard hours by NSW police or other authority for safety reasons;
- Light vehicles.

Ancillary Facility set up

The following scope of works will generally be undertaken at the C9, C10, C11, C13, C14, C15, C18 C19 facilities:

- Initial site survey and inspections;
- Installation of erosion protection measures;
- Clearing and grubbing;
- Establishment of Construction site fencing, signage and lighting;
- Establishment of Construction site access points, traffic management measures, alternative public access routes, diversions and minor road modifications if required;
- Establishment of hardstand (as required);

- Demolition of redundant structures on acquired/leased land;
- Relocation and/or removal of farm infrastructure;
- Operation and maintenance of stockpiles;
- Delivery of materials.

Equipment generally required for the establishment of ancillary facilities C9, C10, C11, C13, C14, C15, C18 and C19 includes;

- Earth moving equipment, (e.g. grader, dozer, excavator);
- Water cart;
- Rollers;
- Trucks;
- Hand tools; plate compactors, drills, shovels, etc.

Equipment / materials generally required for the operation of ancillary facilities C9, C10, C11, C13, C14, C15, C18 and C19 includes:

- Open skip bins to store construction wastes;
- Waste bulk materials like excavated soils, demolition wastes may be temporarily stored at the stockpile area until they are classified under the NSW EPA waste classification guidelines and removed from site to a licenced facility;
- Excavator (for maintenance and operation of active stockpiles);
- Trucks (for deliveries);
- Water cart (for dust suppression as required).

3.2.3 Ancillary facility C12

Ancillary facility C12 is located along the Northern Road at Elizabeth Drive. It would be a compound site and consist of office facilities for the contractor and TFNSW, toilets, amenities, tool sheds and car parking.

Works to be undertaken at C12 will be significantly reduced in scale in comparison to ancillary facility C16 and will include generally the following:

- Pre-start meetings/toolbox talks and site meetings;
- Establishment of an Emergency evacuation points;
- Short term parking of heavy and light vehicles;

As a compound site, C12 will include offices and vehicle parking for personnel working on the Project and light vehicles will use the site daily. Heavy vehicles may sometimes be parked at the site and

small power tools may be used. Indicative plant, equipment and material to be stored at the ancillary site are listed below:

- Heavy vehicles (for deliveries) during standard construction hours, or where required to occur outside of standard hours by NSW police or other authority for safety reasons; and
- Light vehicles.

Ancillary Facility set up

The following scope of works will generally be undertaken at the C12 facility:

- Initial site survey and inspections;
- Installation of erosion protection measures;
- Clearing and grubbing;
- Establishment of Construction site fencing, signage and lighting;
- Establishment of Construction site access points, traffic management measures, alternative public access routes, diversions and minor road modifications if required;
- Establishment of hardstand (as required);
- Demolition of redundant structures on acquired/leased land;
- Relocation and/or removal of farm infrastructure;
- Operation and maintenance of stockpiles; and
- Delivery of materials.

Equipment generally required for the establishment of ancillary facility C12 includes;

- Earth moving equipment, (e.g. grader, dozer, excavator);
- Water cart;
- Rollers;
- Trucks; and
- Hand tools; plate compactors, drills, shovels, etc.

3.2.4 Ancillary facility C17

Ancillary facility C17 is located along the Northern Road, to the north of Gates Road, Mulgoa (Northbound carriageway), and was identified within the final EIS as part of the ancillary facilities proposed for the project and assessed for the following activities:

- Stockpile site

Ancillary facility C17 will only be used for stockpiling materials (topsoil, spoil, mulch etc.).

Works to be undertaken at C17 will be significantly reduced in scale in comparison to ancillary facility C16 and will include generally the following:

- Establishment of an Emergency evacuation points;
- Short term parking of heavy and light vehicles;
- Stockpiling of excavated materials and/or mulch;and
- Storage of Bedding sand and backfill materials.

Light vehicles will use the site daily. Heavy vehicles will deliver construction materials to the site and will sometimes be parked at the site. Small power tools will be used. Indicative plant, equipment and material to be stored at the ancillary site are listed below:

- Heavy vehicles (for deliveries only) during standard construction hours, or where required to occur outside of standard hours by NSW police or other authority for safety reasons;;
- Light vehicles.

Ancillary Facility set up

The following scope of works will generally be undertaken at the C17 facility:

- Initial site survey and inspections;
- Installation of erosion protection measures;
- Clearing and grubbing;
- Establishment of Construction site fencing, signage and lighting;
- Establishment of Construction site access points, traffic management measures, alternative public access routes, diversions and minor road modifications if required;
- Establishment of hardstand (as required);
- Demolition of redundant structures on acquired/leased land;
- Relocation and/or removal of farm infrastructure;
- Operation and maintenance of stockpiles; and
- Delivery of materials.

Equipment generally required for the establishment of ancillary facility at includes:

- Earth moving equipment, (e.g. grader, dozer, excavator);

- Water Cart;
- Rollers;
- Trucks; and
- Hand tools; plate compactors, drills, shovels, etc.

Equipment / materials generally required for the operation of ancillary facility C17 includes:

- Open skip bins to store construction wastes;
- Waste bulk materials like excavated soils, demolition wastes may be temporarily stored at the stockpile area until they are classified under the NSW EPA waste classification guidelines and removed from site to licenced facility;
- Excavator (for maintenance and operation of active stockpiles);
- Trucks (for deliveries); and
- Watercart (for dust suppression as required).

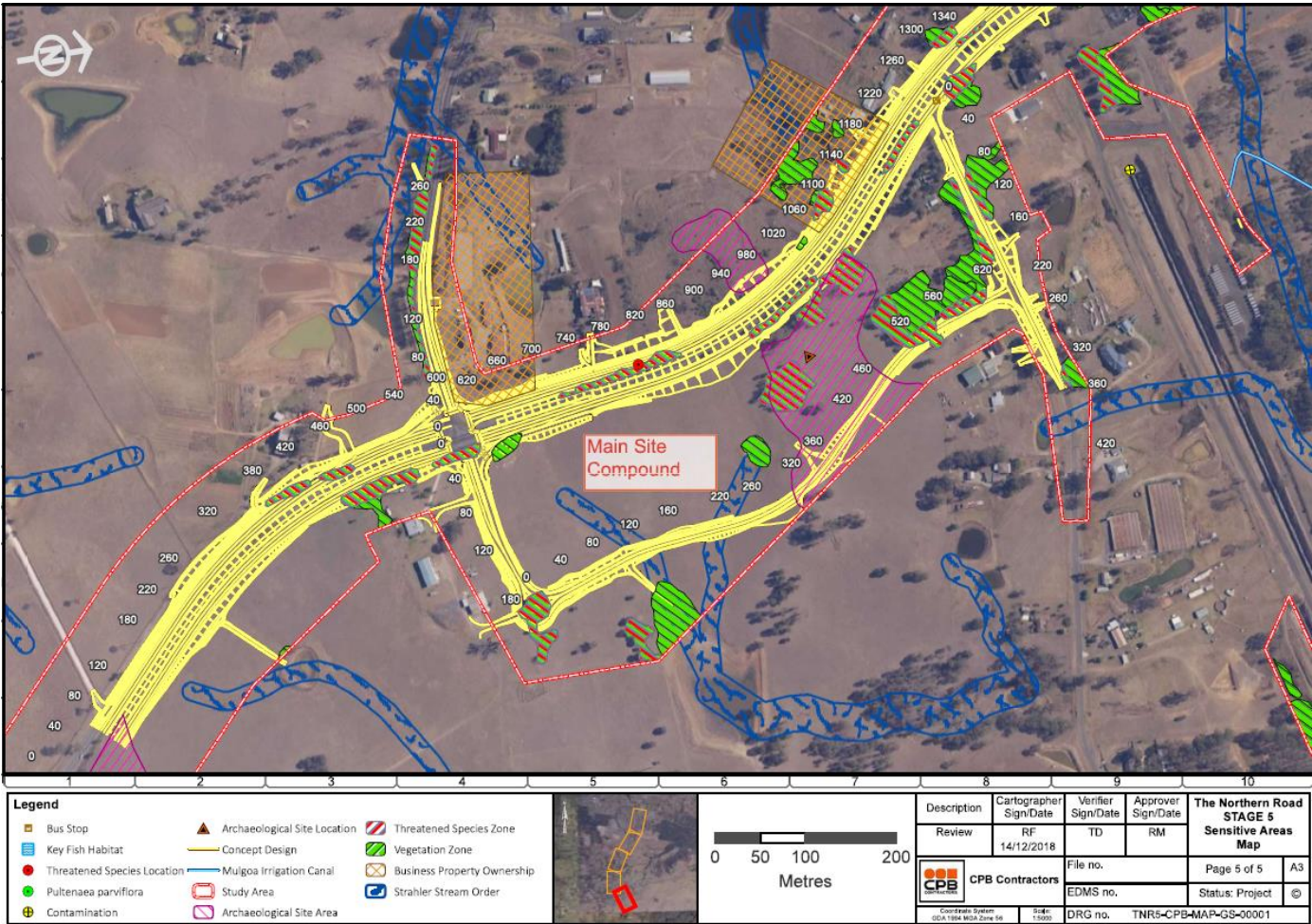


Figure 3-3 Location of Main Site Compound C16

3.3 Timing and Duration

Ancillary facility areas will be established and commence operation once all approvals are granted by the ER, DP&E and Transport for NSW. Indicative dates of occupation for each ancillary facility are provided in Table 3-1.

Pre-establishment activities that will occur include; pre- clearing ecology surveys, pre- construction land condition assessments, Aboriginal heritage salvage, stage 2 contamination assessments (completed by Transport for NSW), as well as advance contamination assessment for topsoil stripping.

Construction vehicles arriving at the Project site and construction compounds outside the standard construction hours (CoA E23) will not queue with idling engines.

All the activities associated with pre- establishment, establishment and operation of the ancillary facilities will occur during the approved construction hours and conditions associated with noise as per CoA E23 – E31, as follows:

CoA E23 Standard construction hours

- a) 7.00am to 6.00pm, Monday to Friday;
- b) 8.00am to 1.00pm on Saturdays; and
- c) At no time on Sundays or public holidays.

CoA E24 Highly noise intensive activities

Except as permitted by an EPL, highly noise intensive works that result in an exceedance of the applicable noise management level at the same receiver must only be undertaken:

- a) between the hours of 8:00 am to 6:00 pm Monday to Friday;
- b) between the hours of 8:00 am to 1:00 pm Saturday; and
- c) in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.

For the purposes of this condition, 'continuous' includes any period during which there is less than a one-hour respite between ceasing and recommencing any of the work the subject of this condition.

CoA E25 Community Consultation

The Proponent must identify and consult with receivers identified as being subject to levels that exceed the Highly Noise Affected criteria with the objective of determining appropriate hours of respite unless an agreement is reached with those receivers.

CoA E26 Out of hours work

Notwithstanding Condition E23 works associated with the CSSI may be undertaken outside the specified hours in the following circumstances:

- a) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or
- b) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm; or
- c) where it causes LAeq(15 minute) noise levels:
 - a. no more than 5 dB(A) above the rating background level at any residence in accordance with the Interim Construction Noise Guideline (DECC, 2009), and
 - b. no more than the noise management levels specified in Table 3 of the Interim Construction Noise Guideline (DECC, 2009) at other sensitive land uses, and
 - c. continuous or impulsive vibration values, measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), and
 - d. intermittent vibration values measured at the most affected residence are no more than those for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006); or
 - e. no more than 15 dB(A) above the night time rating background level at any residence during the night time period, when measured using the LA1(1 minute) noise descriptor; or
 - f. where different hours are permitted or required under an EPL in force in respect of the works, in which case those hours must be complied with.

CoA E27 Emergency works notification

On becoming aware of the need for emergency works in accordance with Condition E26 the Proponent must notify the ER and the EPA (if an EPL applies) of the need for those works. The Proponent must also use its best endeavours to notify all affected sensitive receivers of the likely impact and duration of those works.

CoA E28 Queuing and Idling Construction Vehicles

Construction vehicles arriving at the project site and construction compounds outside the standard construction hours described in Condition E23 must not queue with idling engines.

CoA E29 Respite

The Proponent must consult with potentially affected community, religious, educational institutions and noise and vibration-sensitive businesses to identify periods during which they would be adversely affected by noise generating works, and must not schedule those works during those periods unless the Proponent and the potentially affected institution or business have made other arrangements (at no cost to the affected receiver), or the Secretary has otherwise approved the works.

CoA E30 Cumulative Construction Noise Impacts

The Proponent must ensure that all works for the delivery of the CSSI are coordinated with utility works, including those works undertaken by third parties, to minimise cumulative impacts of noise and vibration and to maximise respite for affected sensitive receivers.

CoA E31 Ancillary Facility Acoustic Barriers

Temporary acoustic barriers (2.4 metres high) are to be installed as soon as site establishment works at the ancillary facility are completed and before undertaking any works which are required to be conducted at the facility. The schedule for installing and removing the acoustic barriers, and justification for not installing acoustic barriers in certain locations, must be described in the Ancillary Facilities Management Plan for the project prepared in accordance with Condition A16. Acoustic barriers must be inspected and maintained to remain effective throughout the use of the construction compound.

3.4 Decommissioning and rehabilitation

Decommissioning and rehabilitation of the ancillary facilities (main compound and all other ancillary areas) will be undertaken as part of the finishing works towards the end of the construction program and will include the following activities;

- Removal of all fencing, signage and temporary structures;
- Site clean-up and disposal of all surplus materials;
- Stabilisation and re-vegetation of the sites as per Urban Design and Landscape Plan;
- Reinstatement of all leased areas to the pre-existing condition unless otherwise agreed by the land holder.

After restoration of the areas to pre-existing condition or better, a post-construction land condition assessment will occur by an independent environmental consultant. This will assess the land against pre-existing contamination or waste issues identified in the pre-construction land condition assessment.

3.5 Ancillary Facilities not assessed in the EIS

CPB Contractors do not currently intend to establish ancillary facilities in areas that have not been assessed in the final EIS.

Any additional ancillary facilities beyond those already assessed in the EIS/SPIR would be assessed and approved in accordance with Conditions A15 or A17 depending on the nature of the ancillary facilities.

For minor ancillary facilities including offices, sheds and staff amenities that are not identified in the final EIS, they shall also be assessed against and have no greater environmental and amenity impacts than those that can be managed through the implementation of environmental measures detailed in the OACEMP.

In accordance with the responsibilities of the ER set out in CoA A17, the ER can assess the impacts of minor ancillary facility. The ER will use the ancillary facilities assessment criteria for facilities not assessed in the final EIS.

Any future, additional ancillary facilities will be detailed in an updated AFMP. Minor ancillary facility locations do not need to be detailed in an updated AFMP due to their very temporary and insignificant impact.

From April 2020, construction sites have been able to operate on weekends and public holidays under the Environmental Planning and Assessment (COVID-19 Development – Infrastructure Construction Workdays) Order 2020 (originally enacted on 8 April 2020) introduced by the NSW Government to support the industry during the COVID-19 pandemic. The extended hours allow the industry to facilitate social distancing and good hygiene practices on construction sites, while minimising the potential for lost productivity during the pandemic. On the 25th March 2021, the NSW Government extended the prescribed period for temporary planning measures under the COVID-19 Order to the 31st March 2022.

4. Environmental Assessment

4.1 EIS assessment of ancillary facilities against CoA criteria

The ancillary facilities identified in the final EIS & Transport for NSW Specification G1 were assessed in accordance with the location criteria included in the Critical SSI Standard Conditions of Approval.

Standard conditions have been developed to help infrastructure providers understand the types of conditions likely to be applied to State significant infrastructure projects if they are approved, including conditions related to locating ancillary facilities. The criteria used for the final EIS assessment is generally the same as the criteria in the NSW Infrastructure Approval for the Project under NSW CoA A15 (b)(i-x). The only exception is criterion (e) on level land which is within the standard conditions of approval, but not within the final NSW Infrastructure Approval (SSI-7127).

In accordance with NSW COA A15, if any ancillary facilities not already identified in the final EIS and SPIR are proposed, these facilities will be assessed against the criteria listed in NSW CoA A15 (b)(i-x).

The criteria used in the final EIS assessment of ancillary facilities are as follows:

- (a) At least 50 m from a waterway unless an erosion and sediment control plan is prepared and implemented so as not to affect water quality in the waterway in accordance with Managing Urban Stormwater series;
- (b) Within or adjacent to land where the critical state significant infrastructure is being carried out;
- (c) With ready access to a road network;
- (d) So as to avoid the need for heavy vehicles to travel on local streets or through residential areas in order to access the facility;
- (e) On level land;
- (f) So as to be in accordance with the Interim Construction Noise Guidelines (DECC, 2009) or as otherwise agreed in writing with affected landowners and occupiers;
- (g) So as not to require vegetation clearing beyond the extent of clearing approved under other terms of this approval except as approved by the ER as minor clearing;
- (h) So as not to have any impact on heritage items (including areas of archaeological sensitivity) beyond the impacts identified, assessed and approved under other terms of this approval;
- (i) So as not to affect lawful uses of adjacent properties that are being carried out at the date upon which construction or establishment of the facility is to commence;

- (j) To enable operation of the ancillary facility during flood events referred to in Section 8.1 and to avoid or minimise, to the greatest extent practicable, adverse flood impacts on the surrounding environment and other properties and infrastructure;
- (k) So as to have sufficient area for the storage of raw materials to minimise, to the greatest extent practicable, the number of deliveries required outside standard construction hours.

The results of the assessment of each ancillary facility against the final EIS assessment criteria relevant to Stage 5 is summarised in Table 4 1.

Table 4-1 Assessment of proposed ancillary facilities against EIS criteria

Compound location	Ancillary facility site location criteria										
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
C9	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C10	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C11	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C12	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C13	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C14	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C15	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C16	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C17	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C18	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C19	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C20	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
C21	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y

The ancillary facilities assessed for the Project were assessed as not meeting criteria (f). As such further assessment of these sites against criteria (f) is provided in Table 4-2, including proposed management measures.

Table 4-2 Proposed mitigation measures for criteria not met

Criteria	Proposed Management Measure
<p>f) So as to be in accordance with the Interim Construction Noise Guidelines (DECC, 2009) or as otherwise agreed in writing with affected landowners and occupiers</p>	<p>Applicable compound or laydown site(s)</p> <p>All sites.</p> <p>Key justification and proposed mitigation measures provided in the final EIS</p> <ul style="list-style-type: none"> ■ Due to the predominantly rural-residential nature of the project area, the number of affected receivers would be relatively low. ■ Typically, noise emissions from standard-sized compounds would be relatively low. However, use of heavy vehicles and reversing beepers at stockpile, laydown or maintenance facilities may impact nearby receivers, particularly if night-time operations are carried out. Noise impacts may be expected during loading operations at larger compounds during night-time work. ■ Predictions of construction noise impact used the scenario of all of The Northern Road Upgrade stages (Stages 4, 5 and 6) running concurrently with all ancillary facilities operating simultaneously. Predicted worst case construction noise levels from daytime activities (standard hours) would comply with Noise Management Levels (NMLs) for most receivers within the study area. However, predicted worst case construction noise levels from out-of-hours work would exceed night time NMLs at a number of receivers within the study area at some time. Predicted impacts for standard hours are detailed below: ■ Noise Catchment Area (NCA) 1: From a total of 1211 receivers located in NCA1, the noise assessment predicts that 1204 receivers will comply with the relevant NML. Seven (7) residences were predicted to exceed the defined NML by between 0-10 dB(A) during standard hours. ■ NCA2: From a total of 137 receivers located in NCA2, the noise assessment predicts that 128 receivers will comply with the relevant NML. Nine (9) residences were predicted to exceed the defined NML

	<p>by between 0-10 dB(A) during standard hours.</p> <ul style="list-style-type: none"> ■ NCA3: From a total of 23 receivers located in NCA3, the noise assessment predicts that 20 receivers will comply with the relevant NML. Three (3) residences were predicted to exceed the defined NML by between 0-10 dB(A) during standard hours. ■ NCA4: From a total of 16 receivers located in NCA4, the noise assessment predicts that 1 receiver will comply with the relevant NML. Fourteen (14) residences were predicted to exceed the defined NML by between 0-10 dB(A) and one (1) residence was predicted to exceed the NML by between 10-20 dB(A) during standard hours. ■ NCA5: From a total of 228 receivers located in NCA5, the noise assessment predicts that 211 receivers will comply with the relevant NML. Twelve (12) residences were predicted to exceed the defined NML by between 0-10 dB(A), one (1) residence was predicted to exceed the NML by between 10-20 dB(A) and four (4) residences greater than 20 dB(A) for night time activities. <p>Predicted impacts for OOHW include:</p> <ul style="list-style-type: none"> ■ across the entire study area, noise from even the loudest works will comply with the NML at 60% of all residences; ■ paving are the out of hours works predicted to generate the greatest number of NML exceedances at residences, which are mostly located in NCAs 1, 2, 5 and 8; ■ The highest NML exceedances are predicted to occur at residences within NCA 2; ■ at 209 residences (12% of all residences) within the study area the worst case exceedance of the NML from any out of hours works would be 5 dB(A) or less. At such time of peak impact, construction noise would be noticeable; ■ at 313 residences within the study area (18%) the worst case exceedance of the NML would be between 5-15 dB(A). At such times of peak impact, construction noise would be clearly audible; ■ at 99 residences within the study area (6%) the worst case exceedance of the NML would be between 15-25 dB(A). At such times of peak impact, construction noise would be moderately intrusive;
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	<ul style="list-style-type: none"> at 73 residences within the study area (4%) the worst case exceedance may be more than 25 dB(A). At such times of peak impact, construction noise would be highly intrusive; noise from the ancillary facilities during OOH (in isolation of noise from any other mainline works) may give rise to exceedances of the NML at up to 539 residences when nearby facilities are operating at peak capacity. The NML exceedance is predicted to be greater than 15 dB(A) at 31 of these residences. <p>Key justification and proposed mitigation measures provided in this CAFMP</p> <ul style="list-style-type: none"> CPB Contractors however do not plan to operate heavy machinery at night at the ancillary facilities. It is estimated that only a small amount of night works is currently foreseen for Stage 5 and 6 activities, thus predictions are worst case and access to ancillary facilities at night is considered minor and of nil to low impact. Additionally, squawker type reversing alarms shall be prioritised over beepers. CPB propose to undertake introductory consultation with residents surrounding the ancillary facilities, to ensure community expectations and project requirements are discussed, and any concerns addressed. The noise mitigation measures for these areas are further outlined in Section 5 of this Plan & in the CPB Construction Noise and Vibration Management Plan.
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4.2 Environmental aspects and impacts

The potential impacts of the ancillary facilities were assessed in Section 5.4.12 of the EIS in accordance with criteria for ancillary facility location set out in the Critical SSI Standard Conditions of Approval for linear infrastructure projects. Establishment and operation of the ancillary facilities may result in a range of potential construction noise, air (dust), biodiversity, traffic and visual impacts, including those identified in Table 4-3.

Table 4-3 Environmental aspects and potential impacts

Environmental aspect	Potential impacts
Flora and fauna	<ul style="list-style-type: none"> Vegetation clearing

	<ul style="list-style-type: none"> • Disturbance or mortality of fauna during clearing works • Habitat loss, degradation, or fragmentation
Traffic	<ul style="list-style-type: none"> • Traffic impacts associated with spoil and material haulage including potential conflicts with local traffic and increased congestion
Erosion and sedimentation	<ul style="list-style-type: none"> • Mobilisation of sediment laden/contaminated runoff entering waterways and drainage lines • Unauthorised offsite discharge
Noise and vibration	<ul style="list-style-type: none"> • Due to close proximity to neighbouring residents and sensitive receivers during compound/ancillary facility establishment and operation there is the potential for noise and vibration impacts • Noise disturbance to residents and sensitive receivers due to out of hours work • Noise generated by construction traffic accessing facilities
Air quality	<ul style="list-style-type: none"> • Generation of dust emissions and odours from access roads and transport of materials during facility establishment and operation • Nuisance to local residents
Heritage	<ul style="list-style-type: none"> • Impact to undiscovered or undocumented heritage sites • Unauthorised access to heritage areas
Storage of hazardous substances	<ul style="list-style-type: none"> • Accidental spills and leaks, resulting in pollution of waterways and soils (hydrocarbons, curing agents, septic waste)
Waste and recycling	<ul style="list-style-type: none"> • Generation of waste by site personnel using offices and staff amenities • Generation of waste during establishment of ancillary facilities disposed of incorrectly, e.g. recyclable materials being sent to landfill and not meeting ISCA requirements
Visual amenity	<ul style="list-style-type: none"> • Potential for site hoardings or other exposed surfaces to be vandalised. • Potential for site lighting to affect the amenity of surrounding residents and businesses • Potential for waste to not be placed in appropriate bins and result in litter around the construction worksites
Contaminated land	<ul style="list-style-type: none"> • Potential for encountering previously undocumented contaminated material
Socio-economic	<ul style="list-style-type: none"> • Direct land use impacts associated with the location of construction compounds, temporarily disrupting use and access to land including rural or vacant land, residential and commercial uses

4.2.1 Noise – Residential Receivers

Some residential receivers are located within 200m of the proposed ancillary facilities. Figure 4 1 and Figure 4 2 show sensitive receiver locations relevant to The Northern Road Stage 5 and 6 ancillary facilities.

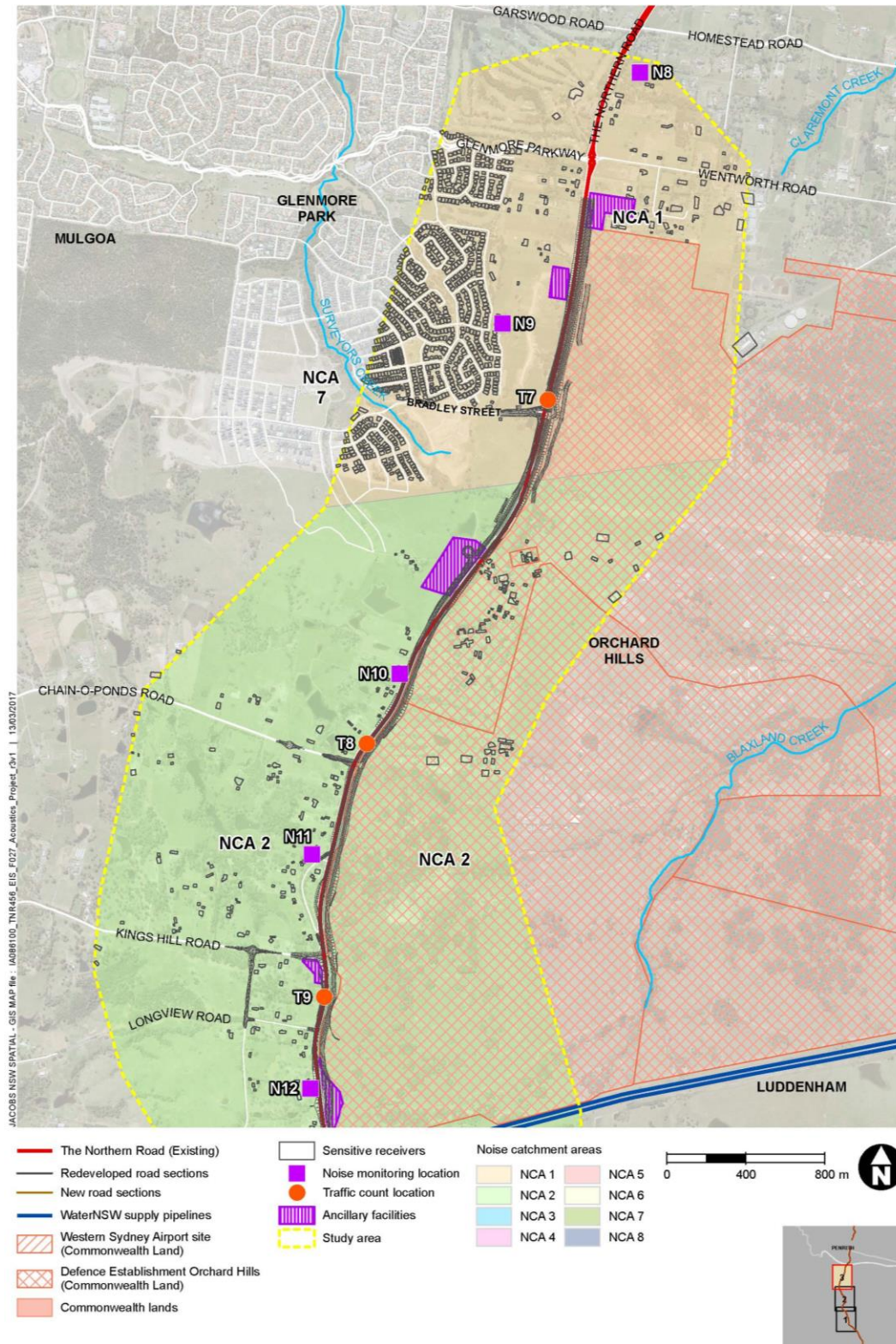


Figure 4-1 Location of sensitive receivers relevant for Stage 5 and 6 activities (NCA1, NCA2)

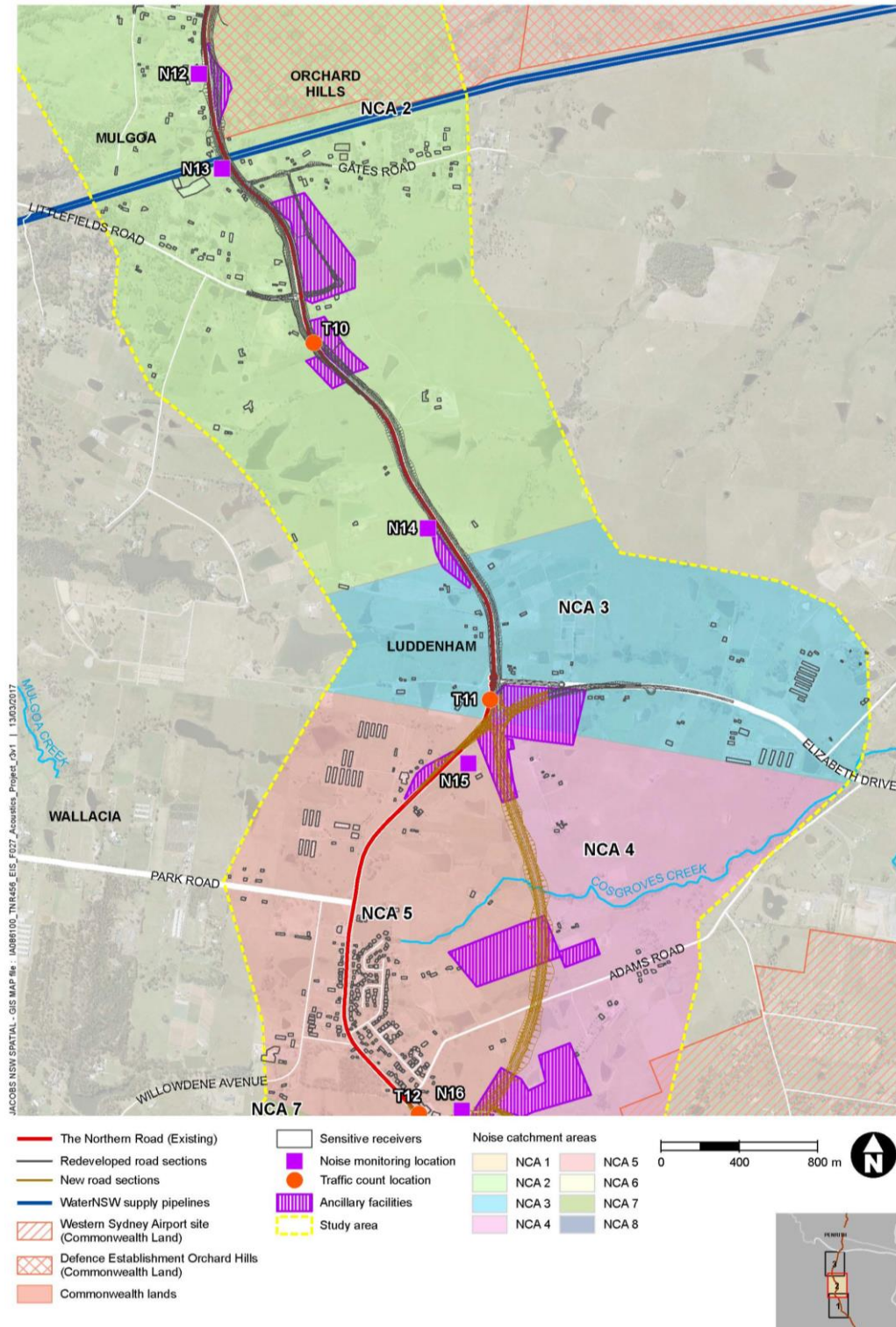


Figure 4-2 Location of sensitive receivers relevant for Stage 5 and 6 activities (NCA2, NCA3 & NCA4)

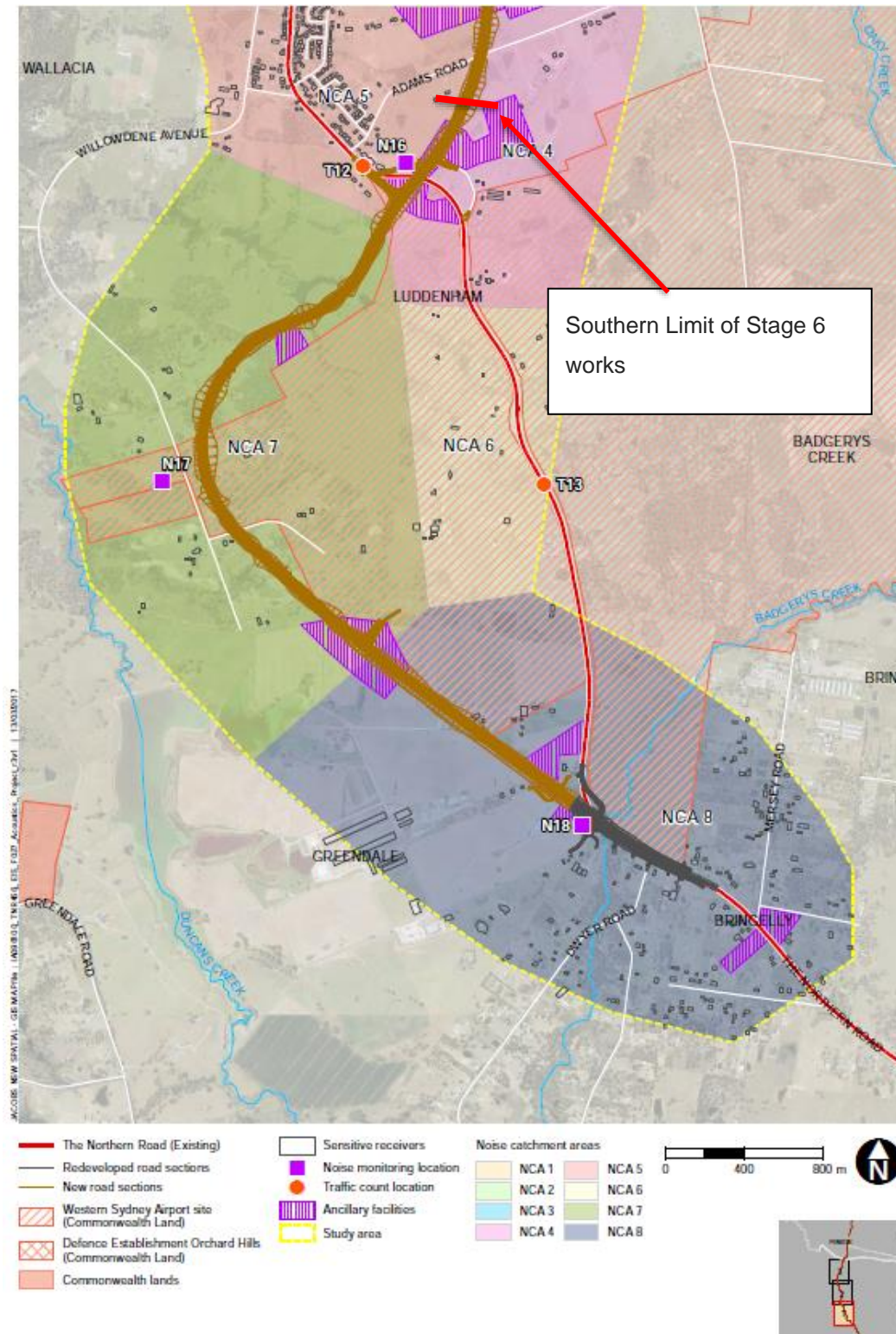


Figure 4-3 Location of sensitive receivers relevant for Stage 5 and 6 activities (NCA4)

Noise impacts associated with activities at ancillary facilities are expected to occasionally exceed the ICNG Noise Management Levels (NMLs) at some receivers during standard hours of work. Also, the EIS predicted that noise generated at ancillary facilities will arise due to the use of heavy vehicles and reversing beepers at stockpile, laydown or maintenance facilities and loading operations at larger compounds during night-time work.

CPB Contractors however do not plan to operate heavy machinery at night at the ancillary facilities. Only a small amount of night works is currently foreseen for Stage 5 and 6 activities, using the ancillary facilities as an office / amenity base.

The EIS assumed that ancillary facilities would be operating concurrently, as well as road construction activities for the Project. Thus, predictions are worst case.

Where out of hours works are anticipated, a further noise assessment to identify potential exceedances related to that scope of works will be conducted specific to the task to be undertaken outside of normal construction hours to ensure compliance with the project EPL conditions and CoA E26.

The EIS predicted potential impacts associated with the operation of ancillary facilities during standard hours and out of hours and the results are provided in Table 4-4. The assessment included compounds conservatively operating at the same time (front end loader, excavator, road truck, compressor, welding equipment, light vehicles, and generator).

The type of activities likely to be undertaken during nightworks at ancillary facilities may include:

- Personnel accessing ancillary facilities and staff amenities, such as site sheds, toilet facilities)
- Running of site amenities, such as the compounds at C12 and C16.
- Pre-start meetings/toolbox talks and site meetings (C16 and C19);
- Storage of fuels and chemicals;
- Parking of heavy and light vehicles;
- Stockpiling of procured materials (Pipe, small precast products, fittings etc);
- Stockpiling of excavated materials;
- Storage of inert construction materials;
- Storage of bedding sand and backfill materials.

These works would be completed on an 'as needed' basis and in accordance with CoA E23 – E31

Where it is not safe to do so during standard construction hours, the following ancillary facility set up works may take place during night works:

- Clearing and grubbing;

- Establishment of Construction site fencing and signage
- Establishment of Construction site access points, traffic management measures, alternative public access routes, diversions and minor road modifications if required;

Any Out Of Hours Works (OOHW) will be subject to an OOHW approval in accordance with the project Construction Noise and Vibration Management plan. The OOHW approval will include an assessment of noise and vibration impact for the proposed activity and identified receivers, and will comply with CoA E23 – E31 and the Project EPL condition L4.

Note that except as permitted by the EPL, highly noise intensive works that result in an exceedance of the applicable noise management level at the same receiver must only be undertaken;

- a) Between the hours of 8:00am to 6:00pm Monday to Friday
- b) Between the hours of 8:00am to 1:00pm Saturday
- c) In continuous blocks not exceeding three hours each with a minimum respite between ceasing and re-commencing any of the work subject to CoA E24

4.2.1.1 Highly affected residential receivers and predicted impacts from Ancillary facilities

Where receivers are identified as being subject to levels that exceed the Highly Noise Affected Criteria (Construction noise levels >75dB(a)) CPB will consult with those receivers with the objective determining appropriate hours of respite unless an agreement is reached with those receivers

The EIS has identified the number of receivers that are likely to be subject to exceedances of highly affected noise criteria as a result of the operation of ancillary facilities as follows;

- a) Standard construction hours – No receivers have been identified as potentially being subject to an exceedance of the highly affected noise criteria
- b) Out of hours Stage 1 – One receiver has been identified as potentially being subject to an exceedance of the highly affected noise criteria (The property located at the address for this affected receiver is scheduled for demolition as part of the works, as such is not likely to be impacted)
- c) Out of hours Stage 2 – No receivers have been identified as potentially being subject to an exceedance of the highly affected noise criteria

Table 4-4 Cumulative exceedances of Construction Noise Management Levels for all Ancillary sites

NCA				Number of exceedances related to the Ancillary Facilities
			NML (Standard Hours)	Standard Hours
1	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			27-63
	Number of Residences	Complying	58	1204
		0-10 dBA above NML		7
		10-20 dBA above NML		m
		20+ dBA above NML		-
		≥75 dBA (highly affected)		-
2	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			34-61
	Number of Residences	Complying	57	128

NCA				Number of exceedances related to the Ancillary Facilities
				Standard Hours
		0-10 dBA above NML		9
		10-20 dBA above NML		-
		20+ dBA above NML		-
		≥75 dBA (highly affected)		-
3	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			35-61
	Number of Residences	Complying	56	20
		0-10 dBA above NML		3
		10-20 dBA above NML		-
		20+ dBA above NML		-

NCA				Number of exceedances related to the Ancillary Facilities
			NML (Standard Hours)	Standard Hours
		≥75 dBA (highly affected)		-
4	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			46-60
	Number of Residences	Complying	47	1
		0-10 dBA above NML		14
		10-20 dBA above NML		1
		20+ dBA above NML		-
		≥75 dBA (highly affected)		-
5	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			38-69
	Number of Residences	Complying	52	211

NCA				Number of exceedances related to the Ancillary Facilities
				Standard Hours
		0-10 dBA above NML		12
		10-20 dBA above NML		1
		20+ dBA above NML		4
		≥75 dBA (highly affected)		-

NCA				Number of exceedances for Construction phase Ancillary Facilities	
			NML (OOH)	OOHW Stage 1	OOHW Stage 2
1	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			27-63	37-64
	Number of Residences	Complying	49	1138	1199
		0-5 dBA above NML		57	10
		5-15 dBA above NML		16	2
		15-25 dBA above NML		-	m
		≥25 dBA (highly affected)		-	-
2	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			34-61	37-64
	Number of Residences	Complying	41	22	79
		0-5 dBA above NML		44	39

NCA					Number of exceedances for Construction phase Ancillary Facilities	
				NML (OOH)	OOHW Stage 1	OOHW Stage 2
		5-15 dBA above NML			60	19
		15-25 dBA above NML			11	-
		≥25 dBA (highly affected)			-	-
3	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))				35-61	38-64
	Number of Residences	Complying	40		6	12
		0-5 dBA above NML			6	4
		5-15 dBA above NML			7	7
		15-25 dBA above NML			4	-
		≥25 dBA (highly affected)			-	-

NCA				Number of exceedances for Construction phase Ancillary Facilities	
			NML (OOH)	OOHW Stage 1	OOHW Stage 2
4	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			46-60	49-63
	Number of Residences	Complying	42	1	1
		0-5 dBA above NML		14	11
		5-15 dBA above NML		1	4
		15-25 dBA above NML		-	-
		≥25 dBA (highly affected)		-	-
5	Range of predicted noise levels $L_{Aeq15min}$ (dB(A))			38-69	41-72
	Number of Residences	Complying	39	1	126
		0-5 dBA above NML		62	83

NCA					Number of exceedances for Construction phase Ancillary Facilities	
				NML (OOH)	OOHW Stage 1	OOHW Stage 2
		5-15 dBA above NML			150	14
		15-25 dBA above NML			10	1
		≥25 dBA (highly affected)			1	-

NCA	Sleep Disturbance Criterion L_{Amax}	Complying	0-5 dB(A) above Sleep Disturbance Criterion	5-15 dB(A) above Sleep Disturbance Criterion	15-25 dB(A) above Sleep Disturbance Criterion	>25 dB(A) above Sleep Disturbance Criterion
1	59	1199	10	2	-	-
2	51	79	39	19	-	-

NCA	Sleep Disturbance Criterion L_{Amax}	Complying	0-5 dB(A) above Sleep Disturbance Criterion	5-15 dB(A) above Sleep Disturbance Criterion	15-25 dB(A) above Sleep Disturbance Criterion	>25 dB(A) above Sleep Disturbance Criterion
3	50	12	4	7	-	-
4	52	1	11	4	-	-
5	49	126	83	14	1	-

4.2.2 Noise - non-residential receivers

The NML for each non-residential receiver potentially affected by Stage 5 and 6 works is detailed in Table 4-5.

Table 4-5 Noise Management Levels for non-residential receivers

Non-residential receiver	No. of buildings	Land use	NCA	NML* L _{Aeq} (15minute) dB(A)
Penrith Anglican College	4	Educational	1	45 (Internal)
Luddenham Public School	5	Educational	5	45 (Internal)
Holy Family Catholic Primary School	1	Place of Worship	5	45 (Internal)
St James Anglican Church	1	Place of Worship	5	45 (Internal)
Sacred Heart Parish	1	Place of Worship	5	45 (Internal)
Luddenham Uniting Church	2	Place of Worship	5	45 (Internal)
Glenmore Ridge Dr Park	N/A	Active Recreation	1	65
Sales Park	N/A	Active Recreation	5	65
Willmington Reserve	N/A	Active Recreation	5	65
Luddenham Showground	N/A	Active Recreation	5	65
Penrith Golf and Recreation Club	3	Commercial	1	70
Produce Direct and Pet Care	3	Commercial	1	70

Non-residential receiver	No. of buildings	Land use	NCA	NML* L _{Aeq} (15minute) dB(A)
Orchard Hills Veterinary Hospital	1	Commercial	1	70
Horse N Around	3	Commercial	2	70
The Honey Shed	1	Commercial	3	70
Sydney Society of Model Engineers	1	Commercial	3	70
Caltex Service Station	2	Commercial	5	70
Quality Meats Butcher	1	Commercial	5	70
2903 The Northern Road, Luddenham	1	Commercial	5	70
Luddenham Auto Repairs	1	Commercial	5	70
Ali's Bakery	1	Commercial	5	70
Shell Service Station	1	Commercial	5	70
IGA	3	Commercial	5	70
David's Stall Fruit and Veg	1	Commercial	5	70
Luddenham Progress Hall	1	Commercial	5	70
Water Filtration Plant	1	Industrial	1	75
Power Station, 2552 The Northern Road	1	Industrial	2	75
Luddenham Showground	1	Stables	2,3	N/A

Non-residential receiver	No. of buildings	Land use	NCA	NML* L _{Aeq(15minute)} dB(A)
2042-2550 The Northern Road, Orchard Hills	81	Military	2	N/A

* When in use

Exceedances of the NML from work during standard hours are predicted at the following non-residential receivers:

- Power Station - minor exceedances of up to 2 dB(A);
- Horse N Around – moderate exceedances of up to 11 dB(A) at the most affected building;
- Shell Service Station – moderate exceedances of up to 17 dB(A);
- IGA Luddenham – moderate exceedances of up to 12 dB(A);
- Luddenham Public School – minor exceedances of up to 4 dB(A);
- St James Anglican Church – moderate exceedances of up to 11 dB(A); and
- Luddenham Uniting Church – minor exceedances of up to 2 dB(A).

Where NMLs cannot be satisfied, Construction noise impacts will be mitigated using reasonable and feasible noise and management mitigation measures as per the ICNG and Transport for NSW CNVG. Where appropriate, CPB will develop these measures in consultation with affected residents, businesses and community, religious and educational institutions. Consultation will be undertaken in accordance with the principles and procedures outlined in the Transport for NSW CCS and CPB CIP.

Works outside of standard Construction hours will be undertaken in accordance with Section 3.3 and the Noise and Vibration Management Plan. Further details of the requirements, including community consultation relating to community agreements are provided in the CPB Construction Noise & Vibration Management Plan (CNVMP) and CCS.

CPB will consult with identified potentially affected community, religious, educational institutions as well as noise and vibration-sensitive businesses to identify periods during which they would be adversely affected by noise generating works. Works will not be undertaken unless arrangements have been made with the potentially affected sensitive receivers (at no cost to the affected receiver) or approval has been provided by the Secretary, as required by NSW-CoA E29 or EPA where relevant to an EPL.

Acoustic hoarding at ancillary facilities is not currently considered warranted due to Project's construction techniques and noise management strategies:

- Temporary noise mounds will be constructed when earthworks levelling are necessary at ancillary facilities (e.g. C16)
- Ancillary facilities will be designed to maximise distances between noisy activities and residents, and will include placement of barriers such as containers between residents and construction works where possible
- The use of low noise emission equipment (e.g. equipment fitted with squawker alarms)
- The proposed implementation of pre-construction consultation with potentially affected receivers
- Operation of ancillary sites will be predominately during day time hours and
- The location of ancillary sites as far away from receivers and in close proximity to construction activities.
- Monitoring and reporting will be undertaken to confirm the effectiveness of the strategies implemented and justify the non-use of acoustic hoarding.

4.2.2.1 Highly Affected Non-Residential Receivers and predicted impacts from Ancillary facilities

Where non-residential receivers are identified as being subject to levels that exceed the Highly Noise Affected Criteria for residential properties (Construction noise levels >75dB(a)) while the building is occupied. CPB will consult with those receivers with the objective determining appropriate hours of respite unless an agreement is reached with those receivers

The EIS has identified that for the operation of Ancillary Facilities alone, there are no identified highly affected non-residential receivers.

However, when conducting concurrent construction activities, the following non-residential properties have been identified as being highly impacted;

- Shell Service Station, Luddenham – up to 87dB(A) during standard hours and up to 82dB(A) during out of hours
- IGA Luddenham – up to 82dB(A) during standard hours and up to 77dB(A) during out of hours
- Horse N Around, Mulgoa – 81dB(A) during standard hours and up to 76dB(A) during out of hours
- Power Station – up to 77dB(A) during standard hours and up to 72dB(A) during out of hours

The result of consultation with the identified non-residential receivers has identified the following preference for hours of work and respite

- Shell Service Station, Luddenham – preference for works to occur during out of hours periods – CPB are unable to accommodate
- IGA Luddenham — preference for works to occur during out of hours periods – CPB are unable to accommodate
- Horse N Around, Mulgoa – preference for all works to be undertaken during standard hours – CPB unable to accommodate – further consultation undertaken as part of out of hours community agreement, where substantial majority agreement for out of hours works reached with affected residential receivers.
- Power Station – non-occupied premise, no issues identified during consultation

4.2.3 Traffic

The majority of traffic on local roads generated during construction would be from the delivery of plant, equipment and materials. There would also be movements by light vehicles associated with staff accessing the construction areas.

Designated access for construction vehicles entering and exiting temporary ancillary facilities will be along The Northern Road and the surrounding arterial network.

Vehicles are likely to arrive on site outside of construction hours on a regular basis for the purpose of construction pre-starts and deliveries. In accordance with NSW-CoA E28, construction vehicles arriving at ancillary facilities outside the standard hours of work will not queue with idling engines. To ensure compliance with this condition, site personnel will be provided with specific training on mitigation of noise emissions from construction vehicles.

Further information is provided in the CPB Construction Traffic and Transport Management Plan (CTTMP) and the CPB stage specific Traffic Control Plans (TCP).

4.2.4 Air quality

Construction activities associated with the Project, including operation of ancillary facilities, have the potential to generate dust and other emissions. Construction activities that involve handling, disturbance and management of materials have the highest potential to generate air quality impacts during construction. Establishment and operation of ancillary facilities will involve vegetation clearing,

the disturbance and exposure of surfaces, operation of plant and machinery and haulage of materials. These activities may increase dust and debris that may settle on nearby properties, causing a disturbance to residents and business owners located near ancillary facilities. Substantial dust generation could result in health impacts to nearby receivers.

Further information is provided in the Construction Air Quality Management Plan (refer to Appendix B6 of the CEMP). Mitigation measures associated with air quality management at ancillary facilities are outlined in Table 5-1.

4.2.5 Flora and Fauna

Field surveys for the EIS identified vegetation within the assessed ancillary areas as poor-quality fauna habitat, as it is predominately agricultural pastureland. The EIS study area contains the development footprint, which includes the construction footprint and operational footprint. The construction footprint is the area proposed to be impacted, cleared and/or disturbed during construction. For the purposes of the EIS assessments, it was assumed that there would be complete vegetation clearance within the construction footprint. This precautionary approach has been taken to the assessment to ensure all potential impacts are captured and assessed as the final design was yet to be finalised. The operational footprint for the project is the area that would be physically impacted by the operation of the project, including all operational ancillary infrastructures. The operational footprint is fully contained within the construction footprint. The location of Threatened Ecological communities relevant to Stage 5 and 6 activities are shown in Figure 4-4, 4-5 and 4-6.

CPB Contractors shall minimise impacts on existing vegetation during establishment and operation of all ancillary facilities, and specifically in relation to ancillary facilities C12, C17 and C16.

The safeguards outlined in the Construction Flora and Fauna Management Sub Plan will apply for the establishment and operation of all ancillary areas. The safeguards include; pre-clearing surveys, ongoing monitoring, erosion and sediment control, and rehabilitation will appropriately manage the risks to flora and fauna associated with the ancillary facilities. A summary of these mitigation measures is also detailed in Table 5-1.

[Figure 4-4 Threatened ecological communities \(Map 1 of 3 relevant to Stage 5 and 6 works\)](#)

[See PDF Version](#)

[Figure 4-5Threatened ecological communities \(Map 2 of 3 relevant to Stage 5 and 6 works\)](#)

See PDF Version

[Figure 4-6 Threatened ecological communities \(Map 2 of 3 relevant to Stage 5 and 6 works\)](#)

[See PDF Version](#)

4.2.6 Soil and Water

The establishment and operation of the ancillary facility would result in clearing of grass and topsoil, stockpiling of soils, stockpiling of pavement materials, chemical storage, and general maintenance and

refuelling of equipment and plant. The EIS did not identify any contaminants of concern in any of the locations of proposed for ancillary facilities.

The potential impacts associated with these activities may include:

- Exposure of soils during earthworks, creating the potential for offsite transport of eroded sediments and pollutants
- Exposure of unexpected contamination and asbestos during topsoil stripping and earthworks, creating the potential to mobilise contaminants and contaminate other areas.
- Increased turbidity of waterway due to exposure, erosion, runoff and dust propagation
- Contamination from site compounds, chemical storage areas and ablution facilities
- Fuel, chemicals, oils, grease and petroleum hydrocarbon spills from construction machinery polluting the river and soils
- Disturbance of unidentified contaminated land and subsequent generation of contaminated runoff
- Alteration of surface and subsurface flows that could cause disturbances to hydrology.

The CPB Construction Soil & Water Management Plan (CSWMP) and Section 5 of this plan outlines proposed mitigation measures to manage these risks which include:

- Training of all project personnel on sound erosion and sediment control practices
- Development and implementation of erosion and sediment control plans
- Correct stockpile management
- Correct storage and handling of chemicals and hydrocarbons
- Spill response materials and procedures
- Controls and management for ablution facilities
- Template Contaminated Lands Unexpected Finds Procedure (Overarching SWMP - Annexure B).

4.2.7 Flooding

In the Project EIS, a technical working paper (Appendix K) was prepared to assess the flooding impacts associated with the construction and operation of the approved Project. The proposed route of the project crosses a number of existing drainage lines along which a series of both small and large

dams are located. The EIS flood models show that high hazard flooding is generally confined to the farm dams and the incised reaches of the drainage system which are typically located downstream of the project corridor for events up to 100 year ARI.

Upslope water would be diverted around ancillary facilities and overland flow paths maintained. All the ancillary facilities will maintain a 50m buffer distance to any of the existing dams Refer to the Construction Soil and Water Management Plan (CSWMP) for more details on flood risk and management measures.

4.2.8 Heritage

Aboriginal Heritage

The potential impacts on Aboriginal heritage associated with the construction and operation of the approved Project were assessed in the Project EIS. The ancillary areas have been assessed for impact on heritage items (including areas of archaeological sensitivity). The Ancillary facilities C15, C16 and C17 are located in proximity to known Aboriginal heritage sites. Refer to **Error! Reference source not found.** for the location of TNR AFT 12 & TNR AFT 33. Note TNR AFT 13 is part of Stage 6. No impact to these sites is proposed as a result of construction or operation of the facilities. Mitigation measures to be implemented are:

- Known heritage sites will be fenced off or salvaged (in accordance with the CHMP) prior to construction occurring in these areas (see Table 4-6).

A clearance from the Project Archaeologist would be given stating that salvage has been completed in these areas prior to any disturbance occurring in these areas. All salvage areas are considered to be exclusion zones until clearance has been provided.

Mitigation and management measures for heritage are detailed in the CPB Construction Heritage Management Plan – (CEMP - Appendix B5), This includes to implement the Transport for NSWs Unexpected Finds Procedure (CCHMP – Annexure A) should an item of cultural heritage be identified.

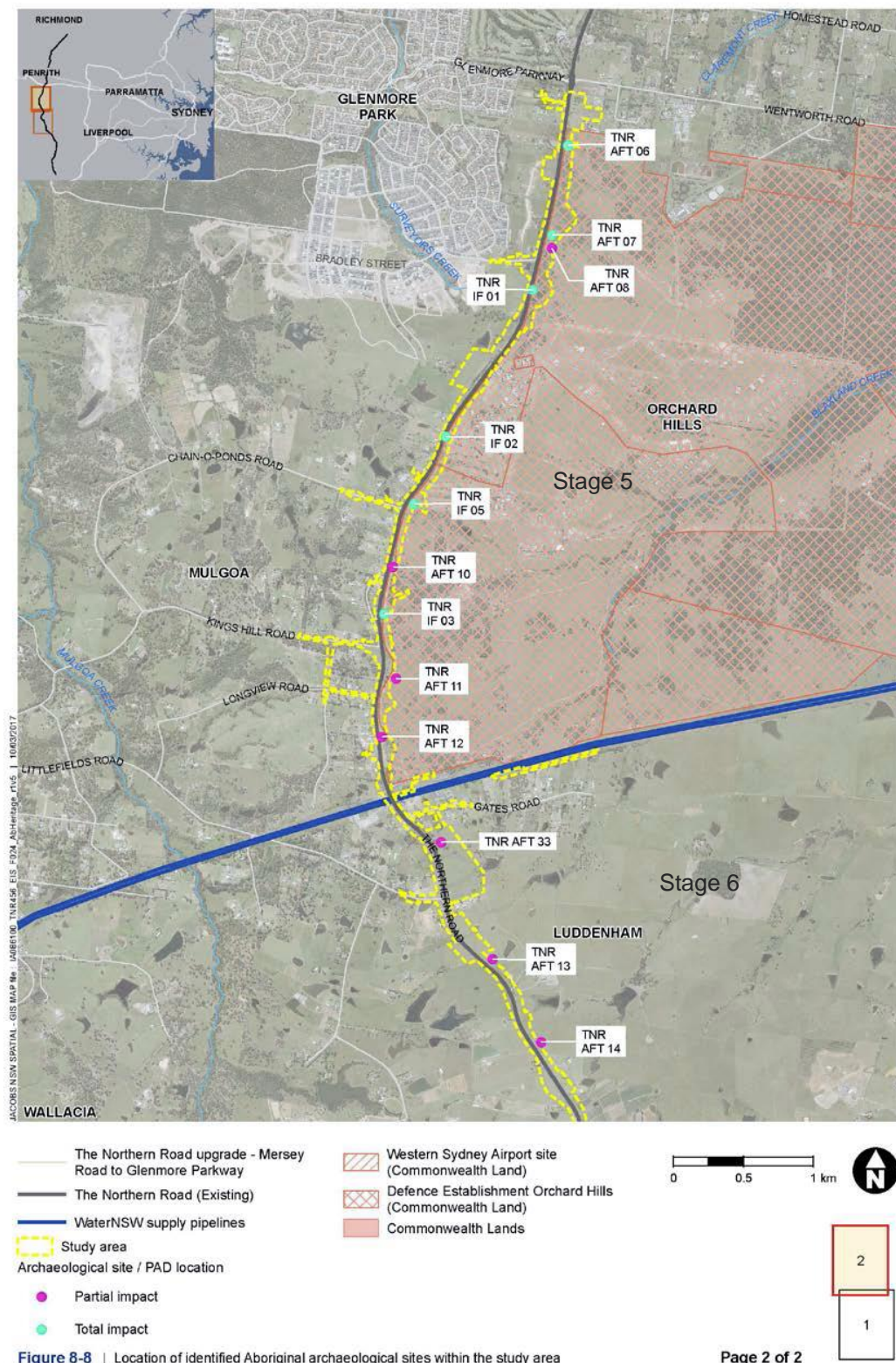


Figure 4-7 Aboriginal heritage sites (stage 5)

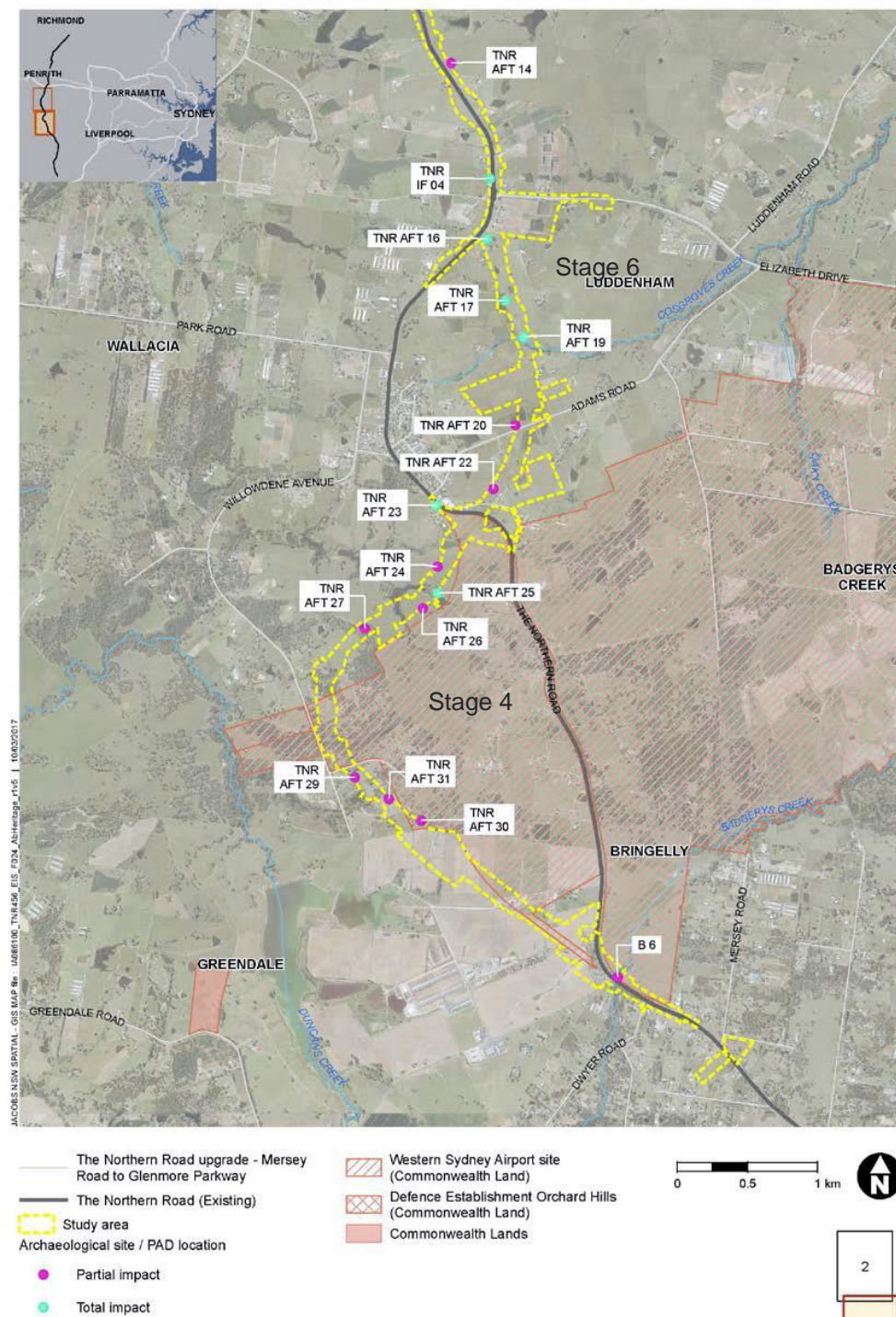


Figure 8-8 | Location of identified Aboriginal archaeological sites within the study area

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Figure 4-8 Aboriginal heritage sites (stage 6)

Table 4-6 Aboriginal Heritage mitigation measures to be implemented.

Site name	Relevant Ancillary Facility	Assessed Significance	Impact assessment	Management measure
TNR AFT 12	C17	Moderate	Partial Impact	Barrier fencing Salvage excavation of impacted portion of site Relevant project approval required prior to commencement of works affecting the site.
TNR AFT 33	C15 and C16	Moderate	Partial Impact	Barrier fencing Archaeological salvage excavation Relevant project approval required prior to commencement of works affecting the site.

Historical Heritage

Three (3) historical heritage items may be affected by the establishment of Ancillary Facilities for Stage 5 and 6 construction works. Namely the Orchard Hills Cumberland Plain Woodland (CHP), the Warragamba Dam and Prospect Reservoir Pipeline and Miss Lawson's Guesthouse Site, Luddenham. Refer to Figures 4-9, 4-10 and 4-11 for the location of these heritage areas, and Table 4-7 for further details including potential impacts and mitigation measures to be implemented prior to construction of ancillary facilities in close proximity.

Figure 4-9 Location of historic heritage items (map 1)

[See PDF version.](#)

Figure 4-10 Location of historic heritage items (Map 2)

See PDF version.

Figure 4-11 Location of historic heritage items (Map 3)

[See PDF version.](#)

Table 4-7 Non- Aboriginal Heritage sites relevant to Stage 5 and 6 Ancillary Facilities

Heritage item number	Heritage item name	Potential impacts during construction	Impact	Mitigation measures
Item 2	Orchard Hills Cumberland Plain Woodland (CHP)	<p>Clearing of native vegetation (9.28 ha), including regrowth areas of critically endangered ecological communities.</p> <p>Changed hydrological conditions within the Blaxland Creek catchment.</p> <p>Degradation of ecological condition by proliferation of weed species</p> <p>Introduction / disturbance of pathogen and/or disease vectors</p> <p>Light pollution</p> <p>Physical damage to northern section of canal adjacent to The Northern Road</p>	<p>Low to medium.</p> <p>Clearing impacts would be permanent, irreversible and intense, however these impacts would be limited to areas ranked as low to moderate significance in the HMP for the DEOH (Godden Mackay Logan 2013) Negligible.</p> <p>Increased volume and rate of flow discharged to waterways, increased scour, erosion and sedimentation along waterways and wetter ground conditions. However, these would not impact areas ranked as moderate to high significance in the HMP for the DEOH (Godden Mackay Logan 2013)</p> <p>Low. Weed invasion degrades biodiversity values</p> <p>Low. Pathogens and disease presence to be tested / confirmed. Impact includes degradation of ecological resources</p> <p>Low. Light impact includes habitat unsuitability for some native fauna</p> <p>Low. Only small section of overall canal system would be removed</p>	<p>An archival photographic recording, surveying and archaeological investigation of the canal and erection of protective barrier fencing.</p> <p>Archaeological investigation in the form of test excavation of the extent of the canal to be impacted by the works would be undertaken.</p>

Heritage item number	Heritage item name	Potential impacts during construction	Impact	Mitigation measures
Item 3	Warragamba Dam to Prospect Reservoir pipeline	Vibration, erosion and sediment control	Low / Potential for accidental impact	CPB Contractor will develop measures for the management of potential vibration impacts, erosion and sediment controls and agreed site access protocols in consultation with Transport for NSW and WaterNSW (previously the Sydney Catchment Authority). Establish exclusion zone for depot building footings adjacent to the pipelines.
Item 9	Miss Lawson's Guesthouse Site, Luddenham	Physical damage/demolition	Directly impacted by construction	A detailed archaeological investigation of the site will be carried out in accordance with the Heritage Division of OEH guidelines prior to construction. An appropriate research design and methodology will be prepared, and salvage undertaken by an appropriately qualified and experienced historical archaeologist.

4.2.9 Vibration

A vibratory roller (typically 7-13 tonnes) is likely to be the most vibration intensive equipment to be used during construction of the ancillary facility. NCA2, NCA3 and NCA5 have buildings that are located in the vicinity of ancillary facilities. The safe working distance for a vibratory roller of this size is 15m for cosmetic damage (British Standard BS 7385) and 100m for human comfort (DECCW). The vibratory roller will be used for site establishment activities for the main compound for approximately one week.

Although this activity is unlikely to cause structural damage from vibration to adjacent residential buildings, vibration monitoring should be undertaken where buildings are within the safe working distance nominated above. It is possible that human discomfort vibration levels may exceed the relevant criteria at nearby residents. Residents will be notified of the timing and duration of the works.

As detailed in Table 5-1, pre- and post-construction property condition surveys will be undertaken on buildings within 100m of vibrating compaction activities to identify any impacts associated with the establishment and operation of the ancillary facility.

Any Out Of Hours Works (OOHW) will be subject to an OOHW approval in accordance with the project Construction Noise and Vibration Management plan. The OOHW approval will include an assessment of noise and vibration impact for the proposed activity and identified receivers, and will comply with CoA E32 – E35 and the Project EPL condition L4.

5. Environmental Management and Mitigation Measures

This section details the environmental mitigation measures specific to the ancillary facilities that will be implemented to minimise the environmental impacts associated with the establishment and operation of the ancillary facilities.

A range of environmental mitigation measures are identified in the various assessment and approval documents for the project, including the EIS, the SPIR, NSW and Federal Conditions of Approval, OACEMP and Transport for NSW standard documents. Site specific mitigation measures have been adapted from these documents as relevant to the establishment; operation, decommissioning and rehabilitation of the ancillary facility, as outlined in Table 5-1.

Table 5-1 Environmental Management and Mitigation Measures

ID	Measure/ Requirement	When to Implement	Responsibility	Reference
General				
GEN1	Prior to establishing the ancillary facility a pre-construction land condition assessment will be undertaken by an independent environmental consultant. This will assess the land for any pre-existing contamination or waste issues prior to taking possession.	Prior to site establishment	ESR Independent Consultant	G36, Clause 4.15.2 OACEMP Ap A4, Section 2.3.1
GEN2	When the areas of land used for the site facilities are no longer required, and after restoration of the areas to pre-existing condition or better, a post-construction land condition assessment by an independent environmental consultant is required.	Post - construction	ESR Independent Consultant	G36, Clause 4.15.2 OACEMP Ap A4, Section 2.3.1
GEN3	The approval holder must undertake the action, including those parts of the action that occur on Commonwealth Land, in accordance with all conditions in the NSW Infrastructure Approval.	Prior to site establishment	ESR Independent Consultant	G36, CCHMP Federal-CoA 1

GEN4	The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement all management plans required by this approval, and make them available upon request to the DoEE. Such records may be subject to audit by the DoEE or an independent auditor in accordance with Section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the DoEE's website. The results of audits may also be publicised through the general media.	Construction	ESR Independent Consultant	G36, CCHMP Federal-CoA 11
Flora and Fauna				
FF1	A CPB Construction Flora and Fauna Management Plan (CCFFMP) would be developed for the project. The plan would include procedures for pre- clearance surveys that are consistent with the Transport for NSW Biodiversity Guidelines (RTA, 2011). All work to be in accordance with the CCFFMP.	Pre - construction	ESR	G36 Sect 4.8 OACEMP Ap A4, Table 2-3,
FF2	Contain construction activities within the construction works zone boundary and occupy the minimum area practicable for limiting impacts on adjoining areas, including the extent of native vegetation clearing.	Prior to site establishment construction	Project Manager Superintendent ESR	OACEMP Ap A4, Table 2-3
FF3	Clear boundaries will be applied for construction and exclusion zones for equipment, machinery and traffic to prevent unnecessary damage to native vegetation and fauna habitats.	Prior to site establishment	Project Manager Superintendent ESR	G36 Sect 4.8 OACEMP Ap A4, Table 2-3

FF4	Clearing limits will be accurately and clearly marked. Existing trees within construction area and compounds that do not need to be removed will be identified, protected and maintained throughout the construction period.	Prior to site establishment	Project Manager Superintendent ESR	G36 Section 4.8 OACEMP Ap A4, Table 2-3
FF5	Once clearing limits have been surveyed and marked, a suitably qualified and experienced fauna ecologist will undertake a pre- clearing survey to identify any concerns to specific species.	Prior to site establishment	Ecologist ESR	G36 Section 4.8
FF6	During vegetation clearing, timber and root balls must be retained where practicable for reuse in habitat enhancement and rehabilitation work. The retained timber and root balls may be used on or off the CSSI site. Prior to the commencement of vegetation clearing, the Proponent must consult with community groups, the Mulgoa Valley Landcare Group and relevant government agencies to determine if retained timber and root balls could be used for environmental rehabilitation projects, before pursuing other disposal options.	Site establishment Construction	Superintendent ESR	CoA E5
FF7	Clearing boundary demarcation and tree protection zones will be inspected during the weekly environmental inspection Inspection findings will be reported in the environmental monthly report.	Construction	ESR	G40 Good practice
FF8	Native vegetation would be re-established in accordance with Guide 3: Re-establishment of native vegetation of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	Rehabilitation and landscaping	ESR	CoA B5

Soil and water				
SW1	A CPB Construction Soil and Water Management Plan (CCSWMP) would be developed in accordance with the Transport for NSW specification G38 – Soil and Water Management and the Blue Book – Soils and Construction – Managing Urban Stormwater Volume 1 (Landcom, 2004) and Volume 2D (DEC, 2008a). All work to be in accordance with the SWMP.	Pre - construction	ESR	G38 OACEMP Ap A4, Table 2-3
SW2	Training will be provided to all project personnel, including relevant subcontractors on sound erosion and sediment control practices and the requirements from this plan through inductions, toolboxes and targeted training.	Pre-construction Construction	Superintendent ESR	G38/G36 Good practice
SW3	An erosion and sediment control plan will be developed in accordance with Managing Urban Stormwater – Soils and Construction Volume 1 (Landcom, 2004) and Volume 2D (DECC, 2008). This plan will incorporate erosion control measure to limit the movement of soil from disturbed areas, and sediment control measures to remove any sediment from runoff.	Prior to site establishment	Superintendent ESR	ESCPs G38 Blue Book (Landcom, 2004), NSW- CoA E8
SW4	All soils to be transported offsite, will be identified and classified in accordance with the Protection of the Environment Operations Act 1997 (POEO Act) and Waste Classification Guidelines (EPA, 2014)	Construction	Superintendent ESR	G36 Clause 4.11
SW5	All topsoil will be surveyed for contamination prior to stripping and monitored during topsoil stripping. An Unexpected Discovery of Contaminated Land Procedure will be implemented if potentially contaminated land, spoil or fill is encountered. Works in the vicinity will be stopped or modified	Pre-construction Construction	Superintendent ESR	G36 Clause 4.2.3 R44 Clause 2.3

	and will not recommence until the material has been analysed and management measures implemented.			
SW6	A spill management procedure will be developed as part of the Pollution Incident Response Plan (PIRMP) and personnel will be inducted on its procedures in the event of a spill. All fuels and chemicals will be stored and used in accordance with the appropriate guidelines and standards	Pre-construction Construction	ESR	PIRMP for EPL Holders under the POEO Act 1997
SW7	All erosion and sediment controls will be inspected weekly and post rainfall events >10mm. Soil conservation inspection will occur on a monthly frequency. Required maintenance and improvements will be recorded in the environmental inspection template. Inspection findings will be reported in the environmental monthly report.	Construction	ESR	G36 Clause 3.3.1
SW8	Where available and practicable, captured stormwater, recycled water or other water sources shall be used in preference to potable water for construction, including dust control and assist compaction.	Construction	Superintendent ESR	G36 CoA E71
Stockpile Management				
SP1	Stockpiling of material will not occur within 5m of vegetation protection areas and tree protection zones. Delineation will be in accordance with AS 4970 – 2009: Protection of trees on development sites.	Pre-construction Construction	Project Manager ESR	G38 Clause 3.2
SP2	Stockpiles will be located at least 5m from concentrated water flows and 50m from the top of bank of any watercourse or drainage line	Pre-construction Construction	Project Manager ESR	G38 Clause 3.2

SP3	Cover, or otherwise protect from erosion, stockpiles that will be in place for more than 4 weeks as well as any stockpiles that are susceptible to wind or water erosion, within 10 days of forming each stockpile in accordance with the blue book.	Pre-construction Construction	Project Manager ESR	G38 Clause 3.2
SP4	Clean topsoil to be retained for rehabilitation purposes, weed contaminated topsoil to be separated from clean topsoil.	Pre-construction Construction	Project Manager ESR	G38 Clause 3.2
SP5	Weed mitigation measures including early establishment of a sterile cover crop on topsoil stockpiles will be implemented to prevent and minimise the growth of weeds.	Construction	Project Manager ESR	G38 Clause 3.2
SP6	There would be no stockpiling of soil or construction materials within utility easement corridors	Pre-construction Construction	Project Manager ESR	OACEMP
SP7	Controls will be placed around stockpiles and immediately downslope of excavated areas to minimise siltation and sedimentation.	Pre-construction Construction	Superintendent	G38 Clause 3.2
SP8	The ESCP must detail the measures that will be implemented to protect stockpiles from erosion by wind and water erosion.	Pre-construction Construction	ESR	G38 Clause 3.2
SP9	Stockpile areas will be included in the weekly and post rainfall environmental inspections. Actions or additional management strategies to be implemented shall be recorded on the inspection record as necessary. Inspection findings will be reported in the environmental monthly report.	Site establishment Construction	ESR	G38 Clause 3.2
Material Storage and Management				

CH1	A project-specific CPB Construction Waste and Energy Management sub- plan (CCWEMP) would be prepared before construction. The plan would adopt the Resources Management Hierarchy principles of the Waste Avoidance and Recovery (WARR) Act. All work to be in accordance with the CCWEMP.	Pre - construction	ESR	OACEMP G38
CH2	All fuels, chemicals, and liquids would be stored at least 50 m away from the existing stormwater drainage system and would be stored in an impervious bunded area within the compound site.	Construction	Site Supervisor/ Foreman	G36 Clause 4.3 OACEMP Ap A4, Table 2-3
CH3	Storage, handling and use of dangerous goods and hazardous substances would be in accordance with the Work Health and Safety Act 2011 and the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005).	Site establishment Construction	Site Supervisor/ Foreman	OACEMP Ap A4, Table 2-3
CH4	Inspect all plant and equipment daily for leakages of fuel, oil or hydraulic fluid. Repair any defective or deteriorated equipment that may result in leaks or leaks before using plant or equipment. Maintain records of plant inspections	Site establishment Construction	Operators	G36 Clause 4.3
CH5	Keep adequate quantities of suitable material to counteract spillage readily available. Clean up all chemical spills immediately.	Site establishment Construction	Superintendent/ Foreman	G36 Clause 4.3
CH6	Emergency spill kits for the management of wet and dry chemical spills must be available at all compound areas.	Site establishment Construction	Superintendent/ Foreman	G36 Clause 4.3

CH7	Vehicle wash downs and/or concrete truck washouts would be undertaken within a designated bunded area of an impervious surface or undertaken off-site.	Site establishment Construction	ESR, Superintendent/ Foreman	G36 Clause 4.11 OACEMP Ap A4, Table 2-3
CH8	Waste oil, oily rags, oil filters and oily waters will be disposed of by an appropriately licensed contractor to a waste facility where the materials are lawfully accepted.	Construction	ESR, Superintendent/ Foreman	G36 Clause 4.11
CH9	Storage of dangerous goods and hazardous materials would occur in accordance with suppliers' instructions and relevant Australian Standards and may include bulk storage tanks, chemical storage cabinets / containers or impervious bunds	Construction	Superintendent/ Foreman	OACEMP Ap A4, Table 2-3
CH10	Provide security for buildings, materials, construction plant and machinery. Take all necessary precautions to make the area safe to the public	Site establishment Construction	ESR Superintendent/ Foreman	Best practice
CH11	Ensure that adequate rubbish receptacles are provided to enable & promote waste segregation from putrescible waste and recyclable waste. Service these receptacles regularly and to the satisfaction of the Principal to ensure that the construction area remains tidy.	Site establishment Construction	ESR Superintendent/ Foreman	Best practice

CH12	Waste management measures will be based upon the philosophy of reduce, reuse, recycle and appropriate disposal. Refer to Construction Waste & Energy Management Plan and Sustainability Management Plan.	Construction	Superintendent ESR	G36 Clause 4.11
CH13	All wastes, including contaminated wastes, would be identified and classified in accordance with the Waste Classification Guidelines: Part 1 Classifying Waste (EPA, 2014).	Construction	Superintendent ESR	OACEMP Ap A4, Table 2-3
CH14	Disposal of any non-recyclable waste would be in accordance with the POEO Act and Waste Classification Guidelines: Part 1 Classifying Waste (EPA, 2014)	Construction	Superintendent ESR	OACEMP Ap A4, Table 2-3
CH15	Concrete pumping or concreting activities will be undertaken in accordance with Environmental Best Management Practice Guideline for Concreting Contractors (EPA, 2002) to prevent and/or minimise spillages.	Construction	Superintendent ESR	Good Practice
CH16	The refuelling of plant and maintenance machinery would be undertaken at least 50m from waterways with appropriate spill containment mechanisms in place such as impervious bunding and the provision of spill kits nearby.	Construction	Superintendent ESR	Good Practice OACEMP Ap A4, Table 2-3
CH17	Hydrocarbon, chemical and waste storage areas will be included in the weekly and post rainfall environmental inspections. Actions or additional control measures shall be recorded on the inspection form as necessary. Inspection findings will be reported in the environmental monthly report.	Construction	ESR	Good Practice

Heritage				
HER1	<p>A CPB Construction Cultural Heritage Management Plan (CCHMP) will be prepared as part of the CEMP prior to construction. The CCHMP will provide protocols and procedures to be implemented during construction to ensure the protection of items of heritage significance. Works shall be undertaken in accordance with the CCHMP.</p> <p>Known heritage items will have a demarcation fence and signed exclusion zone, this will be communicated in the project induction and toolboxes.</p>	Pre - construction	ESR	<p>G38</p> <p>OACEMP</p> <p>Ap A4, Table 2-3</p> <p>NSW -CoA E9</p> <p>NSW- CoA E11</p>
HER2	<p>Prior to commencing work all construction personnel will undergo an induction which would contain information on heritage values and items in the area and on environmental management measures to minimise potential heritage impacts. This induction will identify procedures for unexpected heritage finds.</p> <p>Works shall be undertaken in accordance with the CCHMP.</p>	Pre - construction	ESR	<p>G36 Section 5</p> <p>NSW- CoA C5</p>
HER3	<p>The Transport for NSW's Standard Management Procedure: Unexpected Heritage Items (Transport for NSW, 2015) will be implemented for the works in relation to unexpected heritage finds and in the event of uncovering possible human skeletal remains.</p> <p>This includes cessation of works in the vicinity, assessment of the significance of the item(s) and determination of appropriate mitigation measures including when works can re-commence by a suitably qualified and experienced archaeologist in consultation with the NSW DP&E, NSW OEH and registered Aboriginal stakeholders. Works shall be undertaken in accordance with the CCHMP.</p>	<p>Site establishment</p> <p>Construction</p>	<p>Project Manager</p> <p>Superintendent</p> <p>ESR</p>	<p>Transport for NSW Standard Management Procedure Unexpected Heritage Items</p> <p>NSW CoA E16, E17, E21, E22</p>

HER4	<p>Measures to prevent physical damage to the Warragamba Dam to Prospect Reservoir pipeline would be developed in accordance with Guidelines for Development Adjacent to the Upper Canal and Warragamba Pipelines (WaterNSW, 2018).</p> <p>These measures would be developed in consultation with Transport for NSW and WaterNSW and include measures for the management of potential vibration impacts, erosion and sediment controls and agreed site access protocols.</p>	<p>Site establishment</p> <p>Construction</p>	<p>Project Manager</p> <p>Superintendent</p> <p>ESR</p>	<p>OANVMP, Table 1-1</p> <p>Consultation requirements identified in the EIS and SPIR</p>
Noise and Vibration				
NV1	<p>A CPB Construction Noise and Vibration Management Plan (CNVMP) would be prepared in accordance with the requirements in the ICNG and CNVG. All work to be carried out in accordance with the CNVMP.</p>	<p>Pre - construction</p>	<p>ESR</p>	<p>G38</p> <p>OACEMP</p> <p>Ap A4, Table 2-3</p>
NV2	<p>Implement all reasonable and feasible mitigation measures to ensure the works comply with the relevant Noise Management Levels (NML).</p> <p>This shall include;</p> <ul style="list-style-type: none"> • Works will be undertaken in accordance within the standard working hours unless in compliance with the Project EPL or CoA E26 • All construction plant and equipment used on the site will be: <ul style="list-style-type: none"> ○ Fitted with properly maintained noise suppression devices in accordance with the manufacturer's specifications ○ Maintained in an efficient condition ○ Operated in a proper and efficient manner 	<p>Prior to site establishment</p> <p>Site establishment</p> <p>Construction</p>	<p>Superintendent</p> <p>ESR</p>	<p>G36, Clause 4.16</p> <p>OACEMP</p> <p>Ap A4, Table 2-3</p> <p>NSW CoA E23-E25 and E28</p>

	<ul style="list-style-type: none"> • All noise and vibration complaints will be managed in accordance with the Complaints Management System (CMS) • Ensure all deliveries occur during standard construction hours where reasonable and feasible • Loading and unloading should be carried out away from sensitive receivers, as far as practicable • Avoiding noisy plant from working simultaneously near sensitive receivers will result in reduced noise emissions and exposure • Equipment which is used intermittently is to be shut down when not in use • Where possible, equipment with directional noise emissions should be oriented away from sensitive receivers • Reversing of equipment should be minimised so as to prevent nuisance caused by reversing alarms • Schedule a respite period of one hour for every three hours of continuous high noise generating construction activity, or scheduling high noise generating works to the less sensitive times of 9:00 am to 12:00 pm or 2:00 pm to 5:00 pm • Noise intensive works to be completed in continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block • CPB shall identify and consult with receivers identified as being subject to levels that exceed the Highly Noise Affected criteria with the objective of determining appropriate hours of respite unless an agreement is reached with those receivers • Where possible, locate topsoil as noise bunds along the perimeter of the main site compound adjacent to residential receivers as per the Erosion and Sediment Control Plan. 			
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	<ul style="list-style-type: none"> Construction vehicles arriving at the Project site and construction compounds outside the standard construction hours described in Condition E23 must not queue with idling engines Noise modelling has included the acoustic benefit of applying 2.4m high hoarding to all sides and gates to an ancillary facility. The need for hoardings at ancillary facilities would be assessed on a case by case basis with consideration for the nature and duration of the use of the site, the proximity to sensitive receivers and the acoustic benefit that might be achieved. 			
NV3	<p>Pre and post construction property condition surveys will be undertaken at houses within 100m of the ancillary areas to identify any impacts associated with the establishment and operation of the ancillary facility.</p> <p>Property condition reports are to be provided to landowners and Councils (where agreed by landowner) within 3 weeks and no later than one month prior to commencement of works.</p> <p>When working within 5m of a sensitive receptor the “no vibe” function will be used on the roller.</p> <p>CPB will conduct vibration testing before and during vibration generating activities that have the potential to impact on heritage items (e.g. Warragamba Dam to Prospect Reservoir pipeline for C17 and C16 works) to identify minimum working distances to prevent damage.</p> <p>In the event that the vibration testing and monitoring shows that the preferred values for vibration are likely to be exceeded, CPB will review the construction methodology and, if necessary, implement additional mitigation measures.</p>	<p>Prior to site establishment</p> <p>Construction</p>	<p>Project Manager</p> <p>ESR</p>	<p>G36, Clause 4.15.2</p> <p>OACEMP</p> <p>Ap A4, Section 2.3.1,</p> <p>E36, E42 & E44</p>
NV 4	<p>The CSSI must be constructed with the aim of achieving the following construction vibration goals:</p>	<p>Site establishment</p> <p>Construction</p>	<p>Project Manager</p> <p>ESR</p>	<p>G36, Clause 4.15.2</p>

	<ul style="list-style-type: none"> for structural damage to heritage structures, the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration – Part 3 Effects of vibration on structures for damage to other buildings and/or structures, the vibration limits set out in the British Standard BS 7385-1:1990 – Evaluation and measurement of vibration in buildings—Guide for measurement of vibrations and evaluation of their effects on buildings (and referenced in Australian Standard 2187.2 – 2006 Explosives – Storage and use –Use of explosives); and for human exposure, the acceptable vibration values set out in Assessing Vibration: A technical guideline (DEC, 2006). 			OACEMP Ap A4, Section 2.3.1
NV5	CPB to ensure that vibration from construction activities does not exceed the vibration limits set out in the British Standard BS 7385-2:1993 Evaluation and measurement for vibration in buildings. Guide to damage levels from ground-borne vibration.	Site establishment Construction	Project Manager ESR	G36, Clause 4.15.2 OACEMP Ap A4, Section 2.3.1
NV6	Attended noise monitoring will occur monthly at the nearest residential receiver against the NMLs. Attended noise monitoring will also occur if a complaint is received or during any out of hours work (OOHW).	Site establishment Construction	ESR	Good practice
NV7	Temporary acoustic barriers (2.4 metres high) are to be installed as soon as site establishment works at the ancillary facility are completed and before undertaking any works which are requiring to be conducted at the facility. unless a justification for not installing acoustic barriers in certain locations, has been described in this plan. Acoustic barriers must be inspected and maintained to remain effective throughout the use of the construction compound.	Site establishment Construction	Project Manager ESR	CoA E31

Effluent Management				
EM1	Toilet blocks will be fitted with a 4000L waste holding tank. Pumping out of waste is to be conducted by a licensed waste contractor and disposed of at a suitably licensed waste facility in accordance with the Construction Waste Management sub-plan and EPA requirements.	Site establishment Construction	Project Manager ESR	Good practice
EM2	Push taps will be installed within the toilet blocks to prevent taps being left on accidentally.	Site establishment Construction	Project Manager ESR	Good practice
EM3	A high sensor auto shut off valve (80%) will be installed on the waste system to prevent the tank from overflowing. The system will be checked weekly as part of environmental inspections.	Site establishment Construction	Project Manager ESR	Good practice
Traffic and access				
TR1	A Construction Traffic Management Plan (CTMP) would be developed, approved, implemented and monitored as part of the project. The TMP would ensure the use of local roads by heavy vehicles to access temporary ancillary facilities would be limited as far as is reasonably practicable. All work to be in accordance with the CTMP.	Pre-construction Construction	Project Manager	G36 Clause 3.1 OACEMP Ap A4, Table 2-3
TR2	Wherever practical all removal and delivery of materials and plant will be timed to occur outside of the peak traffic periods to minimise delay in the area however within standard construction hours.	Site establishment Construction	Superintendent	Good practice
TR3	Construction vehicles arriving at the project site and Construction compounds outside the standard Construction hours must not queue with idling engines.	Site establishment Construction	Superintendent	CoA E28

TR4	Unencumbered access to private property must be maintained during Construction unless otherwise agreed with the landowner in advance. This includes access for regular private property waste collection services by local council. A landowner's access that is physically affected be reinstated to at least an equivalent standard, in consultation with the landowner.	Site establishment Construction	Superintendent	CoA E41
TR5	Vehicles used in the delivery of the project must not use local roads unless no suitable alternatives are available. Where the use of local roads is proposed, these must be identified in a TMP.	Site establishment Construction	Superintendent	CoA E54
TR6	A Road Dilapidation Report must be prepared by a suitably qualified person for local roads (and associated infrastructure) proposed to be used by Construction vehicles for works associated with the project before the commencement of use by such vehicles. Copies of the Road Dilapidation Report must be provided to the relevant Council within three (3) weeks of completing the surveys and no later than one (1) month before the use of local roads by project vehicles.	Pre-construction	Project Engineer Superintendent	CoA E55
TR7	If damage to roads occurs as a result of Construction, the Proponent must rectify the damage so as to restore the road to at least the condition it was in pre-works, unless otherwise agreed by the relevant Councils.	Post construction	Project Engineer Superintendent	CoA E56
TR8	During construction, measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Alternative pedestrian access, vehicular access, and parking arrangements, and signage to direct customers to these businesses and affected properties, must be developed in consultation with affected businesses.	Construction	Project Engineer Superintendent	CoA E57

TR9	Signage and directions to businesses must be provided before, and for the duration of, any disruption during Construction.	Pre-construction Construction	Project Engineer Superintendent	CoA E58
TR10	All ancillary facilities will be temporarily fenced such that sight distances at intersections are maintained as per TFNSW and council requirements.	Pre-construction Construction	Project Engineer Superintendent	Good Practice RMS requirements
TR11	Vehicular access to ancillary facilities for site vehicles will be located such that traffic flows and impacts to existing intersections will be negligible. In particular, C18 access and fencing will be managed to avoid impacts upon sight distances and traffic movements at the intersection of Kings Road and The Northern Road.	Pre-construction Construction	Project Engineer Superintendent	Good Practice TFNSW requirements
TR12	Copies of the site-specific Traffic Control Plans will be provided to Penrith City Council and Liverpool City Council for comment prior to commencement of each stage of works.	Construction	Project Engineer	Request from Penrith Council
Visual				
VIS1	<p>The visual impact of ancillary facilities on adjacent residential areas will be minimised through the careful planning and positioning of temporary offices, other plant and material laydown areas, and specific management of lighting and potential for light spill within the identified ancillary facility.</p> <p>Boundary fencing shall be erected around all ancillary facilities that are adjacent to sensitive receivers for the duration of Construction unless otherwise agreed with the affected receivers(s).</p> <p>Boundary fencing required under Condition A18 of the project approval must minimise visual, noise and air quality impacts on adjacent sensitive receivers.</p>	Pre-construction Construction	Superintendent ESR	Good practice

VIS2	Undertake property adjustments and relocation of infrastructure (for example, fencing, dams, property access) in consultation with the property owner.	Construction	Superintendent ESR	OACEMP Ap A4, Table 2-3
VIS3	Areas affected by construction would be reinstated and restored accordance with the urban design and landscape strategy.	Prior to completion of project	Superintendent Foreman	OACEMP Ap A4, Table 2-3
VIS4	Any areas temporarily disturbed during construction will be rehabilitated as soon as feasible and reasonable following the completion of construction/operation of the ancillary facilities.	Prior to completion of project	Superintendent Foreman	G36, CI4
VIS5	The design of temporary lighting must avoid unnecessary light spill on adjacent residents or sensitive receivers and be designed in accordance with AS 1158.1-1986. Note - Any additional road lighting should be sited to avoid blinding road users	Construction	Superintendent ESR	OACEMP Ap A4, Table 2-3
VIS6	Consider the provision of barriers to screen views from visually sensitive nearby areas such as rural dwellings, residential and recreational areas.	Construction	Superintendent ESR	OACEMP Ap A4, Table 2-3
VIS7	Contain construction activities within the construction works zone boundary and occupy the minimum area practicable for limiting impacts on adjoining areas, including the extent of native vegetation clearing.	Construction	Superintendent ESR	OACEMP Ap A4, Table 2-3
Air Quality				

AIR1	<p>Dust and emissions generation at compounds would be managed by:</p> <ul style="list-style-type: none"> installation of perimeter screening around compound sites impose low speeds limits around compound sites to limit the generation of dust from vehicle movements apply wheel-wash or rumble grid facilities at access points to limit the tracking of materials beyond the site boundary ensure that compound area surfaces are well compacted or sealed to limit the potential for dust generation regularly water stockpiles and limit the amount of materials stockpiled around the site Limit stockpiling activities during conditions where winds are blowing strongly in the direction(s) from the stockpiling location to nearby receivers. position stockpiling areas as far as possible from surrounding receivers <p>Where available and practicable, and of appropriate chemical and biological quality, stormwater, recycled water or other water sources may be used in preference to potable water for the delivery of the CSSI, including dust control.</p>	Pre-construction Construction	Superintendent Foreman	<p>G36, Clause 4.4</p> <p>OACEMP</p> <p>Ap A4, Table 2-3</p> <p>NSW-CoA E71, and E72</p>
AIR2	<p>Dust generation will be visually inspected daily by the supervisors during all works to ensure excess dust is not generated and is not leaving site. Air quality and dust management will be formally inspected weekly and recorded in the Environmental inspection template. Inspection findings will be reported in the environmental monthly report.</p>	Construction	Supervisors ESR	<p>G36 Clause 4.4.1</p> <p>OACEMP</p>
AIR3	<p>Install depositional dust gauges in accordance with the Construction Air Quality Management Sub Plan to quantify dust levels and determine whether control measures are adequate or whether</p>	Construction	Supervisors	OACEMP

	further actions are required. A depositional dust gauge will be installed directly adjacent to the nearest residence at the main compound.		ESR	Ap A4, Table 2-3
Waste Management				
WE1	<p>Waste generated in the delivery of the Project must be dealt with in accordance with the waste minimisation hierarchy principles of avoid/reduce/reuse/ recycle/dispose with the following priorities:</p> <p>waste generation is to be avoided and where avoidance is not reasonably practicable, waste generation is to be reduced</p> <p>where avoiding or reducing waste is not possible, waste is to be re-used, recycled, or recovered</p> <p>where re-using, recycling or recovering waste is not possible, waste is to be treated or disposed of at a waste management facility or premises lawfully permitted to accept the materials.</p>	Construction	ESR Superintendent	G36 Clause 4.11.1 NSW CoA E68 to E70
WE2	Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence or waste exemption under the POEO Act, if such a licence is required in relation to that waste.	Construction	ESR, Superintendent	EIS Table 8-45 WR-1 NSW CoA E68
WE3	All waste materials removed from the CSSI site must only be directed to a waste management facility or premise lawfully permitted to accept the materials or in accordance with a Resource Recovery Exemption or Order issued under the Protection of the Environment Operations (Waste) Regulation 2014, or to any other place that can lawfully accept such waste.	Construction	ESR Superintendent	NSW CoA E69

WE4	All waste must be classified in accordance with the NSW Waste Classification Guidelines (EPA, 2014), with appropriate records and disposal dockets retained for audit purposes	Construction	ESR Superintendent	NSW CoA E70
Community Consultation				
CON1	Affected residents and local business owners will be consulted prior to establishing the ancillary facility to identify appropriate measures to manage potential impacts which will be in accordance with the Community Communication Strategy (CCS).	Pre - construction	Community Relations Manager ESR	G36 Clause 3.7.2 OACEMP
CON2	On-going consultation (in accordance with the CCS) with local business owners, including owners of agricultural businesses, located close to construction works about the timing, duration and likely impact of construction activities on their business operations would be carried out.	Pre – construction Construction	Community Relations Manager	G36 Clause 3.7.2 OACEMP

6. Compliance Management

6.1 Roles and Responsibilities

The role titles and responsibilities that are used in this plan and the CEMP are outlined in Table 6-1.

Table 6-1 Roles and Responsibilities

Role	Responsibilities
CPB Project Director	Manage the delivery of the Project including overseeing implementation of compound management measures. Act as Contractors' Representative.
CPB Environmental Site Representative	Manage the on-ground application of worksite management measures during construction. Provide guidance to senior management with regard to aspects and risks associated with management of compounds and ancillary facilities. Confirm compliance with the project's environmental obligations.
CPB Environmental Manager	Develop and oversee implementation of on-ground management documents associated with each of the site compounds, including site environmental plans. Manage review and continual improvement of this plan. Inspection and reporting on compliance.
CPB Construction Manager	Manage the delivery of the construction process, in relation to worksite management across all sites in conjunction with the Environment team. Oversee implementation of the requirements of the project's environmental obligations,
CPB Project Engineer	Implement management activities during construction works, as directed by the Construction Manager and/or the ESR.
CPB Community Relations Manager	Liaise with the ESR regarding the management of compound and ancillary facility. Manage response to complainants and community engagement.
CPB Commercial Manager	Ensure that relevant environmental and sustainability requirements are considered in procuring materials and services.

6.2 Training

Personnel will receive training appropriate to their role in ancillary facilities management on the project during site inductions. Ongoing toolbox talks covering the requirements for compound and ancillary facilities management will be used to raise awareness among the project team.

The induction training will include:

- Awareness of the requirements of the AFMP
- Traffic and access around ancillary facilities.
- Dust and stockpile management.
- Site environmental plans
- Management of waste and recycling
- Emergency requirements i.e. pollution event, major spills etc.
- Hazardous chemicals storage and bunding requirements
- Refuelling processes and practices
- Housekeeping and waste management
- Unexpected finds procedures and protocols i.e. heritage items, biodiversity, contamination
- Minimising impact on neighbouring properties including:
 - Noise (vehicle movements, out-of-hours works)
 - Lights (car headlights, compound lights).

6.3 Monitoring

The ESR will include the ancillary facilities as part of their weekly inspection and review the performance of mitigation measures that have been documented in the site environmental plan (SEP) against what has been implemented. These inspections will be documented on the weekly checklist. Daily inspections will also be carried out by site supervisory staff.

Typical compliance records would consist of:

- Inspection records (such as the Environmental Inspection Checklist)
- Non-compliance reports
- Incident reports.

6.4 Reporting

Results and outcomes of inspections, monitoring and auditing will be reported internally on a monthly basis as per OACEMP.

Six-monthly construction compliance documentation will be prepared by the ESR to report on compliance with the Project Approvals.

6.5 Auditing

Environmental audits will be conducted at regular intervals during construction of the project to ensure compliance with Project Approval conditions, Management Plans and all other documentation relevant to the OACEMP. Internal and external environmental audits will be undertaken in accordance with AS/NZS ISO 19011. Further auditing and reporting requirements are detailed in the OACEMP.

6.6 Incident Management

An Incident Reporting Procedure (Section 6.5 of the OACEMP) covers incident management and reporting requirements. A Pollution Incident Response Management Plan (PIRMP) (CEMP - Appendix B11) has been developed to minimise the impact of spills including details on the requirements for managing, cleaning up and reporting.

6.7 Complaints Management

Complaints will be recorded in accordance with the approved Community Communication Strategy (CCS) and Complaints Management System (CMS).

Information will be recorded as per the requirements of the Complaints Register for the project. All resident complaints will be managed as per the timelines identified in the CMS and reported to Transport for NSW for inclusion in complaints reporting. Further details regarding staff induction and training are outlined in Section 5.1 of the CEMP.

7. Review and Improvement

7.1 Continuous improvement

Continuous improvement of this Sub-plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process is designed to:

- Identify environmental risks not already included in the risk register;
- Identify areas of opportunity for improvement of environmental management and performance;
- Determine the cause or causes of non-conformances and deficiencies;
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies;
- Verify the effectiveness of the corrective and preventative actions;
- Document any changes in procedures resulting from process improvement; and
- Make comparisons with objectives and targets.

CPB is responsible for ensuring Project environmental risks are identified and included in the risk register and appropriate mitigation measures implemented through the Construction of the Project as part of the continuous improvement process. The process for ongoing risk identification and management during Construction is outlined in Section 8 of the CEMP.

7.2 AFMP update and amendment

The processes described in Section 9 of the CEMP may result in the need to update or revise this Sub-plan. This will occur as needed. The AFMP will be reviewed annually as a minimum by Transport for NSW and CPB Contractors. Any revisions to this plan will be in accordance with the process outlined in Sections 9 and 10 of the CEMP.

A copy of the updated Sub-plan will be distributed to all relevant stakeholders in accordance with the approved document control procedure described in Section 10 of the CEMP.

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Annexure A - Ancillary facilities assessment criteria (NSW-CoA A15) for facilities not assessed in the EIS

Ancillary facilities assessment criteria (NSW-CoA A17) for facilities not assessed in the EIS

Criteria	Yes/No	Evidence	Comments
Location			
Purpose			
Is the facility a minor facility (eg office, shed or staff amenities)?			
Criteria			
1. Minor ancillary facilities comprising lunch sheds, office sheds, and portable toilet facilities, that are not identified in the documents listed in Condition A1 and which do not satisfy the criteria set out in Condition A15 of this approval must satisfy the following criteria:			
2. have no greater environmental and amenity impacts than those that can be managed through the implementation of environmental measures detailed in the OACEMP required under Condition C1 of this approval; and			
3. have been assessed by the ER to have: <ul style="list-style-type: none"> i. minimal amenity impacts to surrounding residences and businesses, after consideration of matters such as compliance with the ICNG, traffic and access impacts, dust and odour impacts, and visual (including light spill) impacts; ii. minimal environmental impact with respect to waste management and flooding; and iii. No impacts on biodiversity, soil and water, and heritage items beyond those already approved 			

under other terms of this approval.			
Approval of minor ancillary facility			
Are criteria above met?			
Date of approval by ER			

Annexure B Summary of Consultation

Form	Agency	Date Received	Review Comment	Response
Email	EPA	21/12/18	Email received on the 21/12/18 from the EPA advising that it is not their policy to review management plans. The EPA's expectations will be specified in the projects' environmental protection licence when it is issued.	Noted by CPB
Email	Penrith Council	15/01/19	CPB received an email from the Penrith Council delegate on the 15/01/19. The Council delegate provided consolidated Council feedback and asked for further detail to be included in the plan with regards to traffic, waste, flooding and lighting	CPB included additional mitigation measures in the text of the CAFMP regarding site access, lighting, waste, flooding and traffic to align with Council requests.
Email	Liverpool Council	-	Opportunity for consultation and request for comment on the CAFMP provided to Liverpool Council on 05/08/19. No response received	N/A – no response received

Annexure C Risk Assessment Facilities

Ancillary Facility Risk Assessment

Risk Assessment Title:	Ancillary Facilities C9 – C19	Revision No:	B
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***Risk assessment to be reviewed as scope or conditions change, or on a 6-month basis, whichever occurs first**

Organisation Details:	CPB Contractors Pty Ltd	Supervisor on Project:	David King
Construction Manager	Richard McGloin	Date:	29/08/19
		Review by (Max 6 months):	29/02/20
Who Will Ensure Compliance	Superintendent	How Will Compliance be Measured	Environmental Inspections, Task Observations
How Will the Control Measures be Reviewed?	Environmental Inspections, Task Observations	Who Will Review Control Measures	Environmental Site Representative (ESR)

What are the tasks involved?	What are the hazards and risks?	Risk level prior to mitigation	What are the control measures?	Risk level following mitigation	Responsibility
PLANNING OF WORKS					
Planning of works	Works commencing without required documentation	D4 (High)	<ul style="list-style-type: none"> • Ensure pre-construction land condition assessment has been undertaken by an independent environmental consultant • Ensure the following document are available for use: <ul style="list-style-type: none"> ○ DP&E Approved Ancillary Facility Management Plan ○ Relevant Sensitive Area Map (s) are developed for site establishment work & tool-boxed to site personnel. ○ Permit to Clear (CFFMP) ○ Unexpected Threatened Species Find Procedure (CFFMP) ○ Fauna Rescue and Release Procedure (CFFMP) ○ Weed and Pathogen Management Procedure (CFFMP) ○ Vegetation Management Plan (Clearing and Grubbing Plan) (CFFMP) 	A4 (low)	ESR Project Engineers

			<ul style="list-style-type: none"> ○ Nest Box Management Strategy (CFFMP) ○ Farm Dam Dewatering Plan (CFFMP) ○ Root Ball Plan (CFFMP) ○ Construction Noise and Vibration Monitoring Program (CNVMP) ○ Out of Hours Work Permit (CNMP) ○ Water, soil and contamination monitoring program (CSWMP) ○ Sediment Basin Management Plan (CSWMP) ○ Stockpile Management Protocol (CSWMP) ○ Management of Tannins from Vegetation Mulch (CSWMP) ○ Erosion and Sediment Control Plan ○ Transport for NSW Standard Management Procedure – Unexpected Heritage Items (CHMP) ○ Unexpected Human Remains Procedure (CHMP) ○ Construction Air Quality Monitoring Program (CAQMP) ○ Waste Management Register (CWEMP) ○ Spoil Management Plan (CWEMP) ○ Section 143 Notice (CWEMP) 		
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			<ul style="list-style-type: none"> ○ Unexpected Discovery of Contaminated Land / Asbestos Recording Form (CCLMP) ○ Asbestos Management Plan (CCLMP) 		
	Works commencing without approval	D4 (High)	<ul style="list-style-type: none"> • Ensure the following: <ul style="list-style-type: none"> ○ All hold /witness points have been released ○ Ancillary Facility Management Plan has been approved ○ C16 Consistency Assessment approved. ○ Approved Traffic Control Plans and ESCP has been approved. ○ Archaeological salvage works has been completed and certificate received. ○ Permit to clear has been issued. ○ Permit to dewater has been issued (e.g. for wet areas and/or farm dams) 	A4 (low)	ESR/Engineers/ Superintendent

	Works commencing prior to adequate training or induction	D4 (High)	<ul style="list-style-type: none"> • Training or site-specific awareness sessions (toolbox, project induction, EWMS awareness) is provided to all project personnel Including subcontractors with regards to: <ul style="list-style-type: none"> ○ Project boundaries, ○ Heritage procedures including unexpected finds ○ Threatened flora and fauna species, ○ Dust mitigation, ○ Water quality management including erosion controls, ○ Waste management and spills prevention, ○ Environmentally sensitive areas and the requirements of this EWMS 	A4 (low)	ESR Construction Manager
	Community impacts	D4 (High)	<ul style="list-style-type: none"> • Potentially affected residents notified regarding: <ul style="list-style-type: none"> ○ location and nature of the facility, 	A4 (low)	ESR/ Engineers/ Superintendent/

			<ul style="list-style-type: none"> ○ the potential impacts from construction and/or operation (including visual and odour impacts) and ○ mitigation measures. <ul style="list-style-type: none"> • Consultation with identified potentially affected community, religious, educational institutions and residents as well as noise vibration sensitive businesses to identify periods during which they would be adversely affected by noise generating works. • Consult with property owners in relation to property adjustments and relocation of infrastructure (e.g. fences, dams, property access). • Ensure pre-construction property condition surveys have been conducted in accordance with CNVMP. • Signage and directions to businesses in place prior to Construction • Minimise visual impacts of ancillary facilities on residential areas through: <ul style="list-style-type: none"> ○ careful planning and positioning of temporary offices, other plant and laydown areas ○ specific management of light and potential for light spill within the identified ancillary facility. 		Community Manager
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			<ul style="list-style-type: none"> Boundary fencing erected around all ancillary facilities adjacent to sensitive receivers Design of temporary lighting must avoid unnecessary light spill on adjacent residents or sensitive receivers – designed in accordance with AS 1158.1 (1986) <p>Note - Any additional road lighting should be sited to avoid blinding road users</p>		
	Soil or water pollution.	D4 (High)	<ul style="list-style-type: none"> Store fuels, chemicals and liquids 50 metres away from of waterways. Ensure bunding is in place. Storage, handling and use of dangerous goods and hazardous substances to be in accordance with <i>Work Health and Safety Act 2011</i> and the <i>Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005)</i>. Implement ESCP Implement rumble grids at exit points. Licenced waste subcontractor to be engaged for the removal of liquid materials to waste facilities Ensure there are adequate rubbish receptacles provided to enable & promote waste segregation from putrescible waste and recyclable waste. 	A4 (low)	Engineers/ Superintendent/Foreman

	Impact to flora and Fauna	D4 (High)	<ul style="list-style-type: none"> Pre-clearing Survey completed Clearing protocols in accordance with FFMP implemented. Refer to Farm Dam Dewatering Plan (CFFMP Annexure G) for any existing dam dewatering activities. 	A4 (low)	ESR/ Engineers /Foreman
	Damage to property	C3 (Moderate)	<ul style="list-style-type: none"> Site fences and screening around perimeter of compound area Security measures for compound in place such as metal bars over windows and glass doors, security cameras and lighting. 	A4 (low)	Foreman
	Reduced air quality	D4 (High)	<ul style="list-style-type: none"> Ensure dust deposition gauges are installed at regular intervals along alignment at representative receiver locations, around site facilities and stockpile locations. Ensure plant and equipment are operating efficiently and in accordance with manufacturer's instructions. Install rumble grids and/or sealed surfaces at exit points to prevent mud from being deposited on public roads. 	A4 (low)	Engineers/ Superintendent/ Foreman Community Manager

	Noise and vibration impacts	C3 (Moderate)	<ul style="list-style-type: none"> • Temporary noise mounds to be constructed or use containers to shield nearest residents. Boundary fences and acoustic barriers installed in accordance with CNVMP • Operation of heavy machinery to be scheduled during construction hours only - no operation of heavy machinery at night at ancillary facilities, unless in accordance with the EPL conditions • Where heavy machinery is to be used during out of hours, CNVMP and OOHWP Procedure to be followed • Provisions to inform vehicles arriving at ancillary facilities outside the standard hours that they must not queue with idling engines 	A4 (low)	ESR/Engineers/ Superintendent/ Foreman Community Manager Engineers/ Superintendent/ Foreman
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What are the tasks involved?	What are the hazards and risks?	Risk level prior to mitigation	What are the control measures?	Risk level following mitigation	Responsibility
SITE PREPARATION					
Site Preparation (Including installation of Erosion and sedimentation control, site access and environmental protection measures).	Disturbance to sensitive areas or not approved areas	C3 (Moderate)	<ul style="list-style-type: none"> Fence off no go zones. Exclusion zones will be mapped by a qualified surveyor, marked, installed, signposted as per the CFFMP and CCHMP. Stockpiling of material will not occur within 5m of vegetation protected areas and tree protection zones. Delineation in accordance with AS4970. 	A3 (Low)	Foreman
	Disturbance to nearby business.	C3 (Moderate)	<ul style="list-style-type: none"> Signage and directions to businesses in place prior to Construction 	A3 (Low)	Engineers/ Foreman
	Reduced air quality	C3 (Moderate)	<ul style="list-style-type: none"> Daily prestart inspection of plant to be conducted by subcontractors 	A3 (Low)	Engineers/ Foreman

What are the tasks involved?	What are the hazards and risks?	Risk level prior to mitigation	What are the control measures?	Risk level following mitigation	Responsibility
	Impacts to flora and fauna	C3 (Moderate)	<ul style="list-style-type: none"> Install boundary fencing and clearing limits. Identify, protect and maintain trees required to be preserved. Clearing permit must be issued before clearing commences. Plan to isolate weed infested topsoil during construction. 	A3 (Low)	Engineers
	Vandalism	C3 (Moderate)	<ul style="list-style-type: none"> Site fences and screening around perimeter of compound area Security measures for compound in place such as metal bars over windows and glass doors, security cameras and lighting. 	A3 (Low)	Engineers/ Superintendent/Foreman
	Soil and water impacts	D4 (High)	<ul style="list-style-type: none"> Implement and maintain Erosion and Sedimentation Controls (ESC) in accordance with ESCP for each ancillary facility Place gravel or bound material on constructed access roads to limit sediment runoff and minimise dust generation. Vehicles shall be kept to existing roads or designated tracks. 	B4 (Moderate)	Foreman

What are the tasks involved?	What are the hazards and risks?	Risk level prior to mitigation	What are the control measures?	Risk level following mitigation	Responsibility
			<ul style="list-style-type: none"> Refuelling and maintenance of plant and equipment undertaken in a designated sealed bunded area where spill kits are available. No refuelling of plant is permitted within 50 metres of any waterway and is to be carried out on level ground. 		
	Discovery of heritage items or suspected human skeletal remains.	B4 (Moderate)	<ul style="list-style-type: none"> If a suspected heritage item or suspected human skeletal remain are found then stop work immediately and contact the Environmental Site Representative. Under the direction of the ESR, isolate the heritage items and/or human skeletal remains (e.g., bunting, temporary fence panels) Implement Transport for NSW Unexpected Finds Protocol (CHMP- Annexure B) ESR to assess the significance of the items and determine appropriate mitigation measures (contact experienced archaeologist in consultation with NSW DP&E, NSW OEH and registered Aboriginal stakeholders) 	A4 (Low)	All

What are the tasks involved?	What are the hazards and risks?	Risk level prior to mitigation	What are the control measures?	Risk level following mitigation	Responsibility
			<ul style="list-style-type: none"> Sensitive area maps (SAPs) shall be updated to reflect the constraints relevant to the site establishment works. 		
	Unforeseen incident occurring	B4 (Moderate)	<ul style="list-style-type: none"> Stop works and control the incident if safe to do so (e.g. stop the leak or spill, protect any drainage inlets or nearby waterways) Contact the Environmental Site Representative (ESR)_ Incident to be managed, notified and investigated in accordance with Section 7 of the CEMP. 	A4 (Low)	All

What are the tasks involved?	What are the hazards and risks?	Risk level prior to mitigation	What are the control measures?	Risk level following mitigation	Responsibility
SITE COMPOUND SETUP					
Construction: <ul style="list-style-type: none"> Including clearing and grubbing, minor earthworks, establishment of noise mitigation mounds, installation of drainage 	Disturbance to sensitive areas or areas outside of project boundary.	C4 (High)	<ul style="list-style-type: none"> SAPs included in Work Packs and maintained. 	A4 (Low)	ESR/ Superintendent Foreman
	Community are exposed to construction impacts	C4 (High)	<ul style="list-style-type: none"> Implement ongoing consultation and notification requirements in accordance with Community Involvement Plan (CIP). Operation of heavy machinery to be scheduled during construction hours only - no operation of heavy machinery at night at ancillary facilities unless in accordance with the EPL conditions Where heavy machinery is to be used during out of hours, CNVMP and OOHWP Procedure to be followed Vehicles arriving at ancillary facilities outside the standard hours of must not queue with idling engines. 	B4 (Moderate)	Community Manager Foreman

<ul style="list-style-type: none"> compound facilities and parking. 			<ul style="list-style-type: none"> Access to private property must be maintained during Construction activities unless otherwise agreed with the landowner in advance. Where access is physically affected, in consultation with the land owner, access must be reinstated to at least an equivalent standard Signage and directions to businesses maintained during Construction 		
	Impacts to flora and fauna	C4 (High)	Implement Vegetation Management Plan, including the following: <ul style="list-style-type: none"> Maintain clearing boundaries for construction and exclusion zones for equipment, machinery and traffic to prevent unnecessary damage to native vegetation. Suitably qualified and experience fauna ecologist to undertake a pre-clearing survey Should threatened flora or fauna species be encountered during the activities, follow the Unexpected Threatened Species Finds Procedure (refer to CFFMP Annexure B) Report any nuisance, injured, sick or killed fauna to the Environment Coordinator and contact local wildlife carer (WIRES Wildlife Rescue 1300 094 737) Disposal of dam water to be carried out in accordance with the Farm Dam Dewatering Plan (CFFMP Annexure G) 	A4 (Low)	

			<ul style="list-style-type: none"> • Aquatic habitats to be managed in accordance with Guide 10 of the Transport for NSW Biodiversity Guidelines, and Section 3.3.2 – Policy and Guidelines for Fish Habitat Conservation and Management • During vegetation clearing, timber and root balls retained in accordance with Vegetation Management Plan (Clearing and Grubbing Plan) (CFFMP - Annexure E) 		
	Soil and water pollution	C4 (High)	<ul style="list-style-type: none"> • Implement ESCP prior to clearing and grubbing activities. • Survey of topsoil for contamination during topsoil stripping. • Place gravel or bound material on constructed access roads to limit sediment runoff and minimise dust generation. • Ensure all loads are covered when material are being hauled to and from site • Stockpiles will be located at least 5m from concentrated water flows and 50m from the top of bank of any watercourse or drainage line • Any areas of exposed ground caused by the works should be stabilised immediately after works in the area when construction activities complete. • Where available and applicable, captured stormwater, recycled water or other waste water sources shall be used in preference to potable water for construction (dust control, assist compactions). • Implementation of Construction Soil and Water Management Plan 	A4 (Low)	Engineers/ Superintendent/ Foreman

			<ul style="list-style-type: none"> Place gravel or bound material on constructed access roads to limit sediment runoff and minimise dust generation. Ensure all loads are covered when material are being hauled to and from site Any areas of exposed ground caused by the works should be stabilised immediately after works in the area when complete. All construction areas shall be inspected weekly, before and after rainfall (>10mm rainfall causing runoff), and prior to shut down periods. All soils transported off site to be identified and classified in accordance with the Spoil Management Plan, POEO Act, and Waste Classification Guidelines Soil conservation inspections shall occur monthly. Where available and applicable, captured stormwater, recycled wat or other waste water sources shall be used in preference to potable water for construction (dust control, assist compactions). 		
	Impacts from earthworks and stockpiling	C4 (High)	<ul style="list-style-type: none"> Implement dust suppression using water carts. Stockpiles will be located at least 5m from concentrated water flows and 50m from the top of bank of any watercourse or drainage line. Keep topsoil stockpile heights to no greater than 2m and slopes to no steeper than 2:1 Monitor works and stockpiles for unusual odours 	A4 (Low)	Engineers Foreman ESR

			<ul style="list-style-type: none"> • Install and maintain mud prevention controls at site exit points - rumble grids and/or wheel wash. • For stockpiles likely to be in place for greater than 30 days install large, clearly legible signs stating contents and date of stockpiling. Include on stockpile register. • Cover or otherwise protect from erosion within 10days of forming each stockpile. (Blue book requirement). • Progressively rehabilitate stockpile sites in accordance with Transport for NSW Specification R178 • Avoid locating stockpile weed contaminated topsoil or other contaminated materials adjacent to areas of native vegetation. 		
	Environmental damage due to poor waste management	D4 (High)	<ul style="list-style-type: none"> • Prior to removal from site all wastes, including contaminated wastes shall be classified in accordance with the <i>Waste Classification Guidelines: Part 1 Classifying Waste</i> • Hydrocarbon, chemical and waste storage areas included in weekly and post rainfall environmental inspections. • Ensure regular removal of waste and servicing of receptacles to prevent overflow or pollution. 	A4 (Low)	ESR Foreman

	Contamination impacts	C4 (High)	<ul style="list-style-type: none"> Daily prestart inspections of plant are to be conducted. Undertake maintenance when required to reduce risk of environmental incidents such as hydraulic spills and excess plant/ equipment noise. Vehicle washdown and concrete washouts to be carried out within designated sealed bunded areas and not within 50m from any drainage line (natural or built) or 100m from areas prone to flooding Store fuels, chemicals and liquids greater than 50 metres from waterways. Ensure storage areas /containers are bunded onsite to prevent accidental release. Storage, handling and use of dangerous goods and hazardous substances to be in accordance with Work Health and Safety Act 2011 and the Storage and Handling of Dangerous Goods Code of Practice (WorkCover NSW, 2005). No refuelling of plant is permitted within 50 metres of any waterway and is to be carried out on level ground. Refuelling and maintenance of plant and equipment undertaken in a designated bunded area where spill kits are available. Secure, bunded areas provided around storage areas for oils, fuels and other hazardous liquids. Material Safety Data Sheets (MSDS) be obtained for dangerous goods and hazardous substances stored onsite prior to their arrival. 	A4 (Low)	ESR/ Superintendent/ Foreman
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			<ul style="list-style-type: none"> Should potentially contaminated land, spoil or fill be encountered, cease work and develop an Unexpected Discovery of Contaminated Land Procedure. Work must not continue until the material has been identified. 		
	Reduced air quality as a result of construction activities (dust, air pollution from machinery etc)	C4 (High)	<ul style="list-style-type: none"> Dust deposition gauges installed 1 month prior to Construction. Visual inspections to be conducted daily during all works, ensuring excess dust is not generated, or leaving site. Where required, Construction activities modified, reduced or controlled during high wind or unfavourable conditions if there is the potential to increase off-site dust generation Impose slow speed limits around compound sites to limit the generation of dust from vehicle movements Compact, or seal, compound area surfaces to limit pollution from dust Ensure all loads are covered when material is being hauled to and from site 	A4 (Low)	ESR/Superintendent/Foreman
	Mud tracking	C4 (High)	<ul style="list-style-type: none"> Vehicles shall be kept to existing roads or designated tracks. Public road access points will be monitored for any mud-tracking onto public Roads. Manual cleaning will be carried out where appropriate. 		All Workers

			<ul style="list-style-type: none"> • Notify supervisor if mud tracking on public roads is observed and clean up immediately. • In the event of any spillage or tracking, the spilt material will be removed within 24 hours. 		
	Noise and Vibration	C4 (High)	<ul style="list-style-type: none"> • Works to be undertaken during standard Construction hours. • Where out of hours work is required, implement Out of Hours Work Procedure. • Ensure ongoing consultation with noise and vibration sensitive receivers affected by ancillary facilities • Noise and vibration monitoring to be conducted in accordance with Construction Noise and Vibration Monitoring Program • Site specific environmental controls to be implemented, including: - <ol style="list-style-type: none"> 1. Operation of heavy machinery to be scheduled during construction hours only (no operation of heavy machinery at night at ancillary facilities) 2. Vehicles arriving at ancillary facilities outside the standard hours of must not queue with idling engines 3. Consultation with identified potentially affected community, religious, educational institutions and residents as well as noise vibration sensitive businesses to identify periods during which they would be adversely affected by noise generating works. 	A4 (Low)	Engineers ESR/ Foreman

			4. Temporary noise mounds to be constructed when earthworks levelling works are necessary at ancillary facilities.		
	Known Heritage items (Aboriginal and Non-Aboriginal)	B4 (Moderate)	<ul style="list-style-type: none"> Maintain exclusion zones of known sites during Construction activities All site workers to be informed of known heritage items and controls through SAPs, site specific inductions, training and toolbox talks Where Aboriginal sites extend outside the Project boundary, temporary barrier fencing and signposting will be erected prior to Construction commencing in that area. If heritage sites are suspected or uncovered stop works immediately and notify the Environmental Site Representative. 	A4 (Low)	ESR/ Superintendent/Foreman
	Discovery of heritage items or human skeletal remains	B4 (Moderate)	<ul style="list-style-type: none"> If a suspected heritage item or human skeletal remain is found then stop work immediately and contact the Environmental Site Representative; Cease works in the vicinity, assess the significance of the items and determine appropriate mitigation measures (contact experienced archaeologist in consultation with NSW DP&E, NSW OEH and registered Aboriginal stakeholders) Isolate the heritage items and/or human skeletal remains (eg, bunting, temporary fence panels) 	A4 (Low)	ESR/ Superintendent/Foreman

			<ul style="list-style-type: none"> Transport for NSW's Unexpected Finds Protocol to be implemented where there are unexpected heritage finds and in the event of uncovering possible human skeletons Sensitive area maps (SAPs) updated to reflect the constraints relevant to the site establishment works. SAPs to be provided to all work crews as part of inductions / training and toolbox talks 		
	Unforeseen incident occurring	B4 (Moderate)	<ul style="list-style-type: none"> Stop works and control the incident if safe to do so (e.g. stop the leak or spill, protect any drainage inlets or nearby waterways) Contact the Environmental Site Representative (ESR) Incident to be managed, notified and investigated in accordance with Section 7 of the CEMP. 	A4 (Low)	All
	Rehabilitation not in accordance with the project requirements	B4 (Moderate)	<ul style="list-style-type: none"> Areas temporarily disturbed during construction to be rehabilitated as soon as feasible and reasonable following completion of Construction/operation of the ancillary facilities. Rehabilitation of native vegetation in accordance with Guide 3: Re-establishment of native vegetation of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA Projects 	A4 (Low)	ESR Foreman

Demobilisation & Rehabilitation	Contaminated land	B4 (Moderate)	<ul style="list-style-type: none"> If contaminated land is suspected at storage or workshop areas of the compound then the material is to be tested and disposed of at an appropriately licenced if found to be contaminated. 	A4 (Low)	ESR Foreman
Inspection and reporting	General	B4 (Moderate)	<ul style="list-style-type: none"> Site to be inspected weekly, before and after rainfall, and prior to shut down periods to ensure sediment and erosion controls are adequate. Weekly environmental inspections of stockpile areas. All soils transported off site to be identified and classified in accordance with the Spoil Management Plan, POEO Act, and Waste Classification Guidelines Erosion and sediment controls inspected weekly and post rainfall events (>10mm) Soil conservation inspections to occur monthly. 	A4 (Low)	Foreman ESR

Appendix B2

Early Works Flora and Fauna Management Sub-Plan

M12 Motorway – Temporary Roundabout on Elizabeth Drive, Badgerys
Creek



November 2021

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Document control

File Name	M12PPW-CPB-EDR-EN-PLN-00001_E_S3_EWFFMP
Title	M12 Motorway EW EMP Appendix B2 – Early Works Flora and Fauna Management Sub-plan M12 Motorway – Temporary Roundabout on Elizabeth Drive, Badgerys Creek
Document Number	M12PPW-CBP-EDR-EN-PLN-000001

Approval and authorisation

Plan reviewed by:	Plan reviewed by:
David Bone	Simon Lendrum
Associate Director – EMM Consulting	Environmental Site Representative – CPB Contractors
Date: 02/11/2021	Date: 02/11/2021
Signed 	Signed 

Revision history

Revision	Date	Description
A	12/08/2021	First draft for TfNSW review
B	26/09/2021	Second draft following TfNSW comments
C	30/09/2021	Third draft following changing document format and addressing TfNSW comments
D	29/10/2021	Fourth draft addressing TfNSW, ER and ESS comments
E	01/11/2021	Address ER comments

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Glossary/ Abbreviations

Abbreviations	Expanded text
AR	Amendment Report
ARSR	Amendment Report Submissions Report
BAR	Biodiversity Assessment Report
BC Act	<i>Biodiversity Conservation Act 2016</i>
BOS	Biodiversity Offset Strategy
CEMP	Construction Environmental Management Plan
Construction	Includes all activities required to construct the CSSI as described in the documents listed in Condition A1, including commissioning trials of equipment and temporary use of any part of the CSSI, but excluding Low Impact Work which is carried out to complete prior to the approval of the CEMP, works approved under a Site Establishment Management Plan, demolition of acquired residential houses, structures and sheds, and works specified in Appendix B and approved under an environmental management plan(s) in accordance with Condition A24.
CoA	Conditions of Approval
CSSI	Critical State Significant Infrastructure
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DECC	Former NSW Department of Environment and Climate Change
DECCW	Former NSW Department of Environment, Climate Change and Water
DPI	Department of Primary Industries
DPIE	NSW Department of Planning, Industry and Environment
Early Works	Works specified in Appendix B of the Development Consent which are required to be approved under an Early Works Environmental Management Plan required under Condition A24.
EEC	Endangered Ecological Community
EES	Environmental, Energy and Science (a part of NSW DPIE)
EIS	Environmental Impact Statement
EMS	Environmental Management Systems
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority

Abbreviations	Expanded text
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
ER	Environmental Representative
EWEMP	Early Works Environmental Management Plan
EWFFMP	Early Works Flora and Fauna Management Plan
EWMS	Environmental Work Method Statements
FM Act	<i>Fisheries Management Act 1994</i>
HCP	Habitat Compensation Plan
KFH	Key Fish Habitat
KTP	Key Threatening Process
NPW Act	<i>National Parks and Wildlife Act 1974</i>
OCS	Overarching Communication Strategy
OEH	NSW Office of Environment and Heritage, now Environment Energy and Science
PBFD	Psittacine beak and feather disease
PCT	Plant Community Type
Pesticide Act	<i>NSW Pesticides Act 1999</i>
PMST	Protected Matters Search Tool
POEO Act	<i>NSW Protection of the Environment Operations Act 1997</i>
Primary CoA/REMM	CoA or REMM that is specific to the development of this Plan
REMM	Revised Environmental Management Measures
RIAR Group	NSW Regions, Industry, Agriculture and Resources Group (a part of DPIE)
Roads and Maritime	NSW Roads and Maritime Services, now Transport for New South Wales
RTA	Roads & Traffic Authority. Former NSW Roads and Maritime Services. Now Transport for NSW
Secondary CoA/REMM	CoA or REMM that is related to, but not specific to, the development of this Plan
TEC	Threatened Ecological Communities
TfNSW	Transport for New South Wales

Abbreviations	Expanded text
TSC Act	<i>NSW Threatened Species Conservation Act 1995</i>
WSIA	Western Sydney International Airport
WSP	Western Sydney Parklands

1 Introduction

1.1 Context

This Early Works Flora and Fauna Management Sub-Plan (EWFFMP or Plan) forms part of the Early Works Environmental Management Plan (EWEMP) for the M12 Motorway (the Project) Temporary Roundabout on Elizabeth Drive, Badgerys Creek.

This EWFFMP has been prepared to address the requirements of the NSW Minister's Conditions of Approval (CoA), Commonwealth Conditions of Approval, the environmental management measures detailed in the M12 Motorway Environmental Impact Statement (EIS), Revised Environmental Management Measures (REMMs) detailed in the Amendment Report Submissions Report (ARSR), all applicable legislation and TfNSW Specifications.

TfNSW has engaged CPB Contractors to undertake the early works for the construction of the Temporary roundabout on Elizabeth Drive, Badgerys Creek.

1.2 Background and project description

Transport for New South Wales (TfNSW) is planning to construct and operate the M12 Motorway to provide direct access between the Western Sydney International Airport (WSIA) at Badgerys Creek and Sydney's motorway network. The M12 Motorway will run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for about 16 kilometres and is expected to be opened to traffic prior to opening of the Western Sydney International Airport.

1.3 Scope of the Plan

This Early Works Flora and Fauna Management Plan (EWFFMP) is related to the Early Works phase only. This includes all Early Works associated with temporary roundabout construction and establishment of Minor Ancillary Facilities in the works footprint on Elizabeth Drive. The Early Works footprint and the Minor Ancillary Facilities as described in the Early Works Environmental Management Plan (EWEMP), Figure 1-1 and Appendix B of the Minister's Conditions of Approval. The main Ancillary Facility to be used for the Early Works is located in the existing approved Northern Road Stage 5 compound C16. This compound is an approved ancillary facility for the M12 project and is known as AF10. No further clearing or vegetation disturbance is required to accommodate the use of this Ancillary Facility for both projects until completion of The Northern Road Stage 5 project. The use of AF10 is covered in more detail in the Early Works Site Establishment Management Plan.

Construction activities, as defined by the Infrastructure Approval for the Project are not within the scope of the EWEMP and Sub-plans (including this EWFFMP).



- KEY**
- West Package Construction Boundary
 - Indicative area of the temporary roundabout as illustrated in Figure 5 of the M12 Motorway Planning Approval
 - Proposed boundary adjustments subject to further approvals
 - Temporary roundabout design
 - Temporary barrier
 - Temporary site shed
 - Major road (refer to inset)
 - Waterbody
 - Cadastral boundary
 - Local government area (refer to inset)
 - Hollow-bearing tree
 - Plant community type
 - 849 | Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion
 - 850 | Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion
 - LEP-listed heritage
 - Item - General

Figure 1-1: Temporary Roundabout Construction on Elizabeth Drive - Early Works

1.4 Environmental Management System overview

The Environmental Management System (EMS) for the Early Works is described in Section 3 of the EWEMP. CPB Contractors has an EMS consistent with the overarching EMS.

This EWFFMP forms part of the environmental management framework for Early Works of the Project, as described in Section 3.3 of the EWEMP.

CPB Contractors will use existing procedures or develop detailed procedures and plans to address specific requirements of the Conditions of Approval (CoA) and REMMs identified in this EWFFMP. The purpose of these environmental management documents in regard to minimisation and management of impacts on flora and fauna associated with Early Works for the Project is outlined in Section 6 of this EWFFMP.

Management measures identified in this EWFFMP may also be incorporated into site or activity specific Environmental Work Method Statements (EWMS). EWMS incorporate appropriate mitigation measures and controls and identify key procedures to be used concurrently with the EWMS. Further detail on the EWMS preparation and approval process is provided in Section 3.3.2 of the EWEMP; a template EWMS for use by CPB is provided in Appendix A6 of the EWEMP.

EWMS will be prepared for:

- Early Works activities that impact on or are carried out in proximity to:
 - Threatened ecological communities including:
 - River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions (endangered)
 - Cumberland Plain Woodland in the Sydney Basin Bioregion (critically endangered)
 - Swamp oak floodplain forest of the NSW North Coast, Sydney Basin and South East Corner bioregions (endangered)
 - Identified areas of occupied and potential habitat for the Cumberland Plain Land Snail, Southern Myotis and Grey Headed Flying Fox
- Clearing and grubbing.

EWMS will be prepared by CPB Contractors and reviewed by the TfNSW Project Manager, TfNSW Environment and Sustainability Manager (or delegate) and the independent Environmental Representative (ER) prior to the commencement of the activities to which they apply. Early Works personnel undertaking a task governed by an EWMS will undertake the activity in accordance with the mitigation and management measures identified in the EWMS.

Used together, the EWEMP and Sub-plans, strategies, procedures and EWMS form management guides that clearly identify required environmental management actions for reference by TfNSW and CPB Contractors.

The review and document control processes for this EWFFMP are described in Section 6.4.2 and Section 6.6 of the EWEMP.

1.4.1 Preparation, endorsement and approval

This EWFFMP has been prepared to satisfy the NSW and Commonwealth CoA's in relation to flora and fauna management during Early Works of the Project.

This EWFFMP will be reviewed by the TfNSW Environment Manager and the Environment and Sustainability Manager (or delegate) and endorsed by the ER prior to submission to the Secretary

of DPIE for approval. This EWFFMP will be submitted for the approval of the Secretary no later than one month (or as agreed) prior to commencement of Early Works of the Project in accordance with NSW CoA A25.

In accordance with NSW CoA A24, Early Works will not commence prior to approval of the EWEMP and Sub-plans by the Secretary.

1.4.2 Interactions with other management plans and documents

This Plan has the following interrelationships with other management plans and documents:

- Pre-clearing and post clearing surveys will be undertaken in accordance with Section 6.1 of this EWFFMP
- Vegetation to be retained within Early Works worksites will be detailed on Sensitive Area Plans as detailed in the EWEMP
- Any fauna and /or flora management required for the establishment of ancillary facilities detailed in the Site Establishment Management Plan will be in accordance with this EWFFMP
- The EWEMP addresses the erosion and sedimentation impacts associated with vegetation clearing and also provides a framework for waste management
- Consultation between TfNSW and CPB Contractors, stakeholders, the community and relevant agencies will be undertaken in accordance with the Overarching Communication Strategy (OCS) prepared by TfNSW to address the requirements of NSW CoA B1 and B2
- CPB Contractors Work Health and Safety Management Plan will address the safety requirements associated with the use of herbicides and pesticides. Safety Data Sheets (SDS) and product labels will also be referenced prior to application of herbicides and pesticides. The Weed Management Procedure identifies all record keeping requirements associated with the use of herbicides and pesticides.

A Project Biodiversity Offset Strategy has been developed and is being implemented by TfNSW in accordance with NSW CoA E2-E7, and REMM B4 to compensate for the loss of threatened species and Endangered Ecological Communities (EEC), which will be removed as a result of Early Works and construction activities.

1.5 Consultation

1.5.1 Consultation during preparation

The NSW Environment, Energy and Science (EES) have been consulted with during the development of this EWFFMP, in accordance with NSW CoA A24(d):

In accordance with NSW CoA A5 (b), Table 1-1 provides a log of engagement or attempted engagement with EES.

Table 1-1: Log of engagement or attempted engagement with EES

Agency	Date	Person Contacted	Comment	Consultation Status
NSW Environment,	08.10.21	EES Representative	TfNSW emailed FFMP to EES requesting comment	Open

Agency	Date	Person Contacted	Comment	Consultation Status
Energy and Science	27.10.21	EES Representative	Responses received from EES	Open
	02.11.21	TfNSW Representative	Updated plan and response table emailed to EES to demonstrate how comments have been addressed.	Closed

In accordance with NSW CoA A5, the consolidated evidence of the consultation undertaken for the preparation of this plan is provided in Appendix A. Appendix A includes:

- Documentation of the engagement with the parties identified above that occurred prior to submitting the document to the Secretary for approval
- Documentation of the follow-up with the identified parties where engagement or feedback has not been provided to confirm that they have no feedback or have not attempted to engage or provide feedback after repeated requests
- An outline of the issues raised by the identified parties, a summary of how they have been addressed and a cross reference to the section or Sub-plan of the EWEMP where the issue has been addressed
- A description of the outstanding issues raised by the identified parties and the reasons why they have not been addressed.

1.5.2 Ongoing consultation during Early Works

Consultation between TfNSW and CPB Contractors, stakeholders, the community and relevant agencies regarding the management of flora and fauna within the Early Works area. The process for consultation is documented in the OCS. Consultation as detailed by the Infrastructure Approval is identified in Table 1-2. Consultation on re-use of materials will be including as part of the Materials Reuse Management Plan (Appendix H).

Table 1-2: Consultation Requirements

Reference	Description	Consultee	Responsibility
G36 4.8(f)(iii)	Consultation with the appropriate specialists to assess the significance of the unexpected flora/fauna find and development of management options	Technical specialists/ CPB Ecologist	CPB Contractors
NSW CoA E15 REMM B02	Potential reuse all removed native trees and vegetation including hollows, tree trunks, mulch, bush rock, root balls, coarse woody debris, collected plant material seeds and/or propagated plants	Council, Western Sydney Parklands, Landcare groups and relevant government agencies including NSW National Parks & Wildlife Service (Scheyville Office), Greater Sydney Local Land Services and DPI Fisheries.	CPB Contractors

2 Purpose and objectives

2.1 Purpose

The purpose of this Plan is to describe how Early Works impacts on flora and fauna will be minimised and managed during Early Works on the Project.

2.2 Objectives

The objective of the FFMP is to ensure that all avoidance, mitigation and management measures relevant to the protection of native flora and fauna including threatened species and Endangered Ecological Communities (EEC) referred to in:

- The Environmental Impact Statement (EIS), Response to Submissions, Amendment Report, and Amendment Report Submissions Report prepared for M12 Motorway
- NSW Conditions of Approval granted to the Project on 23 April 2021
- Commonwealth Conditions of Approval (CoA) to the Project on 3 June 2021
- TfNSW QA Specifications G36, G38, G40.

2.3 Targets

The following targets have been established for the management of flora and fauna impacts during Early Works for the Project:

- Ensure full compliance with the relevant legislative requirements, CoA and REMMs
- Ensure controls and procedures are implemented to avoid, minimise or manage potential adverse impacts to flora and fauna within and adjacent to the Early Works footprint
- No unapproved disturbance to flora and fauna outside the proposed Early Works footprint and associated access tracks and site compounds
- No increase in distribution of weeds currently existing within the Early Works footprint
- No new weeds introduced to the Early Works footprint
- No transfer of plant diseases or pathogens to or from the Early Works areas
- Effective rehabilitation / revegetation to ensure sites are stabilised prior to main construction works commencing
- All fauna species encountered are handled humanely in accordance with industry standards
- No pollution or siltation of aquatic ecosystems, wetlands, EEC or threatened species habitat
- Minimise barriers to fauna passage
- Ensure controls and procedures are implemented during Project activities to avoid, minimise or manage potential adverse impacts to flora and fauna within and adjacent to the Project corridor;
- Minimise the removal of vegetation and habitat, and ensure re-establishment of native vegetation and habitat following Early Works completion.

3 Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation

All legislation relevant to this EWFFMP is included in Appendix A1 of the EWEMP. Legislation considered during the development of this Plan includes:

- *Environmental Planning and Assessment Act 1979*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *National Parks and Wildlife Act 1974*
- *Biodiversity Conservation Act 2016 (Under Part 7 (Clause 27) of the Threatened Species Conservation Act (TSC Act))*¹
- *Biosecurity Act 2015*
- *Pesticides Act 1999*
- *Fisheries Management Act 1994*
- *Protection of the Environment Operations Act 1997.*

3.1.2 Additional approvals, licences, permits and requirements

Refer to Appendix A1 of the EWEMP. It is noted that the Environmental Protection Authority (EPA) has confirmed that an EPL is not required for Early Works; evidence of consultation is provided in Appendix A7 of the EWEMP.

3.1.3 Guidelines and standards

The main guidelines, specifications and policy documents relevant to this Plan include:

- Transport for NSW QA Specification G36 – Environmental Protection (Management System)
- Transport for NSW QA Specification G38 – Soil and Water Management
- Transport for NSW QA Specification G40 – Clearing and Grubbing
- Transport for NSW QA Specification R178 – Vegetation
- Transport for NSW Biodiversity Guidelines (September 2011)
- NSW Biodiversity Offsets Policy for Major Projects (OEHL, 2014b)
- Guide 4: Clearing Vegetation and Bush Rock of the Biodiversity Guidelines: Protecting and managing biodiversity on RMS projects.

¹ An application was granted on 5 April 2018 to save the Project under Part 7 (Clause 27) of the BC Act therefore, allowing it to be assessed under the TSC Act and in accordance with the NSW Biodiversity Offsets Policy for Major Projects (2014). This is underpinned by the *Framework for Biodiversity Assessment 2014* (FBA). Further detail can be found in Section 1.4 of the Biodiversity Assessment Report (BAR) for the Project.

- Department of Primary Industries 'Policy and Guidelines for Fish Habitat Conservation and Management (DPI 2013)
- Hygiene protocol for the control of disease in frogs (DECCW, 2008)
- Australian Standard AS 4373 Pruning of Amenity Trees
- Roads and Maritime Environmental Direction No.25 - Management of Tannins from Vegetation Mulch (Roads and Maritime, 2012)
- Wildlife Connectivity Guidelines for Road Projects (TfNSW, draft, November 2011)
- Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft (NSW Department of Environment and Conservation, 2004)
- Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna - Amphibians (NSW Department of Environment and Climate Change (DECC), 2009)
- Framework for Biodiversity Assessment (OEH, 2014)
- Policy and Guidelines for Fish Habitat Conservation and Management (NSW Department of Primary Industries (DPI), 2013)
- Policy and Guidelines for Fish Friendly Waterway Crossings (DPI, 2004)
- NSW Guide to Surveying Threatened Plants (OEH, 2016)
- Noxious and Environmental Weed Control Handbook, 4th Edition, NSW Industry & Investment Management Guide
- Australian Standard 4970 – 2009 Protection of Trees.

TfNSW specifications are a key source of environmental protection management processes relevant to this EWFFMP. The specifications set out environmental protection requirements, including Hold Points that must be complied with during Early Works. A Hold Point is a point beyond which a work process must not proceed without express written authorisation from TfNSW.

3.2 Ministers Conditions of Approval

The primary NSW CoA relevant to this Plan are listed in Table 3-1 below. A cross reference is also included to indicate where the condition is addressed in this Plan or other project management documents. Where relevant, secondary conditions relevant to this Plan have been listed in Appendix B. It is noted that no Primary Revised Environmental Management Measures (REMMs) have been identified as requiring inclusion into this EWFFMP.

Table 3-1: Primary Conditions of Approval

CoA No.	Condition Requirements	Document Reference
A24	Before undertaking Early Works specified in Appendix B, the Proponent must prepare an Early Works Environmental Management Plan. The Plan must include:	This EWFFMP
	(d) a flora and fauna management sub-plan (prepared in consultation with the EES) which includes	This EWFFMP Section 1.5.1 Appendix A
	(i) details of the measures to avoid and minimise disturbance to native vegetation, and other habitat of native flora and fauna species	Section 6
	(ii) details of the proposed management and mitigation measures for the affected species listed in Table 3	Section 6.1 Appendix C (Section 2.2.2)
	(iii) procedures for undertaking pre-clearing surveys for native fauna, including surveys by a suitably qualified and experienced ecologist to determine the presence of native fauna in the area impacted by the Early Works, and procedures and measures to manage their relocation, and	Section 6.1
		Section 6.1
		Section 6.6 Section 6.7
	(iv) unexpected finds protocol for flora and fauna;	Section 6.6 Appendix D

3.3 EPBC Conditions of Approval

The primary Commonwealth CoA relevant to this Plan are listed in Table 3-2 below. A cross reference is also included to indicate where the condition is addressed in this Plan or other project management documents.

Table 3-2: Commonwealth CoA

CoA No.	Condition Requirements	Document Reference
1	The approval holder must not clear in the locations identified in condition E8 of the State Infrastructure approval, until it has completed the additional surveys and provided the results to the Department as required by condition E8 of the State Infrastructure approval.	Section 4.1.2
3	The approval holder must not clear protected matters outside the final construction footprint.	Section 5.2.1
4	To minimise the impacts of the action on protected matters the approval holder must not clear more than the following specified amounts, or another specified amount determined in consultation with the Department in accordance with condition E4 of the State Infrastructure approval within the final construction footprint:	Section 5.2.1
4(a)	42.89 hectares of known Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest threatened ecological community;	Section 5.2.1
4(b)	0.44 hectares of known Western Sydney Dry Rainforest and Moist Woodland on Shale threatened ecological community;	Section 5.2.1
4(c)	100 known <i>Pultenaea parviflora</i> individuals;	Section 5.2.1
4(d)	The number of <i>Pimelea spicata</i> individuals identified in the additional surveys required by condition E8 of the State Infrastructure approval;	Section 5.2.1
4(e)	62.71 hectares of known foraging habitat for Grey-headed Flying Fox (<i>Pteropus poliocephalus</i>);	Section 5.2.1
4(f)	80.21 hectares of known foraging habitat for Swift Parrot (<i>Lathamus discolor</i>).	Section 5.2.1

3.4 TfNSW QA Specification G36

The primary TfNSW QA Specification requirements relevant to the development of this Plan are listed in Table 3-3. It is noted that the requirements from G40 are included within Appendix B.

Table 3-3: TfNSW QA Specification G36 requirements relevant to the development of this Plan

G36 Ref	Condition Requirements	Document Reference
4.8 Biodiversity	Implement all requirements outlined in the provided Flora and Fauna Management Sub-Plan to provide effective environmental controls to protect all native flora and fauna from the impact of your construction activities. The Flora and Fauna Management Sub-plan or mitigation strategies must include, as a minimum, the following:	This EWFFMP
	(a) Provisions for compliance with statutory requirements applicable to flora, fauna and fish management, in <i>National Parks and Wildlife Act 1974</i> (NSW), <i>Biodiversity Conservation Act 2016</i> (NSW), <i>Environmental Planning and Assessment Act 1979</i> (NSW), <i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth), <i>Fisheries Management Act 1994</i> (NSW) and <i>Biosecurity Act 2015</i> (NSW).	Section 6 Table 6-2
	(b) Fauna and flora management strategies for pre-construction, construction and post-construction activities including environmental control measures for pre-clearing process.	Section 6 Table 6-2
	(c) Fauna rescue and release procedure.	Section 6.7 Appendix F
	Handling of fauna must be carried out by licensed fauna handler such as a fauna ecologist. Twenty-four hours prior to clearing, licensed fauna handlers must capture and/or remove fauna that have the potential to be disturbed as a result of clearing. If native fauna are captured during vegetation clearing, they must be released into a predetermined suitable nearby location that has been identified as such by an ecologist and at time of day appropriate for release of the species. Keep records of fauna captured and relocated.	Section 6.7 Table 6-2 Appendix F
	Report any injury or death of threatened species to the Principal. The fauna rescue and release procedure must include management measures for aquatic fauna and fish.	Section 6.7

G36 Ref	Condition Requirements	Document Reference
		Section 7.6
	Additional fauna management measures include: (i) locations for fauna release would be in appropriate habitat determined prior to commencement of clearing/ dewatering of farm dams; and	Section 6.7 Table 6-2
	(ii) provision for temporary fencing to reduce potential from road kill/injury, as required.	Section 6.2 Table 6-2
	(d) Procedure for controlling the introduction and spreading of weeds, diseases and pests (termed “biosecurity matter” under the <i>Biosecurity Act 2015</i> (NSW)) caused by the Work Under the Contract, including hygiene protocols and the arrangements for monitoring.	Section 6.5 Appendix E
	(e) Proposed strategies for re-use of coarse woody debris, logs, mulch, root balls and bushrock (refer also (n) below) including, but not limited to:	Section 6.3
	(i) relocation instream of all large woody debris or snags existing in waterways;	Section 6.3
	(ii) determining position and relocation areas based on advice from your Ecologist; and	
	(iii) undertaking transport of woody debris and/or bushrock in a manner to minimise damage/ disturbance.	
	(f) Procedure for dealing with unexpected threatened species finds that may be discovered when undertaking Physical Work on Site. The procedure must include, as a minimum, the following:	Appendix D
	(i) stop work arrangements in the immediate area of the threatened species;	
	(ii) notification and communication protocol;	

G36 Ref	Condition Requirements	Document Reference
	(iii) consultation with the appropriate specialists to assess the significance of the find and development management options;	
	(iv) a notification process for DPIE and DAWE; and.	
	(iv) a list of approvals, licences or permits that may need to be obtained before the works can recommence.	Section 3.1
	(g) Updated sensitive aerial vegetation maps based on clearance surveys and previous survey work;	Table 6-2
	(h) Exclusion zones and fencing or other means to demarcate vegetation to be retained (endangered ecological communities) in close proximity to the work under contract including:	Section 6.3 Appendix C
	(i) identifying exclusion zones on sensitive area mapping, mapped out by a qualified surveyor and flagged in accordance with flagging protocol in Specification TfNSW G40;	Section 6.2
	(ii) installing environmental protection area signage on exclusion zone fencing at regular intervals agreed to by the Principal; and	
	(iii) only removing fencing following agreement by the Principal.	
	(i) Mechanism for the monitoring, review and amendment of this Sub-Plan;	Section 8
	(j) Management of aquatic habitat in accordance with Guide 10 of the Biodiversity Guidelines and Section 3.3.2 of the Policy and Guidelines for Fish Habitat Conservation and Management Update (Department of Primary Industries, 2013) including:	Section 6.4 N/A to this Plan
	(k) Pre-clearing survey for fauna including Cumberland Plain Land Snail and grey headed flying fox in identified habitat areas by an appropriately qualified Ecologist.	Section 6.1
	(l) Prepare and implement a Reuse Strategy including:	Section 6.10

G36 Ref	Condition Requirements	Document Reference
	(i) consideration of the re-use of hollows, tree trunks, root balls, bush rock, mulch on and off Site; and	Table 6-2 Appendix H
	(ii) an expression of interest process with Western Sydney Parklands Trust, Local Councils, Landcare groups and relevant Government agencies for the supply of hollows, tree trunks, root balls, mulch, bush rock, prior to clearing commencement;	Section 1.5
	(m) Process to ensure all requirements of <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (NSW Roads and Traffic Authority, 2011) are met.	This EWFFMP
	Prepare and include an EWMS, within the Clearing and Grubbing Plan that meets the requirements of Specification TfNSW G40 and TfNSW publication “Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects”, in the Flora and Fauna Management Sub-plan.	Appendix G
	Refer to, and comply with, the TfNSW Biodiversity Guidelines and be consistent with the EWEMP when implementing the Flora and Fauna Management Sub-plan.	Section 3.1
	Preserve existing trees, plants, and other vegetation that are to remain within or adjacent to the Site and use every precaution necessary to prevent damage or injury thereto. Identify and protect areas of vegetation to be retained showing them as exclusion zones in accordance with the TfNSW Biodiversity Guidelines.	Section 6.2

G36 Ref	Condition Requirements	Document Reference
		N/A to this Plan
	(k) Pre-clearing survey for fauna including Cumberland Plain Land Snail and grey headed flying fox in identified habitat areas by an appropriately qualified Ecologist.	Section 6.1
	(l) Prepare and implement a Reuse Strategy including:	Section 6.10
	(i) consideration of the re-use of hollows, tree trunks, root balls, bush rock, mulch on and off Site; and	Table 6-2 Appendix H
	(ii) an expression of interest process with Western Sydney Parklands Trust, Local Councils, Landcare groups and relevant Government agencies for the supply of hollows, tree trunks, root balls, mulch, bush rock, prior to clearing commencement;	Section 1.5
	(m) Process to ensure all requirements of <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (NSW Roads and Traffic Authority, 2011) are met.	This EWFFMP
	Prepare and include an EWMS, within the Clearing and Grubbing Plan that meets the requirements of Specification TfNSW G40 and TfNSW publication “Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects”, in the Flora and Fauna Management Sub-plan.	Appendix G
	Refer to, and comply with, the TfNSW Biodiversity Guidelines and be consistent with the EWEMP when implementing the Flora and Fauna Management Sub-plan.	Section 3.1
	Preserve existing trees, plants, and other vegetation that are to remain within or adjacent to the Site and use every precaution necessary to prevent damage or injury thereto. Identify and protect areas of vegetation to be retained showing them as exclusion zones in accordance with the TfNSW Biodiversity Guidelines.	Section 6.2

4 Existing Environment

The key reference documents are M12 Motorway Section 6.2 of the Submissions Report to the Amendment Report Submissions Report (ARSR), Section 6.1 and Appendix A of the M12 Motorway Amendment Report (AR), Section 7.1 and Appendix E of the M12 Motorway EIS.

The Early Works boundary and relevant ecological data is shown on the Sensitive Area Plans included in Appendix A4 of the EWEMP.

Key components of the EIS Biodiversity Assessment Report methodology included:

- Desktop review of:
 - NSW BioNet Species Sightings data collection, managed by the EES
 - Protected Matters Search Tool, managed by DAWE
 - BioNet Vegetation Classification data collection managed by EES
 - BioNet Threatened Species data collection, managed by EES
 - NSW WeedWise, managed by DPI
 - RIAR Spatial Data Portal
 - Other relevant environmental and strategic planning documents.
- Undertaking a likelihood of occurrence assessment involving determining the likelihood of a particular species occurring within the Project boundary. A likelihood ranking was assigned to species, including 'recorded', 'high', 'moderate', 'low' and 'none'. The likelihood of occurrence assessment was used to guide and inform the field surveys carried out for the Project
- Field surveys to identify the biodiversity values within the study area in accordance with requirements of the Framework for Biodiversity Assessment, including:
 - Vegetation surveys over 13 days between May and November 2017, August and September 2018 and in February 2019
 - Targeted flora surveys over 16 days during October, November 2017 and August 2018
 - Terrestrial fauna habitat assessments at 43 sites across the study area
 - Targeted fauna surveys for species with a moderate to high likelihood of occurrence carried out over 34 days between May 2017 and October 2018
 - Aquatic habitat assessments carried out on 18 and 19 June 2018 and 11 March 2019 at 14 waterway locations across the study area
 - Three additional days of field survey between 16 January and 29 January 2020 for the amended construction footprint.
- Identification and assessment of likely impacts on biodiversity arising from the Project
- Mitigation measures for avoiding, managing or reducing impacts on biodiversity values during detailed design, construction and operation
- Identification of any residual impacts that cannot be avoided, minimised or mitigated which must be offset.

The following sections summarise existing flora and fauna within the Early Works footprint area including species, communities and habitats. The Early Works location is shown in Figure 1-1 in Section 1.3 of this EWFFMP.

4.1 Environmental aspects

4.1.1 Threatened ecological communities

Six Threatened Ecological Communities (TECs) listed under the BC Act were identified in Section 7.1 of the EIS. The Early Works footprint only contains one of the six TECs, which is listed below:

- Cumberland Plain Woodland in the Sydney Basin Bioregion (critically endangered)

The area of impact for Early Works is detailed within Table 5-1.

No Commonwealth listed TECs have been identified within the Early Works footprint.

The location of the TEC in relation to the Early Works are depicted in Figure 1-1 and in the Sensitive Area Plans (SAPs) included at Appendix A4 of the EWEMP.

4.1.2 Threatened or otherwise significant flora species

Two threatened flora species were identified in Section 7.1 of the EIS in the M12 Project Corridor. As defined in the Infrastructure Approval A24 (d)(ii) Table 3 (Table 4-1), threatened flora species management and mitigation measures must be detailed.

Table 4-1: Table 3 extracted from Infrastructure Approval E3

Name	Loss of habitat or individuals
<i>Dillwynia tenuifolia</i>	244 individuals
<i>Pultenaea parviflora</i> (Sydney Bush-pea)	Up to 100 individuals

These threatened flora species have not been identified within the Early Works footprint, as such no specific measures have been included within this EWFFMP.

The location of flora species in relation to the Early Works is shown in Figure 1-1.

It is noted that additional surveys of *Pimelea spicata* (Spiked Rice-flower) has been undertaken in its potential habitat within the refined construction footprint to the north of Elizabeth Drive and west of the existing Wallgrove Road as identified in Figure 6-5 of the ARSR in accordance with NSW CoA E8 and E9. Although this is not located within the scope of the Early Works described within this EWFFMP, it is noted that *Pimelea spicata* was not recorded during the surveys.

4.1.3 Fauna habitat

Vegetation communities within the study area were consolidated into four broader fauna habitat types based on general similarities in vegetation type, geology, landscape setting, habitat connectivity and fauna habitat values. Habitat types are located within or adjacent to the Early Works footprint as described in Table 4-2. In total, two (2) additional hollow bearing trees have been identified within the Early Works footprint of the Elizabeth Drive Temporary Roundabout. Further assessment of the hollow-bearing trees will be undertaken by the Project Ecologist during pre-clearing surveys.

Table 4-2: Fauna habitat types

Name	Habitat features
Woodland	<p>Dense understorey grasses, coarse woody debris and leaf litter provide shelter habitat for small terrestrial amphibians and reptiles.</p> <p>Large living or dead hollow-bearing trees are relatively scarce. Canopy trees in woodland habitat provide blossom resources for common nectivorous birds, small gliders and flying-foxes.</p>
Grassland	<p>This habitat is comprised almost entirely of land cleared of native forest or woodland for grazing, cropping and more recently for residential and industrial development.</p> <p>Large, scattered paddock trees and stags occur within grassland habitat in some sections of the Early Works footprint, some supporting small, medium and large hollows.</p> <p>Hollows within the grasslands of the Early Works footprint are likely to provide roosting habitat for common, adaptable microbats and were observed to provide nesting habitat for bird species including Little Corella, Long-billed Corella, Eastern Rosella and Red-rumped Parrot. Native fauna most frequently recorded from grassland habitat during surveys were highly adaptable species typically associated with cleared landscapes.</p>

4.1.4 Threatened fauna

Threatened fauna species identified during survey (confirmed) and those which have been previously recorded in the M12 Project Corridor are detailed in Section 7.1 of the EIS. No threatened fauna species were identified within the Elizabeth Drive Early Works footprint. One species, Southern Myotis, has been identified approximately 1.5 km to the east of the site (Table 4-3).

Table 4-3: Threatened fauna

Common name	Scientific name	EPBC Act	BC Act	Occurrence likelihood
Southern Myotis (breeding)	<i>Myotis macropus</i>		Vulnerable	Moderate Potential breeding habitat recorded 1.5km east of the site

The Southern Myotis is identified within Table 3 of the Infrastructure Approval and therefore requires details of specific proposed management and mitigation measures in accordance with NSW CoA A24(d)(ii). This is further detailed in Section 5.2.4, Section 6.11 and Appendix C.

It is noted in the EIS that the Cumberland Plain Land Snail was not recorded within the study area during surveys but were recorded 135 m from the study area during surveys for a separate project in October 2018. Given no connectivity or habitat, the Cumberland Plain Land Snail is assumed to not be present within the study area. However, pre-clearance surveys will be undertaken in accordance with Management Measure ID FF6 and Appendix C.

Grey-headed Flying-fox foraging habitat associated with Cumberland Plain Woodland, has also been identified during surveys undertaken for the Environmental Assessment. It is noted that no camps (roosting, breeding) were identified in the EIS study corridor.

However, at that time, the closest Grey-headed Flying-fox was in Wetherill Park, about 7 km away. This camp has since disbanded (recorded Aug 2020, as per DAWE National Flying-fox Monitoring Viewer, accessed 17 June <https://www.environment.gov.au/webgis-framework/apps/ffc-wide/ffc-wide.jsf>),). The closest camps are now either in Clyde or Parramatta Park, more than 12 km from the M12 Motorway site. As such, the Grey-headed Flying Fox will only potentially be using the site from dusk to dawn for foraging, so it is unlikely to be directly impacted by clearing during standard hours.

4.1.5 Aquatic habitat

Aquatic habitat values for each waterway adjacent to the Early Works footprint are shown in Table 4-4. There are no watercourses within the Early Works footprint. An unnamed ephemeral watercourse is located approximately 250 metres to the west of the Early Works footprint and Badgerys Creek which has been identified as Key Fish Habitat is located approximately 1.3 kilometres to the east of the site.

These waterways will not be impacted by the Early Works, therefore, no threatened fish species are anticipated to occur within the Early Works footprint.

Table 4-4: Aquatic habitat values for each waterway within the Early Works footprint

Waterway	Stream order	Waterway class (Fairfull and Witheridge)	Key fish habitat (DPI Fisheries)	Sensitive receiving environment
Unnamed tributary of Badgerys Creek	3 rd	4 – unlikely fish habitat	Not mapped as KFH	No
Badgerys Creek	4 th	2 – moderate fish habitat	KFH (Class 2) - moderately sensitive key fish habitat. The creek is also currently mapped by DPI as key fish habitat (DPI, 2018).	Yes

4.1.6 Listed migratory species

The Protected Matters Search Tool (PMST) report identified 16 listed migratory species with the potential to occur within 10 kilometres of the M12 construction boundary. Preliminary desktop assessments identified eight of the 16 species to have a moderate likelihood of occurrence and eight to have a low likelihood of occurrence in the M12 construction boundary. Subsequent habitat assessments and field surveys assessed that all 16 species have a low likelihood of occurrence in the M12 construction boundary.

4.2 Matters of National Environmental Significance

4.2.1 Threatened species and ecological communities

No EPBC Act TECs or listed fauna species, the Grey-headed Flying-fox (*Pteropus poliocephalus*), is listed as Vulnerable, were recorded foraging within the EIS study area. Grey-headed Flying-fox habitat is located within the extent of the Elizabeth Drive works.

4.2.2 Migratory species

The Early Works footprint does not contain any areas of important habitat for any of the listed migratory species.

4.2.3 Wetlands of international importance

There are no wetlands of international importance within 10 kilometres of the Early Works footprint.

4.2.4 World and natural heritage

There is one world heritage location within 10 kilometres of the Early Works footprint. The Greater Blue Mountains Area is located approximately seven kilometres from the western most point of the Early Works footprint. It is highly unlikely that this area will be impacted by the Early Works.

4.2.5 National heritage

There is one national heritage location within 10 kilometres of the Early Works footprint. The Greater Blue Mountains Area is located approximately seven kilometres from the western most point of the Early Works footprint. It is highly unlikely that this area will be impacted by the Early Works.

5 Environmental aspects and impacts

5.1 Early Works activities

Key aspects of Early Works that could result in impacts to terrestrial and aquatic flora and fauna include:

- Clearing of native vegetation (including habitat)
- Noise, vibration and light impacts
- General earthworks near vegetation, resulting in disturbance of soils, consequential erosion and the mobilisation of sediment
- Establishment of ancillary facilities
- Vehicle movements
- Excavation works
- Drainage works
- Use of chemicals / fuels (potential for spills).

5.2 Ecological impacts

Early Works of the Project will or may result in potential direct and indirect impacts to biodiversity, including:

- Loss of native vegetation, including TEC
- Loss of fauna habitat
- Direct and indirect impacts to terrestrial fauna, including threatened species
- Direct injury and mortality of fauna (including vehicle strike)
- Edge effects on adjacent native vegetation and habitat

- Fragmentation of habitats and wildlife corridors
- Invasion and spread of weeds and pests
- Invasion and spread of pathogens and disease
- Noise, vibration, dust, light and contaminants
- Cumulative impacts in association with nearby projects.

The aim of the environmental management measures provided in Section 6 is to minimise the potential impacts on flora and fauna for Early Works.

5.2.1 Clearing of native vegetation

Clearing of native vegetation for Early Works will be in accordance with the impacts identified, assessed and approved in the EIS, revised in the addendum report to ARSR.

Approximately 0.54 ha of vegetation will be removed from the Elizabeth Drive footprint.

The potential area of loss of vegetation and habitat due to Early Works of the Project is summarised in Table 5-1.

Table 5-1: Approved area of impact to native vegetation

Plant community type (PCT)	Status (BC Act) and corresponding TEC	Area directly impacted by Early Works footprint (ha)
Grey Box - Forest Red Gum grassy woodland on shale of the Cumberland Plain, Sydney Basin Bioregion	Critically endangered - Cumberland Plain Woodland in the Sydney Basin Bioregion	0.54
Total		0.54

Removal of threatened plants

There will be no direct impacts associated with threatened plants and Early Works areas. In the event that additional individual plants of listed species or populations are discovered during Pre-works surveys or during Early Works, the Unexpected Threatened Species or EEC Finds Procedure will be followed (refer Appendix D). The procedure includes provisions for implementing exclusion zones to ensure plants are protected during clearing activities and Early Works.

Removal of threatened fauna species habitat and habitat features

Clearing for Early Works will have indirect impacts on fauna due to removal of foraging and/or breeding habitat. Clearing of native vegetation will also remove approximately 0.54 ha of Woodland habitat for the Grey-headed Flying-fox (potential foraging habitat only).

5.2.2 Impacts to aquatic biodiversity

Direct impacts to aquatic biodiversity are not expected as no works will be undertaken within waterways. Notwithstanding, potential indirect impacts associated with erosion and sedimentation may occur. This will be managed through the implementation of erosion and sediment control measures as detailed in Appendix A8 of the EWEMP.

5.2.3 Habitat fragmentation

Early Works associated with the Project have the potential to impact habitat corridors as follows:

- Reduce the area of vegetation comprising habitat corridors

- Reduce the width of habitat corridors
- Increase the width of existing gaps in habitat corridors
- Create new gaps in habitat corridors
- Introduce or move edge effects in corridors.

5.2.4 Injury and mortality of fauna

The primary cause of potential fauna injury and mortality during the Early Works stage of the Project will be vegetation clearing prior to Early Works. Specific measures to undertake clearing for potential Southern Myotis habitat is detailed in Section 6.11 and Appendix C.

5.2.5 Invasion of spread of weeds and pests

Large areas of the Early Works footprint have a high abundance of exotic species. Typically, weed invasion and spread is an indirect impact of projects that is often generated by clearing vegetation and movement of plant. Other Early Works activities, including earthworks and movement of soil associated with the Early Works can also result in the dispersal and introduction of weeds.

A total of 14 introduced vertebrate fauna species were recorded within the M12 Project Corridor during surveys. In addition to the 14 exotic fauna species, two additional native species recorded within the M12 Project Corridor, Noisy Miner (*Manorina melanocephala*) and Bell Miner (*Manorina melanophrys*), are also considered pest species.

Early Works activities (e.g. vegetation clearing, habitat removal, increased noise and human presence) have the potential to disperse pest species across the surrounding landscape and increase the ability of such species to utilise habitats during construction and operation phases due to vegetation clearing, habitat removal, increased noise and human presence. While the pest species listed above are likely to capitalise on the disturbance associated with Early Works and development activities, the Early Works are unlikely to significantly increase the overall impact of pest species within the Early Works footprint.

The aggressive exclusion of birds from potential woodland and forest habitat by over-abundant Noisy Miners was listed as a Key Threatening Process (KTP) under the EPBC Act. As Early Works activities will increase fragmentation in the Early Works footprint, it is possible that the Early Works will increase the abundance of Noisy Miner in the Early Works footprint and exacerbate this KTP.

Within the Early Works footprint, there is also evidence of Bell Miner Associated Dieback (BMAD). This is caused by an overabundance of psyllids (sap-sucking insects that create a sugary excretion known as a lerp) in conjunction with Bell Miners (who feed on both the psyllids and lerp). As the Early Works will result in further vegetation clearing and localised fragmentation, it could increase the prevalence and severity of BMAD in the locality.

5.2.6 Invasion and spread of pathogens and disease

Early Works has the potential to increase the spread of pathogens that threaten native biodiversity values. Pathogens specific to the project include:

- Soil-borne pathogen *Phytophthora cinnamomi* (Phytophthora)
- *Austropuccinia psidii* which causes the disease Myrtle rust
- *Batrachochytrium dendrobatidis* (Chytrid fungus)
- Psittacine beak and feather disease (PBFD).

All four of these pathogens are listed as KTPs under the BC Act. Early Works may increase the risk of dispersal of *Phytophthora* and Myrtle rust, from soil disturbance and plant movement during Work. Chytrid fungus causes the infectious disease Chytridiomycosis (amphibian chytrid fungus disease) which affects amphibians. As no significant populations of amphibians were identified in the EIS studies within the Early Works footprint, chytrid fungus is therefore considered unlikely to have a significant impact on native species or their habitats within the Early Works footprint.

As there are no significant populations of parrot species identified as likely to occur within the Early Works footprint, PBFID is unlikely to have a major impact on native species or their habitats within the Early Works footprint.

5.2.7 Water pollution

There is potential for sedimentation and spills to affect water quality in the waterways during Early Works which could also affect native fish and frogs, including downstream of the Early Works footprint.

Water pollution may also result from hydrocarbon leaks or spills from vehicles or equipment used during work adjacent to waterways.

5.2.8 Noise, vibration, dust, light and contaminants

Impacts from noise and vibration are likely to be localised to the Early Works footprint, existing roads and new roads. Construction noise is likely to create short term impacts on fauna, however remaining vegetation will provide refuges for fauna to retreat to, and impacts will be reduced after the Early Works. These impacts are not considered to have a significant, long-term impact on fauna, including threatened fauna.

During night-time works there will be an increase in artificial lighting within the Early Works footprint and surrounds. As such, the Early Works may potentially affect nocturnal fauna by interrupting their life cycle or impacting on species that can be more vulnerable to predation (e.g. some small mammals).

Dust emitted during earthworks, vegetation clearing and due to vehicle movements may deposit on plant foliage, however the impact of dust pollution is likely to be localised, intermittent, and temporary in nature.

Adverse impacts to flora and fauna due to accidental release of contaminants to the environment may occur.

5.2.9 Bushfire

Bushfire is an established natural hazard within this landscape and can occur in south-western Sydney frequently during the summer months. Prolonged dry conditions, hot temperatures, and low humidity during spring, summer and early autumn are experienced regularly at the Early Works site. Along with wind, these climate features contribute significantly to the behaviour of a fire.

A bushfire hazard exists where there is fuel in the form of vegetation, including grass, scrub, bushes and trees. Early Work activities have the potential to generate bushfire risk as a result of activities likely to generate sparks occurring on site. Activities identified as likely to generate sparks include:

- Smoking
- Plant Maintenance
- Driving on site

- Hot works
- Spontaneous combustion of mulch stockpiles.

6 Environmental mitigation and management measures

6.1 Pre-clearing process

Pre-clearing processes will be carried out in accordance with Guide 1 of the *Biodiversity Guidelines* (RTA, 2011).

A work specific Procedure for Vegetation Clearing for the Early Works (refer to Appendix C) has been prepared in accordance with the requirements of Guide 1 the *Biodiversity Guidelines* (RTA, 2011) and TfNSW specifications. The purpose of the Procedure is to:

- Outline environmental control measures to minimise clearing of vegetation
- Identify management measures to minimise impacts on biodiversity and the surrounding environment
- Provide a framework for the management of vegetation to be retained or removed
- Outline steps for the minimisation of loss of habitat and harm to associated fauna.

The Procedure includes, but not be limited to:

- Flora and fauna management strategies for pre-clearing, clearing and post-clearing construction activities including environmental control measures
- Pre-clearing survey form
- Delineation methods for clearing
- Measures to minimise clearing of native vegetation
- Measure to protect vegetation and habitat during clearing activities
- Retained timber, bush rock and root ball management procedure, including a process for consulting with community groups, Council and relevant government agencies to determine if retained timber and root balls could be used for environmental rehabilitation projects before pursuing other disposal options
- Specific procedures to protect threatened flora and fauna species and populations (where required), including:
 - Southern Myotis
 - Grey-headed Flying-fox
 - Cumberland Plain Land Snail.
- Specific reporting requirements associated with additional survey work and control of clearing activities
- Outline steps to inspect the site for potential fauna habitat features including vegetation, leaf litter, and existing culverts; including the requirement to prepare a Relocation Plan should threatened fauna be identified.

A work-specific Clearing and Grubbing Plan (Appendix G) has been prepared in accordance with TfNSW Specification G40 which includes, but not be limited to, the following information:

- Methods used to identify and mark areas of weeds to be removed and methods for their removal
- Procedure for the disposal of weeds and exotics

- Procedure for protecting threatened flora species and trees marked for preservation
- Methods used for identifying, marking and removing or pruning unsound trees likely to fall upon the roadway or onto private property
- Procedure for identifying and removing trees, stumps and logs above the specified size and within the hazard line.

Furthermore, a site specific Clearing and Grubbing EWMS has been prepared in accordance with TfNSW Specification G36 within the Clearing and Grubbing Plan, as required.

The pre-clearing process will include a pre-clearing survey which will identify the quantity, quality and size of the tree hollows to be removed and the hollow-dependent fauna species inhabiting the area. The survey will identify habitat trees to be felled in a staged approach.

An inventory of hollow bearing trees will be developed as part of the pre-clearing surveys to inform the Habitat Compensation Plan (HCP) (HCP required during construction under REMM B02). The inventory will include details of the location of each hollow bearing tree and their characteristics such as species, height and diameter at breast height (DBH), number of hollows on the tree, their position and size.

Fauna identified using hollows during surveys will further inform the HCP.

6.1.1 Pre-work surveys

The results of pre-clearing surveys will be provided to TfNSW for the update of SAP and in the consideration of updating offset obligations where required.

6.1.2 Post-Clearing Report

At the completion of clearing, the Early Works Ecologist will complete post-clearing surveys and prepare a Post-Clearing Report. The report will confirm the final area cleared, the number and identity of all vegetation removed, and specifically, the post-clearance abundance and density count of hollow-bearing trees. The Post-Clearing Report will also identify if any fauna, nests or other fauna habitats were impacted by clearing works and provide fauna capture and relocation data. Further details regarding responsibilities, timing and other requirements for preparation of Post-Clearing Reports is provided in Section 7.1 and Appendix C of this EWFFMP.

The Vegetation Clearing Procedures have been reviewed by TfNSW for consistency with the requirements of this EWFFMP and the CoA.

6.2 Exclusion zones

CPB will install exclusion zones and fencing or other means to demarcate vegetation to be retained will be installed prior to clearing. Exclusion zones will be set up at the limit of clearing in accordance with *Biodiversity Guidelines* (RTA, 2011) (Guide 2: Exclusion zones). Exclusion zones will be mapped out by a qualified surveyor in accordance with the Flagging Protocol in Section 2.2.6 of the Vegetation Clearing Procedure (Appendix C) and TfNSW Specification.

Environmental protection area signage will be placed on exclusion zone fencing at regular intervals. The fencing will only be removed after clearing and grubbing has been completed and following agreement by the TfNSW Environment and Sustainability (or delegate). The exclusion zones will also be clearly illustrated on SAPs.

6.3 Coarse woody debris and snags

Woody debris and snags (branches, trunks and whole trees that fall into rivers and streams) provide important habitat for aquatic and terrestrial flora and fauna. Early Works activities are not required to be undertaken within waterways, however, should this be required, a Snag Management Plan will be developed prior to works within a watercourse. The Snag Management Plan will be developed in accordance with the *Policy and guidelines for fish habitat conservation and management* (DPIE, 2013) and REMM B12.

Course, woody, debris will be retained where felled for Early Works for reuse purposes as described in Table 6-1 and as per the Reuse Strategy (Section 376.10).

Table 6-1: Classification of woody debris and proposed uses

Woody debris size	Usage
Logs > 500 mm diameter	Use within re-snagging of creeks
Logs 250-500 mm diameter	Priority to use as habitat for Cumberland Plain Land snail
Logs 100-250 mm diameter	Habitat improvement/replacement, erosion and sediment control, fauna furniture for culverts
Debris <100 mm diameter	Mulched/chipped and re-used on site for revegetation or erosion and sediment control

6.4 Aquatic and riparian habitat

Although Early Works are not required to be undertaken within waterways, if required, the works will be managed in accordance with Guide 10 of the *Biodiversity Guidelines* (RTA, 2011) and Section 3.3.2 of the *Policy and Guidelines for Fish Habitat Conservation and Management Update* (DPI, 2013).

6.5 Weed and pathogen control

Weed and pathogen management and control practices will be implemented throughout Early Works to minimise the risk of spread into and out of the Early Works areas and between construction sites during construction of the Early Works.

A specific Weed and Pathogen Management Plan has been prepared in accordance with the requirements of Guides 6 and 7 of the *Biodiversity Guidelines* (RTA, 2011), TfNSW specifications, and is provided in Appendix E of this EWFFMP. The purpose of the Plan is to:

- Identify the pathogens and key weed species and their distribution across the Early Works sites
- Prevent the introduction and spread of weeds and pathogens during the work
- Establish an inspection and reporting framework for weeds and pathogens
- Set out performance criteria for the management of weeds and pathogens for the Project.

The Plan includes:

- Identification and mapping of weeds and pathogens at each site
- Site assessment process
- Measures to prevent the introduction and spreading of weeds and pathogens caused by the Early Works using a precautionary approach
- Hygiene protocols including vehicle and footwear wash down facilities and requirements for all vehicles and footwear to be washed down before entering or of exiting the site
- Weed and pathogen control methods
- Disposal methods
- Arrangements for monitoring.

6.6 Unexpected threatened species finds

An Unexpected Threatened Species or EEC Finds Procedures has been prepared in accordance with Guide 1 of the *Biodiversity Guidelines* (RTA, 2011), TfNSW specifications, and is provided in Appendix D of this EWFFMP. The purpose of the Procedure is to outline the process to follow in the event of an unexpected species or EEC find during Early Works. The Procedure includes:

- Stop work arrangements in the immediate area of the threatened species
- A notification and communication protocol
- The consultation process with appropriate specialists to assess the significance of the find and develop management options
- Notification process for Transport for NSW and the Environmental Representative
- Notification process for EES, DPI, Department of Planning, Industry and Environment (DPIE) and Department of Agriculture, Water and Environment (DAWE) as appropriate
- A procedure to obtain approvals, licences or permits prior to recommencement of works
- Requirement for impact assessment and calculation of additional off-sets will be calculated to account for the impact.

6.7 Fauna rescue and release procedure

Handling of fauna during the Early Works may be required if fauna is encountered during Early Works and is required to be relocated or transported to a vet or wildlife carer in the case of injury. Should fauna be required to be relocated, a fauna Relocation Plan will also be prepared.

A specific Fauna Handling and Rescue Procedure has been prepared for implementation prior to commencement of Early Works in accordance with the requirements of Guide 9 the *Biodiversity Guidelines* (RTA, 2011), TfNSW specifications. It is provided in Appendix F of this EWFFMP. The purpose of the Procedure is to detail the actions to be implemented in the event that fauna (including injured, shocked, dependent juvenile or other) is discovered that requires handling during Early Works for the Project.

The Procedure includes:

- Steps to be followed when rescue or relocation of fauna is required
- A process to ensure that, native fauna captured during vegetation clearing or other activities, it is released into a suitable nearby habitat that has been identified as such by an ecologist

- Fauna rescue and release management measures for aquatic fauna and fish
- A procedure for handling of fauna by a licensed fauna handler such as a fauna spotter/catcher, fauna ecologist or wildlife carer with specific animal handling experience
- The responsibilities of the Early Works Ecologist
- A process to keep records of fauna captured and relocated
- A process to report any injury or death of threatened species.

The Fauna Handling and Rescue Procedures has been reviewed by TfNSW for consistency with the requirements of this EWFFMP, the CoA and the REMMS.

6.8 Vegetation rehabilitation

Revegetation will not be required for the Early Works. Vegetation rehabilitation is to take place progressively during construction of the Project. Due to the short duration of Early Works and subsequent construction activities being undertaken in the area, temporary stabilisation will be the preferred course of action until construction works have been completed. Permanent landscaping will then be undertaken.

If required, revegetation will be carried out in accordance with *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011) (Guide 3: Re-establishment of native vegetation) will be implemented for post-Early Works. Where practicable, local provenance native species from the relevant native vegetation community (or communities) that occur, or once occurred in these locations will be used. Revegetation for Early Works area will consider the land use requirements of the National Airports Safeguarding Framework (NASF) (National Airports Safeguarding Advisory Group, n.d.) to minimise the risk of wildlife strikes at the Western Sydney International Airport.

6.9 Biodiversity offsets

Biodiversity offsets are proposed as required by NSW CoA E3-E7, and REMM B4. These are documented separately in the Biodiversity Offset Strategy prepared for the M12 Project and will be secured by TfNSW.

6.10 Reuse Strategy

A Reuse Strategy (Appendix H) has been prepared, outlining:

- The identification of where it is practicable to reuse native trees and vegetation on-site and off-site from the Early Works including hollows, tree trunks, root balls, bush rock, and mulch. This has been informed by the tree survey already undertaken by TfNSW.
- An expression of interest process with Western Sydney Parklands Trust, Local Councils, Landcare groups and relevant Government agencies (including but not limited to NSW National Parks & Wildlife Service (Scheyville Office), Greater Sydney Local Land Services and DPI Fisheries) for the supply of hollows, tree trunks, root balls, mulch, bush rock, collected plant material, seeds and/or propagated plants prior to clearing commencement if it is determined not possible for the Early Works to reuse all the material. This process will build on consultation already undertaken by TfNSW with these stakeholders.

6.11 Management Measures

Management actions prescribed by this EWFFMP aim to avoid and minimise impacts on biodiversity and are summarised in Table 6-2.

Table 6-2: Flora and fauna management and mitigation measures

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
Prior to Early Works actions						
FF1	<p>A Clearing and Grubbing Plan will be prepared in accordance with requirements of Specification TfNSW G40 and TfNSW publication "Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects".</p> <p>A site-specific Clearing and Grubbing EWMS within the Clearing and Grubbing Plan will be prepared if required in accordance with Specification G36.</p>	Hold Point Release	Prior to clearing	CPB Contractors	G36 Section 3.2.4 G40 Section 2.4	Appendix G
FF2	<p>Prior to commencing clearing and tree removal, a site inspection between TfNSW and ESR will be undertaken to determine and agree the extent of the clearing.</p> <p>No clearing outside this area will be undertaken without approval from the Principal. Trees to be retained, and trees to be removed will be clearly marked.</p> <p>Clearing and tree removal will only be undertaken to the minimum extent necessary.</p>	Hold Point Release	Prior to clearing	CPB Contractors	G40 Section 2.1 G40 Section 2.2	N/A
FF3	<p>Clearing for trenching will be no greater than the extent of the trench and extend no greater than 2m beyond the edge of the trench provided that the cleared area does not extend beyond the road reserve.</p>	Hold Point Release	Prior to clearing	CPB Contractors	G40 Section 2.1	N/A

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF4	Clearing will be planned and undertaken in accordance with <i>Guide 4: Clearing Vegetation and Bush Rock of the Biodiversity Guidelines: Protecting and managing biodiversity on RMS projects</i> .	Clearing and Grubbing Plan	Prior to clearing	CPB Contractors	G40 Section 2.1	Appendix G
FF5	Pre-clearing surveys to be undertaken by a qualified and experienced ecologist prior removal of any vegetation, or the demolition of structures identified as potential roosting sites for microbats in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 1: Pre-clearing process).	Hold Point Release	Prior to clearing	CPB Contractors Early Works Ecologist	NSW CoA A24(d)(iii) REMM B05	N/A
FF6	Cumberland Plain Land Snail Cumberland Plain Land Snail procedure to be followed in all vegetated areas to be disturbed that are identified as known or potential habitat for Cumberland Plain Land Snail. Pre-clearance surveys and subsequent translocation to be carried out immediately before clearing works by a qualified ecologist in accordance with the procedure.	Ecologist report	Prior to Early Works	CPB Contractors Early Works Ecologist	REMM B05	Appendix C
FF6.1	Southern Myotis Southern myotis procedure to be followed prior to clearing of habitat tree. Anabat surveys to be undertaken to determine presence of southern myotis. Should they be present, tree removal will be undertaken at night once bats have left the roost. No clearing of habitat during winter torpor and breeding in October to January. See Appendix C for full methodology.	Ecologist report	Prior to Southern Myotis Habitat tree removal	CPB Contractors Early Works Ecologist	A24(d)(ii)	Appendix C

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF6.2	Grey-headed Flying Fox If nightworks in foraging habitat is to be undertaken, supervision by an ecologist is required as per standard clearing procedure.	Ecologist report	During night works in Grey-headed Flying-fox foraging habitat	CPB Contractors Early Works Ecologist	A24(d)(ii)	N/A
FF7	An inventory of hollow bearing trees will be developed as part of the pre-clearing surveys to inform the Habitat Compensation Plan (HCP) (HCP required during construction only).	Ecologist report	Prior to Early Works	CPB Contractors Early Works Ecologist	G36 Section 4.8(e) REMM B02	N/A
FF8	The relocation of fauna and associated management/offset measures, will be undertaken under the guidance of a suitably qualified and experienced ecologist in accordance with an approved Relocation Plan.	Hold Point Ecologist report	During Pre-Clearing Surveys and/or Early Works	CPB Contractors Early Works Ecologist	G40 Section 2.4 G36 Section 4.8 G38 Section 3.4.2 (xiii)	N/A
FF9	Prior to the commencement of vegetation clearing, a Reuse Strategy will be prepared detailing practicable options to reuse native trees and vegetation that are to be removed. If it is not possible to reuse all removed native trees and vegetation including hollows, tree trunks, mulch, bush rock, root balls, coarse woody debris, collected plant material seeds and/or propagated plants, TfNSW will consult with Council, Western Sydney Parklands, Landcare groups and government agencies (including NSW National Parks & Wildlife Service (Scheyville Office), Greater Sydney Local Land Services and DPI Fisheries) to determine whether this material could be used by others in habitat	Consultation records Assessment report Section 143 Notice	Prior to Early Works	CPB Contractors	NSW CoA E15 G36 Section 4.8(e) and (l)	Appendix H

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
	<p>enhancement, beneficial re-use and rehabilitation work before pursuing other disposal options. Burning of timber is not permitted.</p> <p>Where offsite reuse is proposed, an Ecologist is to examine the material prior to clearing, as per the EPA Mulch Order 2016. This would be subject to Section 143 Notice and Biosecurity Assessment, EPA Mulch Order 2016 or any other suitable document to support the Section 143 Notice.</p>					
FF10	<p>A report will be developed which:</p> <ul style="list-style-type: none"> (a) includes a statement from a suitably qualified Ecologist that identifies the species and location of any weeds growing anywhere in the road reserve over the length to be cleared and grubbed (b) includes a map showing vegetation boundaries, clearing boundaries, retained vegetation and exclusions/no go zones, identifies all locations of threatened flora species and trees which have been marked or otherwise identified for preservation; and (c) lists any trees identified by a suitably qualified arborist outside the limits of clearing which are unsound and likely to fall upon the roadway or onto private property (d) incorporates the management measures identified within the Ecologist pre-clearing survey. 	Ecologist report	Prior to Early Works	CPB Contractors Early Works Ecologist / Arborist	G40 Section 2.4	N/A

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF11	Trees outside the limits of clearing which are unsound and likely to fall upon the roadway or onto private property will be marked and identified in the Clearing and Grubbing Plan and whether pruning or removal is recommended. Pruning to be undertaken in accordance with AS 4373-2007 Pruning of amenity trees. Trees that require pruning or removal should be removed in a controlled and sensitive manner that causes minimal impact on the surrounding vegetation.	Ecologist report	Prior to Early Works	CPB Contractors Arborist	G40 Section 2.4 REMM LVIA15	Appendix G
FF12	Areas of weed infestation identified in the ecologist report will be marked in the Clearing and Grubbing Plan.	Ecologist report, Clearing and Grubbing Plan	Prior to Early Works	CPB Contractors Early Works Ecologist	G40 Section 2.4	Appendix G
FF13	Before commencing clearing and grubbing, all soil erosion and sedimentation controls will be installed in accordance with TfNSW G38 and the Construction Soil and Water Management Plan.	Erosion and Sediment Control Plan	Prior to Early Works	CPB Contractors	G40 Section 2.4	N/A
FF14	Sensitive area vegetation maps will be updated based on clearance surveys and previous survey work.	Pre-clearing survey/ Updated SAP	Prior to Early Works	CPB Contractors /TfNSW	G36 Section 4.8	N/A

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
Exclusion Zones						
FF15	Exclusion zones will be set up at the limit of clearing in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 2: Exclusion zones) and Flagging Protocol in Section 4 of the Vegetation Clearing Procedure (Appendix B). The clearing of native vegetation will be minimised with the objective of reducing impacts to TEC and threatened species habitat.	Site inspection	Prior to clearing	CPB Contractors	NSW CoA E2 REMM B24 G40 – Section 2.4	Appendix B
FF16	Prior to clearing, the limits of clearing will be mapped out by a qualified surveyor and identified by clearly visible markers placed at 25 m intervals on each side of the road formation and bridges. Clearing limits will be flagged at least seven working days prior to the proposed commencement of clearing.	Site Inspection	Prior to clearing	CPB Contractors Site surveyor	REMM B24 G40 – Section 2.4	N/A
FF17	Environmental protection area signage will be placed on exclusion zone fencing at regular intervals.	Site Inspection	Prior to clearing	CPB Contractors	Best practice	N/A
FF18	Clearing limits will be identified on SAPs.	Sensitive Area Plans	Prior to clearing	CPB Contractors	Best Practice	N/A
FF19	Clearing to be undertaken in accordance with the Vegetation Clearing Procedure (Appendix C).	Ecologist Report	During Early Works	CPB Contractors	REMM B01	Appendix C

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF20	<p>Existing trees, grasses and other ground cover will be retained within 15 m of rivers, creeks and watercourses and in all drainage lines until immediately before Early Works commence in the area.</p> <p>An access track may be constructed across these areas on an alignment that will minimise erosion in accordance with <i>Managing Urban Stormwater: Soils and Construction (the Blue Book)</i> (Landcom, 2004).</p> <p>Soil erosion and sedimentation controls for the area will be installed in accordance with TfNSW G38.</p> <p>All trees in these areas will be felled manually, leaving grasses and small understorey species wherever possible.</p>	Ecologist Report	Prior to and During Early Works	CPB Contractors	G40 Section 2.4 REMM B10	N/A
FF21	Vegetation and habitat removal will be carried out in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 4: Clearing of vegetation and removal of bushrock).	Ecologist report	During Early Works	CPB Contractors	REMM B07	Appendix G
FF22	All activities will be planned and carried out within the Project boundary to ensure that there is no damage to any vegetation outside the specified clearing limits.	Site inspection report	During Early Works	CPB Contractors	G40 Section 2.4	Appendix C

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF23	<p>Damage or destruction of threatened flora species and trees which have been identified for preservation will be minimised by:</p> <ol style="list-style-type: none"> 1. Protecting trees in accordance with AS4970-2009 including installing fencing clear of the canopy line for the duration of works. The radius of the protection zone must be determined by multiplying the diameter of the tree at breast height (1.4m) by 12. The minimum radius must be 2m and the maximum 15m 2. Ensuring no materials are stockpiled and no vehicles are parked under the canopy 3. Avoiding excavation or the placing of fill near any tree without advice from an ecologist <p>Routing haul roads and access tracks clear of the canopy.</p>	Site inspection report	During Early Works	CPB Contractors	G40 Section 2.4	Appendix C
FF24	Trees remaining within the road reserve, but outside the limits of clearing, which the Principal, in consultation with an arborist has agreed to be unsound and are likely to fall upon the roadway or onto private property, will be cleared or pruned in accordance with AS 4373.	Post Clearing Report	During Early Works	CPB Contractors	G40 Section 2.4	Appendix C
FF25	Damage of any kind, including damage to fencing or trees or other vegetation outside the limits of clearing, which occurs during clearing operations, will be rectified.	Site inspection report	During Early Works	CPB Contractors	G40 Section 2.4	N/A
FF26	Holes left following the removal of trees and stumps will be backfilled and vegetated as described in Clause 3 of G40.	Site diary	During Early Works	CPB Contractors	G40 Section 2.4	N/A
FF27	Tree removal will be minimised by clearing only in the area required for Early Works activities	Site diary	During Early Works	CPB Contractors	G40 Section 2.4	Appendix C

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
Fauna Management						
FF28	Fauna will be managed in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 9: Fauna handling) and the Fauna Handling and Rescue Procedure (Appendix F).	Ecologist Report	During Early Works	CPB Contractors	REMM B25	Appendix F
FF29	Fencing will be located to reduce roadkill of fauna species and funnel animals to creek crossings where safe passage will be available.	As built drawings	During Early Works	CPB Contractors	REMM B23	N/A
FF30	Report any injury or death of threatened species to the Principal.	Monthly report Incident report	During Early Works	CPB Contractors	TfNSW QA G36 Section 4.8	N/A
Weeds and Pathogens						
FF31	Weed species will be managed in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 6: Weed management) and the Weed and Pathogen Management Plan (Appendix E).	Ecologist report	During Early Works	CPB Contractors	REMM B26	Appendix E
FF32	All staff will be made aware of the Priority Weeds present on-site and requirements.	Site induction	During Early Works	CPB Contractors	G40 Section 2.4	N/A
FF33	Weeds will be removed and disposed of in accordance with the requirements of the Local Council.	EWEMP	During Early Works	CPB Contractors	G40 Section 2.4	N/A

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF34	Pathogens will be managed in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 2: Exclusion zones).	Ecologist report	During Early Works	CPB Contractors	REMM B27	Appendix E
FF35	Works will be carried out such that no noxious weeds are imported to the site or around the site, including the washing of wheels of all plant prior to transportation to site.	Site inspection and daily diary	During Early Works	CPB Contractors	G40 Section 6	N/A
FF36	Weeds and topsoil will be treated and disposed of in accordance with their category under the Biosecurity Act.	Waste classification	During Early Works	CPB Contractors	G40 Section 6	N/A
Lighting						
FF37	Where works are undertaken at night, utilise direction lighting and direct lighting away from vegetated areas where practicable.	Site inspection	During Early Works	CPB Contractors	REMM B28	N/A
Aquatic Habitat						
FF38	A dewatering procedure will be prepared and implemented as part of the Fauna Handling and Rescue Procedure in Appendix F.	Site inspection records	During Early Works	CPB Contractors	G38 Section 3.4.2	Appendix F
FF39	Refuelling of plant and equipment, chemical storage and decanting will be undertaken at least 50 m away from aquatic habitats unless otherwise approved by the Principal.	Site inspection report	During Early Works	CPB Contractors	G38 Section 3.7.1	N/A

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
Pesticides Use						
FF40	<p>Use of pesticides will be in accordance with the <i>Pesticides Act 1999</i> (NSW), other relevant legislation, label directions and any relevant industry codes of practice.</p> <p>Herbicides and pesticides will be currently registered for their intended use by the Australian Pesticides and Veterinary Medicines Authority (APVMA). Only Pesticides listed in the TfNSW Approved Pesticide list should be used https://roads-waterways.transport.nsw.gov.au/about/environment/environmental-compliance/weed-management-pesticide-use.html</p>	Records Sheet	During Early Works	CPB Contractors	G36 R179 Clause 2.8	N/A
FF41	<p>A Records Sheet will be completed within 24 hours of applying a pesticide and will be submitted to the Principal.</p> <p>A Records Sheet is not required when all of the following are satisfied:</p> <ul style="list-style-type: none"> (a) The pesticide is, or is part of a product that is widely available to the general public at retail outlets. (b) The pesticide is only applied by hand or by using hand-held equipment. (c) If applied outdoors on any single occasion, in quantities of no more than 5 litres/5 kilograms of concentrated product or 20 litres/20 kilograms of the ready-to-use product; or if applied indoors, in quantities of no more than 1 litre/1 kilogram of concentrated product or 5 litres/5 kilograms of the ready-to-use product. 	Records sheet	During Early Works	CPB Contractors	G36	N/A

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF42	All personnel managing and using pesticides will receive appropriate training and hold appropriate licence prior to commencing work. Only pesticides registered for use near water may be used near water.	Records sheet	During Early Works	CPB Contractors	G36	N/A
FF43	Public notification of pesticide use will be in accordance with Appendix G36/H. Implement the following measures whenever pesticides are to be used adjacent to, or across the road from, a “sensitive place” (refer to Clause 1.3 for definition): <ul style="list-style-type: none"> • Use of mechanical means of pest control (such as mowing or slashing) where feasible; or • Use of hand-held application of pesticides where mechanical means of pest control are not feasible. 	Records sheet	During Early Works	CPB Contractors	G36	N/A
FF44	Avoid applying pesticide: <ul style="list-style-type: none"> (i) on hot days when plants are stressed; (ii) after the seed has set; (iii) within 24 hours of rain or when rain is imminent; (iv) when winds will cause drift of pesticides into non-target areas. 	Records Sheet	During Early Works	CPB Contractors	G36	N/A
FF45	Monitor the effectiveness of weed treatments and reapply if previous treatment not fully effective	Records Sheet	During Early Works	CPB Contractors	G40 Section 6	N/A
Stockpile management						
FF46	Locate stockpiles outside of the tree protection zone of trees or native vegetation identified for retention. Delineate the tree protection zone in accordance with AS 4970 – Protection of Trees on Development Sites.	Site inspection report	During Early Works	CPB Contractors	G38 Section 3.5	EWMP S3.5

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF47	Locate stockpiles at least 5 m from likely areas of concentrated water flows and at least 10 m from waterways that are classified as Class 1 and Class 2 from the DPI Fisheries guideline “Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings”.	Site inspection report	During Early Works	CPB Contractors	G38 Section 3.5 G40 Section 4.2	EWMP S3.5
FF48	Keep topsoil that is not contaminated by weeds in stockpiles for later spreading on fill batters and other areas. Other material may also be stockpiled but kept separated from the topsoil stockpiles.	Site inspection report	During Early Works	CPB Contractors	G38 Section 3.5	EWMP S3.5
FF49	Stockpiles are to be seeded with a sterile cover crop in accordance with Specification TfNSW R178 (standard specification), to encourage vegetation cover and minimise potential for weed growth. Seeding must be carried out progressively within seven days of completion of each 500 m ² of exposed batter face.	Site inspection report	During Early Works	CPB Contractors	R44 Section 2.3.2 G38 Section 3.5	EWMP S3.5
FF50	Set up stockpiles in a manner that minimises any damage to natural vegetation and trees, such that the stockpiled material is accessible for carting away at any time.	Site inspection report	During Early Works	CPB Contractors	R44 Section 2.6	EWMP S3.5
FF51	Following completion of the Works, carry out restoration of the stockpile areas in accordance with Specification TfNSW R178.	Site inspection report	Post Early Works	CPB Contractors	R44 Section 2.6 G40 Section 4.2	EWMP S3.5
FF52	Where the native vegetation is insufficient to provide the quantities of mulch needed during landscape planting, native trees removed during clearing and grubbing will be mulched and stockpiled with the exception of logs and rootballs. Where possible, woody debris (defined as consisting of trees and wood, whether living or dead, but at least 100mm in diameter) will be retained to be distributed in suitable nearby vegetation to enhance habitat.	Site inspection report	During Early Works	CPB Contractors	G40 Section 4.1	EWEMP S3.5, Appendix H

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF53	Stockpiles will be monitored and turned over as required to avoid spontaneous combustion.	Site inspection report	During Early Works	CPB Contractors	G40 Section 4.2	EWMP S3.5
FF54	The temporary stockpiling and/or application of mulch during Early Works will be managed to avoid the potential for material and tannin run-off into waterways. This will include limiting the application and/or stockpiling of mulch near waterways where practicable.	Erosion and Sediment Control Plan	During Early Works	CPB Contractors	REMM B18 G38 Section 3.6	EWMP S3.5
FF55	Do not stockpile weed infested or contaminated topsoil adjacent to areas of native vegetation. Weed infested topsoil will be disposed off-site	Site Inspection report	During Early Works	CPB Contractors	G40 – Section 6	EWMP S3.5
Bushfire						
FF56	Prepare pre-planned fire response actions plans. The action plans will be issued as part of the site induction for all site personnel.]	Fire response actions plans	During Early Works	CPB Contractors	Best Practice	N/A
FF57	No smoking (including e-cigarettes) will be allowed on site except at designated areas. Dedicated butt disposals will be located in all designated smoking areas.	Induction and Toolbox talks	During Early Works	CPB Contractors	Best Practice	N/A
FF58	All works involving a fire source will have a hot works permit in place with specific controls to prevent fire risk.	Safe Work Method Statement	During Early Works	CPB Contractors	Best Practice	N/A

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF59	Do not undertake cutting, welding or grinding on total fire ban days, unless the works takes place in an area at least 50 metres away from an ignition source and appropriate fire controls are in place.	Safe Work Method Statement	During Early Works	CPB Contractors	Best Practice	N/A
FF60	Vehicles will not be driven or idled in areas of long grass on fire ban days or after prolonged periods of dry weather.	Induction and Toolbox Talks	During Early Works	CPB Contractors	Best Practice	N/A
FF61	All entry points into the site are to be kept shut to prevent unauthorised vehicle access and torching.	Induction and Toolbox Talks	During Early Works	CPB Contractors	Best Practice	N/A
FF62	A supply of water will be available at all times for firefighting purposes and supply point will be communicated with local firefighting authorities.	Safe Work Method Statement	During Early Works	CPB Contractors	Best Practice	N/A
FF63	Fire extinguishers will be available on all plant and equipment.	Safe Work Method Statement	During Early Works	CPB Contractors	Best Practice	N/A
Rehabilitation						
FF64	Revegetation will be carried out in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 3: Re-establishment of native vegetation) for the purposes of site stabilisation after Early Works and prior to the commencement of Construction.	Site inspection report	During Early Works	CPB Contractors	REMM B08	Section 6.8

ID	Management Measure	Evidence	When to Implement	Responsibility for Implementation	Reference or Source	Additional Information
FF65	Habitat will be replaced or re-instated in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 5: Re-use of woody debris and bushrock and Guide 8: Nest boxes).	Site inspection report	During Early Works	CPB Contractors	REMM B09	Section 6.8

7 Compliance management

7.1 Roles and responsibilities

The Early Works organisational structure and overall roles and environmental responsibilities are outlined in Section 5.1 of the EWEMP. Specific responsibilities for the implementation of flora and fauna management are detailed in Section 6 of this EWFFMP.

An experienced Early Works Ecologist will be engaged to provide advice throughout Early Works and to supervise and lead the implementation of processes and management measures for ecologically sensitive activities. These activities will include, but not be limited to, pre-clearing processes, weed and pathogen management, fauna relocation and handling, and work in riparian zones, as outlined in Section 6. The Early Works Ecologist will demonstrate that they hold appropriate qualifications and all licenses relevant to the work being undertaken, in addition to specific experience in working in environmentally sensitive areas of a similar nature to the Early Works.

7.2 Training

All site personnel (including subcontractors) will undergo site induction training relating to flora and fauna management issues prior to Early Works commencing. The induction training will address elements related to flora and fauna management, including:

- Existence and requirements of this overarching EWFFMP, the EWFFMP and all plans and procedures prepared under the EWFFMPs
- Relevant legislation, regulations and Environment Protection Licence (EPL) conditions
- Incident response, management and reporting
- Environmentally sensitive locations and exclusion zones
- Specific species likely to be affected by the works and how these species can be recognised
- Mulch stockpile location and management measures
- Site flagging protocol
- Fauna rescue requirements
- Boundaries for vegetation clearing
- Fauna and fauna habitat management
- Weed control measures
- General flora and fauna management measures
- Specific responsibilities for the protection of flora and fauna
- All requirements of Appendices contained within this EWFFMP.

Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in flora and fauna management or those undertaking an activity with a high risk of environmental impact. Site personnel will undergo refresher training at not less than six monthly intervals.

The ER will review and approve the induction training program prior to the commencement of Early Works and monitor implementation.

Daily pre-start meetings conducted by the Foreman/ Site Supervisor and will inform the site workforce of any environmental issues relevant to flora and fauna that could potentially be impacted by, or impact on, the day's activities.

Further details regarding staff induction and training are provided in Section 5.3 of the EWEMP.

7.3 TfNSW QA Hold Points

Table 7-1: Flora and Fauna TfNSW QA Hold Points

Hold Point Clause	Description	Document Reference
TfNSW QA G36 Section 3.1	Following approval of amendments to the EWEMP and At least 10 working days prior to the proposed commencement of the stage of Work Under the Contract nominated in the submission by you, submit the approved EWEMP and associated Plans & Sub-Plans and/or EWMS, as well as the CEMS documents.	Section 6.11
TfNSW QA G36 Section 3.2.4	At least 20 working days prior to the proposed commencement of each applicable work activity submit the EWMS documents addressing the issues listed in Clause 3.2.4 for the nominated work activity.	Table 6-2
TfNSW QA G40 Section 2.4	Ten days prior to clearing, a Clearing and Grubbing Plan and report on the presence of weeds and unsound trees with written notice that limits of clearing and areas of weed infestation identified in the ecologist report are marked, must be submitted to TfNSW.	Table 6-1 Appendix G
TfNSW QA G40 Section 2.4	Relocation of any threatened fauna species in accordance with an approved Relocation Plan and any associated permits/approvals should these be identified in pre-clearing surveys	Table 6-1 Section 6.1

7.4 Monitoring and inspections

Inspections of sensitive areas and activities with the potential to impact flora and fauna will occur for the duration of the Early Works.

Requirements and responsibilities in relation to monitoring and inspections are documented in Section 6 of the EWEMP.

7.5 Auditing

Audits will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan, CoA and other relevant approvals, licenses and guidelines.

Audit requirements are detailed in Section 7.4 of the EWEMP.

7.6 Reporting and identified records

Reporting requirements and responsibilities are documented in Section 7.5 of the EWEMP.

Specific reporting requirements associated with additional survey work and control of clearing activities are outlined in Table 7-2.

Table 7-2: Reporting requirements relevant to flora and fauna management

Report	Frequency	Responsibility
Report on the presence of weeds and unsound trees together with written notice that limits of clearing and areas of weed infestation identified in the Ecologist report have been marked	At least seven working days prior to commencement of clearing	CPB Contractors Site Environmental Representative CPB Contractors Early Works Ecologist
Pre-clearing Survey Report Survey methodology, targeted species, habitat trees to be removed, fauna rescue events and relocations	Prior to undertaking clearing	CPB Contractors Site Environmental Representative CPB Contractors Early Works Ecologist
Post Clearing Report Summary of the results of surveys, vegetation cleared, fauna rescues, fauna injury and mortality during clearing activities Summary of areas of vegetation cleared and areas approved for clearing for the Project to be included in Monthly Reports	Weekly, and a final report within 21 days from the completion of substantial clearing Monthly	CPB Contractors Site Environmental Representative CPB Contractors Early Works Ecologist

CPB Contractors will maintain accurate records substantiating all activities associated with Early Works or relevant to the conditions of approval, including measures taken to implement this EWFFMP. Records will be made available to the DPIE and DAWE, within the timeframe nominated in the request.

In addition, key identified records relevant to this EWFFMP as specified by TfNSW QA G36 and G40 are identified in Table 7-3.

Table 7-3: Identified Records

Identified Records Clause	Description	Document Reference
TfNSW QA G36 Section 3	Early Works Environmental Management Plan (EWEMP), Plans & Sub-Plans, procedures and EWMS	This EWFFMP
TfNSW QA G36 Section 4.8	Report any injury or death of threatened species to the Principal	Section 5.2.4
TfNSW QA G36 Section 4.12	A Pesticides Records Sheet must be submitted to TfNSW within 24 hours of applying a pesticide	Section 5.2.6

Identified Records Clause	Description	Document Reference
TfNSW QA G40 Section 2.4	A report must be submitted to TfNSW on the presence of weeds and unsound trees.	Section 5.2.5
TfNSW QA G40 Section 2.4	A Clearing and Grubbing Plan must be submitted with EWEMP.	Appendix G

8 Review and improvement

8.1 Continuous improvement

Continuous improvement of this Plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets.
- Ensuring Early Works environmental risks are identified and included in the risk register and appropriate mitigation measures implemented throughout the work for the Early Works as part of the continuous improvement process. The process for ongoing risk identification and management during Early Works is outlined in Section 6 of the EWEMP.

8.2 Update and amendment

Any revisions to the FFMP will be in accordance with the process outlined in Section 1.11 of the EWEMP.

A copy of the updated plan and changes will be distributed to DPIE and relevant stakeholders in accordance with the approved document control procedure – refer to Section 6.7.2 of the EWEMP.

Appendix A – Consultation correspondence

Evidence of correspondence

Foster Walker

From: Suzette Graham
Sent: Thursday, 28 October 2021 10:53 AM
To: Shaun Hunt; M12 Teambinder; Foster Walker
Subject: RE: HPE CM: M12 Project: Early Works Flora Fauna Management Plan - Elizabeth Drive Temporary Roundabout

Hi Shaun,

Thank you, much appreciated.

Kind regards,
Suzette Graham (she / her / hers)
A/Senior Manager Environment and Sustainability
Sydney Infrastructure Development | Safety, Environment and Regulation
M 0476 828 524 E suzette.graham@transport.nsw.gov.au
Transport for NSW
27 Argyle Street, Parramatta NSW 2150

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From: Shaun Hunt [<mailto:shaun.hunt@environment.nsw.gov.au>]
Sent: Wednesday, 27 October 2021 4:22 PM
To: Suzette Graham <Suzette.GRAHAM@transport.nsw.gov.au>; M12 Teambinder <m12.teambinder@transport.nsw.gov.au>; Foster Walker <Foster.Walker@transport.nsw.gov.au>
Subject: RE: HPE CM: M12 Project: Early Works Flora Fauna Management Plan - Elizabeth Drive Temporary Roundabout

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Hi Suzette,

Yes, my mistake. Apologies.
Please find the correct document attached.

FYI also comments for the gas protection early works are still sitting with my manager for signing but should be through shortly.

Cheers
Shaun

From: Suzette Graham <Suzette.GRAHAM@transport.nsw.gov.au>
Sent: Wednesday, 27 October 2021 3:58 PM
To: Shaun Hunt <shaun.hunt@environment.nsw.gov.au>; M12 Teambinder <m12.teambinder@transport.nsw.gov.au>; Foster Walker <Foster.Walker@transport.nsw.gov.au>
Subject: RE: HPE CM: M12 Project: Early Works Flora Fauna Management Plan - Elizabeth Drive Temporary Roundabout

Hi Shaun,

Thanks for the email and reviewing the FFMP.
The attachment you sent through was just the FFMP but without comments.
Did you mean to attach a letter or the document with comments?

Thanks,

Kind regards,
Suzette Graham (she / her / hers)
A/Senior Manager Environment and Sustainability
Sydney Infrastructure Development | Safety, Environment and Regulation
M 0476 828 524 E suzette.graham@transport.nsw.gov.au
Transport for NSW
27 Argyle Street, Parramatta NSW 2150

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From: Shaun Hunt (<mailto:shaun.hunt@environment.nsw.gov.au>)
Sent: Wednesday, 27 October 2021 9:56 AM
To: M12 Teambinder <m12.teambinder@transport.nsw.gov.au>
Cc: Suzette Graham <Suzette.GRAHAM@transport.nsw.gov.au>
Subject: RE: HPE CM: M12 Project: Early Works Flora Fauna Management Plan - Elizabeth Drive Temporary Roundabout

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Hi Foster,

Please find comments from EES attached.

If you have any concerns or wish to discuss further, please don't hesitate to get in touch.

Regards,

Shaun Hunt
Senior Conservation Planning Officer

Biodiversity and Conservation | Department of Planning, Industry and Environment
T 02 8275 1617 | E shaun.hunt@environment.nsw.gov.au
Level 6, 12 Darcy St, 4 Parramatta Square, Parramatta NSW 2150 | Locked Bag 5022
www.dpie.nsw.gov.au



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The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and

collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: Foster Walker via InEight Document <system@teambinder.com>
Sent: Friday, 8 October 2021 3:21 PM
To: Shaun Hunt <shaun.hunt@environment.nsw.gov.au>
Cc: OEH ROG Greater Sydney Region Planning Unit Mailbox <rog.gsrplanning@environment.nsw.gov.au>; Martin Younan <Martin.YOUNAN@transport.nsw.gov.au>
Subject: HPE CM: M12 Project: Early Works Flora Fauna Management Plan - Elizabeth Drive Temporary Roundabout

OFFICIAL



General Correspondence

Reference No.: M12PPW-TFNSW-OEH-CORR-000001

Contract No: M12PPW - M12 - Project Wide

Date: 08 October 2021, 15:20
To: Shaun Hunt, NSW Office of Environment & Heritage
Cc: Suzette Graham, Transport for NSW
Ibrahim El-Jamal, Transport for NSW
Martin Younan, Transport for NSW
Shannon Schofield, Transport for NSW
Christine Stuart, Transport for NSW
Group mailbox, Environment Energy and Science Group
From: Foster Walker, Transport for NSW
Subject: M12 Project: Early Works Flora Fauna Management Plan - Elizabeth Drive Temporary Roundabout

Hi Shaun,

As per the M12 Infrastructure Approval, Condition A124 (d) requires a Flora and Fauna Management Plan for early works to be prepared in consultation with EES.

An Early Works Flora and Fauna Management Plan has been prepared for early works involving the construction of a temporary roundabout on Elizabeth Drive.

Could you please review the attached by 25 October 2021.

Please feel free to give me a call if you have any questions.

Regards

Foster Walker
0429 782 717

Discipline: Environmental

Location: General

Attachments: M12PPW-CPB-EDR-EN-PLN-00001_C_S3_EWFFMP.pdf

OFFICIAL

Attachments:

[M12PPW-CPB-EDR-EN-PLN-00001_C_S3_EWFFMP.pdf \(5 MB\)](#)

TeamBinder mail reference: {AAE2F362-9F48-4393-918B-9EC50836515B}

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EES Response



Planning,
Industry &
Environment

Our ref: DOC21/015029

Foster Walker
Sydney Infrastructure Development
Transport for NSW
27 Argyle Street
Parramatta NSW 2150

**Subject: M12 Motorway - Early Works Flora Fauna Management Plan - Elizabeth Drive
Temporary Roundabout**

Thank you for your email received 8 October 2021 requesting comment from Environment Energy and Science (EES) on the M12 Motorway - Early Works Flora Fauna Management Plan - Elizabeth Drive Temporary Roundabout prepared in accordance with Conditions of Approval for the M12 Motorway (SSI 9364).

EES has reviewed the plan and provides comments at Attachment A.

Should you have any queries regarding this matter, please contact Shaun Hunt, Senior Conservation Planning Officer via shaun.hunt@environment.nsw.gov.au or 02 8275 1617.

Yours sincerely

A handwritten signature in black ink that reads 'S. Harrison'.

27/10/21

Susan Harrison

**Senior Team Leader Planning
Greater Sydney Branch
Biodiversity and Conservation**

Attachment A – EES comments on Early Works Flora Fauna Management Plan – Elizabeth Drive Temporary Roundabout

The following comments are provided:

Section of plan	EES Comments
Section 2.2.	Points 5 and 6 appear to be incorrectly located here and were likely intended for section 2.3.
Section 4.1.4	This section states <i>'It is noted in the EIS that the Cumberland Plain Land Snail was not recorded within the study area during surveys but were recorded 135 m from the study area during surveys for a separate project in October 2018. Given no connectivity or habitat, the Cumberland Plain Land Snail is assumed to not be present within the study area.'</i> Management measure ID FF6 identifies that pre-clearance surveys and subsequent translocation is to be undertaken. Despite the assumption that Cumberland Plain Land Snail is not present, the proposed management measure is to be implemented and pre-clearance surveys undertaken in accordance with Appendix C Section 2.2.3.
Section 5.2.5	The last sentence in this section states <i>'However, impacts are likely to be insignificant when compared to the broad-scale clearing that has occurred in the past as a result of agriculture and urban development.'</i> This comparison does not provide any guidance on mitigation or avoidance of impacts and serves no purpose in this plan.
Table 6-1 Management Measure FF2	This measure should include an additional sentence stating that clearing and tree removal will only be undertaken to the minimum extent necessary. Where there is uncertainty regarding the level of impacts to trees from early works, advice should be sought from the project arborist.
Table 6-1 Management Measure FF11	This measure should note that trees required for pruning or removal outside the limits of clearing should be removed in a controlled and sensitive manner that causes minimal impact on surrounding vegetation.
Table 6-1 Management Measure FF23	Australian Standard 4970:2009 Protection of Trees on Development Sites stipulates a maximum Tree Protection Zone of 15m, not 12m.
Table 6-1 Management Measure FF24	This section should be amended to state <i>'which the Principal, in consultation with the project arborist, has agreed to be unsound...'</i>
Appendix E Section 4.1	This section notes that <i>'Testing from a National Association of Testing Authorities (NATA) approved laboratory may be required to confirm the presence of pathogens in the soil and/or water.'</i> It should be further noted that works will not proceed until the results of any such tests are confirmed and suitable prevention and control measures have been implemented if necessary.
Appendix F Table 3.1	In relation to the protection of snakes, this section incorrectly references the National Parks and Wildlife Act. This should be amended to reference the Biodiversity Conservation Act 2016.
Appendix F Table 3.1	In relation to Arboreal animals, this section should be amended to include that where arboreal animals cannot be captured or removed, trees shall be lopped in such a way that the risk of injury or mortality to fauna is minimised.

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	such as top-down lopping, with lopped sections gently lowered to the ground, or by lowering whole trees to the ground with the "grab" attachment of a machine.
Appendix G	It should be noted that where there are any inconsistencies, the management measures identified in section 6 of the EWFFMP are to take precedence over the clearing and grubbing plan.
Appendix G – section 3, Site Preparation, Potential Hazard, Damage to trees or ecological communities that have been marked for preservation or protection	<p>This section should be amended to include tree protection measures in accordance with Australian Standards. Protective Fencing should be erected clear of the canopy line and in accordance with tree protection requirements of Australian Standard 4970:2009 Protection of Trees on Development Sites.</p> <p>Excavation, stockpiling and haul roads should be kept clear of these areas.</p>
Appendix G - Undertaking of clearing & grubbing activities - Unforeseen incident occurring	EES provides no comment in relation to the management of pollution events and appropriate notification procedures. Biodiversity impacts associated with any pollution event should be managed in the same manner as any other impacts beyond the extent of approved work.
Appendix H Materials Reuse Management Plan	CPB contractors identify in Appendix A – Consultation Register that transport of materials for reuse is not included within the scope of their contract. In this regard, where cost of transport is a barrier to reuse, CPB is to consult with TfNSW Environment and Sustainability Manager (or delegate) to determine if alternate arrangements can be facilitated to meet the objectives of Condition of Approval E15. Where the cost of disposal exceeds the cost of transport for reuse, reuse should be the preferred option.

End of Submission

Addressing comments from NSW Environment, Energy and Science

Section of comment	Comments	TfNSW Response	Section Amended
Section 2.2	Points 5 and 6 appear to be incorrectly located here and were likely intended for section 2.3.	Points 5 and 6 in Section 2.2 moved to Section 2.3	Section 2.2 and 2.3 amended
Section 4.1.4	<p>This section states <i>'It is noted in the EIS that the Cumberland Plain Land Snail was not recorded within the study area during surveys but were recorded 135 m from the study area during surveys for a separate project in October 2018. Given no connectivity or habitat, the Cumberland Plain Land Snail is assumed to not be present within the study area.'</i></p> <p>Management measure ID FF6 identifies that pre-clearance surveys and subsequent translocation is to be undertaken. Despite the assumption that Cumberland Plain Land Snail is not present, the proposed management measure is to be implemented and pre-clearance surveys undertaken in accordance with Appendix C Section 2.2.3.</p>	Section 4.1.4 amended to state that pre-clearance surveys for the Cumberland Plain Land Snail will be undertaken in accordance with Management Measure ID FF6 and Appendix C	Section 4.1.4
Section 5.2.5	The last sentence in this section states <i>'However, impacts are likely to be insignificant when compared to the broad-scale clearing that has occurred in the past as a result of agriculture and urban development.'</i> This comparison does not provide any guidance on mitigation or avoidance of impacts and serves no purpose in this plan.	The last sentence in Section 5.2.5 has been deleted.	Section 5.2.5
Table 6-1 Management Measure FF2	This measure should include an additional sentence stating that clearing and tree removal will only be undertaken to the minimum extent necessary. Where there is uncertainty regarding the level of impacts to trees from early works, advice should be sought from the project arborist.	Table 6-1, FF2 amended to include <i>'Clearing and tree removal will only be undertaken to the minimum extent necessary'</i> .	Table 6-1, FF2

Section of comment	Comments	TfNSW Response	Section Amended
Table 6-1 Management Measure FF11	This measure should note that trees required for pruning or removal outside the limits of clearing should be removed in a controlled and sensitive manner that causes minimal impact on surrounding vegetation.	Table 6-1, FF11 amended to include ' <i>Trees that require pruning or removal should be removed in a controlled and sensitive manner that causes minimal impact on the surrounding vegetation.</i> '	Table 6-1, FF11
Table 6-1 Management Measure FF23	Australian Standard 4970:2009 Protection of Trees on Development Sites stipulates a maximum Tree Protection Zone of 15m, not 12m.	Table 6-1, FF23 amended maximum Tree Protection Zone to 15m from 12m	Table 6-1, FF23
Table 6-1 Management Measure FF24	This section should be amended to state 'which the Principal, <i>in consultation with the project arborist</i> , has agreed to be unsound...'	Table 6-1, FF24 amended to include '...which the Principal, <i>in consultation with an arborist</i> has...'	Table 6-1, FF24
Appendix E Section 4.1	This section notes that ' <i>Testing from a National Association of Testing Authorities (NATA) approved laboratory may be required to confirm the presence of pathogens in the soil and/or water.</i> ' It should be further noted that works will not proceed until the results of any such tests are confirmed and suitable prevention and control measures have been implemented if necessary.	Appendix E, Section 4.1 amended to include ' <i>Works will not proceed until the results of any such tests are confirmed and suitable prevention and control measures have been implemented if necessary.</i> '	Appendix E, Section 4.1
Appendix F Table 3.1	In relation to the protection of snakes, this section incorrectly references the National Parks and Wildlife Act. This should be amended to reference the Biodiversity Conservation Act 2016.	Appendix F, Table 3.1 amended to change the reference from the National Parks and Wildlife Act 1974 to the Biodiversity Conservation Act 2016.	Appendix F, Table 3.1

Section of comment	Comments	TfNSW Response	Section Amended
Appendix F Table 3.1	In relation to Arboreal animals, this section should be amended to include that where arboreal animals cannot be captured or removed, trees shall be lopped in such a way that the risk of injury or mortality to fauna is minimised, such as top-down lopping, with lopped sections gently lowered to the ground, or by lowering whole trees to the ground with the “grab” attachment of a machine.	Appendix F, Table 3.1 amended to include ‘...the tree <i>shall be lopped in such a way that the risk of injury or mortality to fauna is minimised, such as top-down lopping, with lopped sections gently lowered to the ground, or by lowering whole trees to the ground with the “grab” attachment of a machine.</i>	Appendix F, Table 3.1
Appendix G	It should be noted that where there are any inconsistencies, the management measures identified in section 6 of the EWFFMP are to take precedence over the clearing and grubbing plan.	Noted	N/A
Appendix G – section 3, Site Preparation, Potential Hazard, Damage to trees or ecological communities that have been marked for preservation or protection	This section should be amended to include tree protection measures in accordance with Australian Standards. Protective Fencing should be erected clear of the canopy line and in accordance with tree protection requirements of Australian Standard 4970:2009 Protection of Trees on Development Sites. Excavation, stockpiling and haul roads should be kept clear of these areas.	<p>Appendix G, no.3, ‘Damage to trees or ecological communities that have been marked for preservation or protection’ amended to include:</p> <ul style="list-style-type: none"> Tree protection measures to be installed in accordance with Australian Standards. Protective Fencing should be erected clear of the canopy line and in accordance with tree protection requirements of Australian Standard 4970:2009 Protection of Trees on Development Sites. Protective fencing is to be erected around trees clear of the canopy line. <p>Locating haul roads and access tracks must be clear of the protected trees</p>	Appendix G, no. 3

Section of comment	Comments	TfNSW Response	Section Amended
Appendix G - Undertaking of clearing & grubbing activities - Unforeseen incident occurring	EES provides no comment in relation to the management of pollution events and appropriate notification procedures. Biodiversity impacts associated with any pollution event should be managed in the same manner as any other impacts beyond the extent of approved work.	Noted	N/A
Appendix H Materials Reuse Management Plan	CPB contractors identify in Appendix A – Consultation Register that transport of materials for reuse is not included within the scope of their contract. In this regard, where cost of transport is a barrier to reuse, CPB is to consult with TfNSW Environment and Sustainability Manager (or delegate) to determine if alternate arrangements can be facilitated to meet the objectives of Condition of Approval E15. Where the cost of disposal exceeds	Appendix H, Section 6 amended to include <i>‘It is noted that where the cost of transport is a barrier to reuse, CPB Contractors will consult with TfNSW to determine if alternate arrangements can be facilitated to meet the objectives of Condition of Approval E15. Where the cost of disposal exceeds the cost of transport for reuse, reuse will be the preferred option.’</i>	Appendix H, Section 6

Appendix B – Secondary CoAs, REMMS and QA Specifications

Secondary NSW CoAs Relevant to Early Works

CoA No.	Condition Requirements	Document Reference
E2	The clearing of native vegetation must be minimised with the objective of reducing impacts to threatened ecological communities and threatened species habitat.	Section 6
E15	Prior to vegetation clearing, the Proponent must identify where it is practicable for the CSSI to reuse native trees and vegetation that are to be removed. If it is not possible for the CSSI to reuse all removed native trees and vegetation, the Proponent must consult with the relevant council(s), Western Sydney Parklands Trust and Landcare groups and relevant government agencies to determine if:	Section 6.10 Appendix H Table 6-2
	(a) hollows, tree trunks, mulch, bush rock and root balls salvaged from native vegetation impacted by the CSSI; and	
	(b) collected plant material, seeds and/or propagated plants from native vegetation impacted by the CSSI,	
	could be used by others in habitat enhancement, beneficial re-use and rehabilitation work, before pursuing other disposal options.	

Secondary REMMs relevant to Early Works

ID	Measure/requirement	Timing	Reference
B01	<p>A CFFMP will be prepared. The measures in the CFFMP will include:</p> <ul style="list-style-type: none"> • A site specific induction • Identification of clearing limits and exclusion fencing • Pre-clearance surveys • Vegetation clearing procedures • An unexpected finds procedure • Procedures for weed management and monitoring • A process for de-watering farm dams and the relocation of aquatic fauna <p>Provision of supplementary fauna habitat (eg nest boxes).</p>	Prior to Early Works	This Plan where relevant for Early Works activities
B02	<p>A Habitat Compensation Plan (HCP) will be prepared and implemented as part of the CFFMP for the project. The HCP will target those species that will be impacted by the loss of hollows. Measures will include: nest boxes, reuse of salvaged hollows and/or new technologies eg chainsaw hollows), as well as replacement of woody debris and bushrock with consideration to Guide 5 and Guide 8 of Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).</p>	Prior to construction	Section 6.1 Habitat Compensation Plan
B05	<p>Pre-clearing surveys will be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 1: Pre-clearing process). The following species identified on or near the study area will require particular attention:</p>	Prior to Early Works	Section 6.1 Table 6-2 FF5
	<ul style="list-style-type: none"> • Cumberland Plain Land Snail <p>Pre-clearance surveys will be carried out immediately before clearing works by a qualified ecologist in all vegetated areas to be disturbed that were identified as known or potential habitat for Cumberland Plain Land Snail (see Figure 6-6). As identified in the CFFMP, all individual Cumberland Plain Land Snails found during pre-clearance surveys will be translocated to adjacent areas of suitable habitat.</p>		Section 6.1 Table 6-2 FF6

ID	Measure/requirement	Timing	Reference
B06	An unexpected threatened species finds procedure will be developed as part of the EWFFMP and based on Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 1: Pre-clearing process).	During Early Works	Appendix D
	The procedure will include requirements for workers to be made aware of the potential flora and fauna species that may be encountered during construction (including training staff on species identification) and outline the process for the identification and management of unexpected flora and fauna.		Appendix D
	In the event that any threatened species are identified during construction, the following steps would be carried out: 1. Stop work immediately in the location of the unexpected find to avoid any potential impacts. 2. Notify the Senior Environment Officer. 3. Senior Environment Officer will arrange for an ecologist to conduct an assessment of significance of the likely impact, develop management options, and notify DPIE, EESG, and DAWE as appropriate. 4. If a significant impact is unlikely to occur, re-start work and maintain regular site inspections. 5. If a significant impact is likely to occur: a. Consult with DPIE, EES and DAWE as appropriate. b. Obtain approvals, licenses or permits as required. c. Re-begin work once advice is sought and necessary approvals, licenses and permits are obtained. 6. Include species in subsequent inductions, toolbox talks and update the EWEMP.		Appendix D
B07	Vegetation and habitat removal will be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 4: Clearing of vegetation and removal of bushrock).	During Early Works	Section 6.1 Appendix G
B08	Revegetation will be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 3: Re-establishment of native vegetation) and the Landscape Plan prepared for the project.	During Early Works	Section 6.8

ID	Measure/requirement	Timing	Reference
B09	Habitat will be replaced or re-instated in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 5: Re-use of woody debris and bushrock and Guide 8: Nest boxes).	During Early Works	Section 6.3
B16	Large woody debris will be retained for creek crossing works where practicable. Any large woody debris placed in the realigned waterways will be relocated in consultation with an ecologist.	During Early Works	Section 6.3 Table 6-1
B18	The temporary application of mulch during construction will be managed to avoid the potential for material and tannin run-off into waterways. This will include limiting the application of mulch near waterways where practicable. The application of mulch for permanent landscaping must be designed and planned to avoid material and tannin runoff.	During Early Works	Section 6.4 Table 6-2 FF54
B19	Emergency response protocols and procedures will be included in the Project CEMP and implemented in the event of a contaminant spill or leak.	During Early Works	EWEMP
B20	Spill kits will be located to allow for timely response to uncontained spills. Site inductions will include a briefing on the use of spill kits.	During Early Works	EWEMP
B24	Exclusion zones will be set up at the limit of clearing in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 2: Exclusion zones). Exclusion zones will be set up to protect potential indirect impacts to threatened flora in accordance with the areas identified in the EIS and this amendment report (including Figure 1-2 of Appendix A of the amendment report).	During Early Works	Section 6.2 Table 6-2
B25	Fauna will be managed in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Guide 9: Fauna handling).	During Early Works	Section 6.7 Table 6-2 FF28

ID	Measure/requirement	Timing	Reference
			Table 7-3 Appendix D
B26	Weed species will be managed in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 6: Weed management).	During Early Works	Section 6.5 Appendix E
B27	Pathogens will be managed in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 2: Exclusion zones).	During Early Works	Section 6.5 Appendix E
LVIA03	Existing vegetation within the construction footprint will be retained and protected where possible. This includes densely vegetated areas such as remnant riparian forests and Cumberland Woodlands in Western Sydney Parkland.	Detailed design and during Early Works	Section 6.1 Section 6.2 Section 6.8 Table 6-2
LVIA15	A tree management strategy will be prepared for the project, outlining:	Detailed design and prior to Early Works	Section 6.1 Section 6.2
	• Measures to minimise tree removal to retain and protect as many trees within the construction footprint as reasonable and feasible		Section 6.1 Section 6.2
	• Measures to avoid damage to trees that are to be retained within the construction footprint to ensure the maintenance of health and stability of the trees in accordance with AS4970-2009 Protection of trees on development sites		Section 6.2

ID	Measure/requirement	Timing	Reference
	<ul style="list-style-type: none"> Requirements for the pruning of trees to be carried out by a suitably qualified person in accordance with AS 4373-2007 Pruning of amenity trees. 		Table 6-2 FF11
GG03	Vegetation removal will be minimised where practicable.	Detailed design and Early Works	Section 6.1

TfNSW QA Specification G38

Section	Measure/requirement	EWFFMP Reference
3.4.2 (ix)	Measures to prevent potential release and potential disposal of exotic aquatic fauna/ flora and pathogens during dewatering into waterbodies	Section 6.4
3.4.2 (xiii)	Animal care and ethics requirements including reference to procedures for fauna (including fish and turtle) capture, storage, relocation and release (if required) through the use of a suitably qualified Ecologist (See G36 clause 4.8)	Section 6.7
3.5 (a)	Locate stockpiles outside of the tree protection zone of trees or native vegetation identified for retention. Delineate the tree protection zone in accordance with AS 4970 and to ensure a zone of at least five (5) metres from retained trees and outside the drip line.	Table 6-2
3.5 (e)	Keep topsoil that is not contaminated by noxious weeds in stockpiles for later spreading on fill batters and other areas. Other material may also be stockpiled but kept separated from the topsoil stockpiles.	Table 6-2
3.5 (f)	Implement measures to prevent the growth of weeds in topsoil stockpiles.	Table 6-2
3.6	This section is to be read in conjunction with TfNSW G36 Clause 4.8(l). Prepare a procedure to manage the use and stockpiling of mulch on Site and to reduce the risk of tannin leachate from mulch flowing into waterways, and include this within the ESCP.	Table 6-2

TfNSW QA Specification G40

Section	Measure/requirement	EWFFMP Reference
2.1	Unless shown otherwise on the Drawings or restricted by exclusion zones, the area to be cleared is that which will be occupied by the extent of the trenching plus a clearance of up to 2m beyond the edge of the trench, provided that the cleared area does not extend beyond the road reserve. Prior to commencing clearing and tree removal, a site inspection between both parties to determine and agree the extent of the actual clearing.	Table 6-2 FF3
2.1	The method of clearing and the extent and sequencing of clearing must be in accordance with the EWEMP and <i>Guide 4: Clearing Vegetation and Bush Rock of the Biodiversity Guidelines: Protecting and managing biodiversity on RMS projects</i> .	Table 6-2 FF4
2.4	Before clearing commences, identify the limits of clearing by clearly visible markers and demarcate and implement an exclusion zone in accordance with the EWEMP and the <i>Biodiversity Guidelines – protecting and managing Biodiversity of RMS projects, Guide 2: exclusion zones</i> (RMS 2011). Also provide a report which:	Table 6-2 FF18
	(a) includes a statement from a suitably qualified Ecologist that identifies the species and location of any weeds growing anywhere in the road reserve over the length to be cleared and grubbed;	Table 6-2 FF10
	(b) includes a map clearly showing vegetation boundaries, and exclusions / no-go zone, identifies all locations of threatened flora species and trees which have been marked or otherwise identified for preservation; and	Table 6-2 FF10
	(c) lists any trees identified by a suitably qualified arborist outside the limits of clearing which are unsound and likely to fall upon the roadway or onto private property.	Table 6-2 FF10
	Plan and carry out all operations in accordance with the EWEMP and the RMS Biodiversity Guidelines: Guide 4 to ensure that there is no damage to any trees outside the limits of clearing specified or to any retained trees inside the limits of clearing. Heavy plant must not be operated or parked within the drip line of retained trees, unless otherwise approved by the Principal.	Table 6-2 FF22 Table 6-2 FF23

Section	Measure/requirement	EWFFMP Reference
	Areas within the assessed areas that do not need to be cleared to provide for construction activities are to be included as part of the exclusion areas and fenced accordingly.	
	Trees nominated in (c) above must be marked and identified in the Clearing and Grubbing Plan in a manner which allows them to be identified as one of the listed trees and whether pruning or removal is recommended. Areas of weed infestation identified in the ecologist report (Clause 2.4 (a) must be marked).	Table 6-2 FF11 Table 6-2 FF12
2.4	Before commencing clearing and grubbing all soil erosion and sedimentation controls required for this phase of construction must be installed in accordance with TfNSW G38.	Table 6-2 FF13
2.4	All staff must be made aware of the prohibited matter weeds present on-site and requirements related to the listing in Schedule 2 under the <i>Biosecurity Act 2015</i> .	Section 7.2
2.4	Weeds and topsoil potentially containing weed propagules must be removed and disposed of in accordance with the requirements of the local Council and DPI guidelines. Removal of weeds growing in the area to be cleared and grubbed must be carried out at your cost. Removal and disposal of weeds growing in the road reserve outside the area to be cleared and grubbed may be directed by the Principal as a Variation to the Contract unless the Principal elects to have this work carried out by others.	Section 6.5 Table 6-2 FF34
2.4	At least one week before commencing clearing of native vegetation, engage a qualified ecologist to inspect the site for potential fauna habitat features including vegetation, leaf litter and existing culverts in accordance with pre-clearing requirements outlined in the EWEMP. If any threatened fauna species are found, inform the Principal and arrange to have the threatened fauna species relocated by a qualified ecologist in accordance with the EWEMP and a relocation plan that is acceptable to the Principal and in accordance with relevant statutory requirements. Obtain all necessary approvals prior to relocation of fauna.	Section 6.1 Table 7-1
2.4	Keep records of all fauna rescue events, including locations to where fauna have been relocated. Take protective measures during the operations of clearing and road construction to avoid damaging or destroying threatened flora species and trees which have been marked or otherwise identified for preservation. These measures must include but not be limited to: (i) fencing around trees clear of the canopy line;	Table 6-2 FF31 Appendix F

Section	Measure/requirement	EWFFMP Reference
	(ii) ensuring no materials are stockpiled and no vehicles are parked under the canopy;	Table 6-2 FF24
	(iii) avoiding excavation or the placing of fill near any tree without advice from an ecologist; and	Table 6-2 FF24
	(iv) routing haul roads and access tracks clear of the canopy	Table 6-2 FF24
2.4	Where trees are to be retained you must install a protection zone around each tree for the duration of the works. The radius of the protection zone must be determined by multiplying the diameter of the tree at breast height (1.4m) by 12. The minimum radius must be 2m and the maximum 12m.	Table 6-2 FF24
2.4	Trees remaining within the road reserve, but outside the limits of clearing, which the Principal has agreed to be unsound and are likely to fall upon the roadway or onto private property, must be cleared or pruned in accordance with AS 4373. Any branch, which overhangs the road formation, must be cut back flush with the tree trunk in accordance with AS 4373.	Table 6-2 FF11
2.4	Existing trees, grasses and other ground cover must be retained within 15 m of rivers, creeks and watercourses and in all drainage lines until immediately before construction commences in the area.	Table 6-2 FF20
	An access track may be constructed across these areas on an alignment that will minimise erosion	Table 6-2 FF20
2.4	Holes left following the removal of trees and stumps must be backfilled and vegetated as per G40 Clause 3.	Table 6-2 FF27
2.4	Comply with the requirements detailed in Clause 4.8 of RMS G36 in relation to clearing in addition to the requirements detailed in this specification.	Table 6-2
2.4	All vegetation removal is to be undertaken in accordance with the RMS Biodiversity Guidelines – Protecting and Managing Biodiversity on RMS Projects. Guide 4: Clearing of vegetation and removal of bushrock (RMS 2011) and the EWEMP.	Table 6-2

Section	Measure/requirement	EWFFMP Reference
2.4	Before clearing commences, clearing limits and sensitive areas / no go zones must be clearly delineated on site at least seven (7) days prior to the proposed commencement of clearing. Clearing limits must be delineated using highly visible continuous barrier or tape such as bunting, nightline or other similarly robust and durable material.	Table 6-2 FF2
2.4	The ESR must undertake a site walk-over with the Principal to confirm clearing boundaries before the start of work. You must not clear outside these agreed clearing boundaries without the prior approval of the Principal.	Table 6-2 FF2
2.4	Trees to be retained and trees to be removed must be identified and clearly marked prior to clearing commencing.	Table 6-2 FF2
2.4	Provide a report which:	Section 6.1.1 Table 6-2 FF10
	(a) includes a map showing the clearing boundaries and any 'no-go' areas;	
	(b) incorporates the management measures identified within the Ecologist pre-clearing survey;	
	(c) identifies locations where the vegetation outside the formation has been retained;	
	(d) identifies measures to prevent clearing beyond the vegetation clearing limits; and	
4.1	Native trees removed during clearing and grubbing may be used in conjunction with soil erosion and sediment control measures. You must prepare a Reuse Strategy for native tree material in accordance with G36 clause 4.8.	Table 6-2 FF57 Appendix G
4.2	Stockpile sites must be located away from drainage lines and watercourses and must be arranged to minimise damage to natural vegetation and trees.	Table 6-2 FF52
5	Disposal of timber and other combustible materials by burning is not permitted.	Table 6-2 FF9
6	You must plan and carry out all operations to ensure that no noxious weeds are imported into the Site and that no weeds are spread from existing weed areas within the Site.	Table 6-2 FF37 Section 6.5

Section	Measure/requirement	EWFFMP Reference
		Appendix E
6	All staff must be made aware of Noxious Weeds present on-site and requirements related to the listing under the Biosecurity Act 2015.	Section 7.2
6	Treat and dispose of any noxious weeds in accordance with their category under the Biosecurity Act. Any spraying of noxious weeds must comply with RMS G36 Clause 4.12 and be carried out with care to avoid damage to adjacent native vegetation and to prevent overspray entering waterways or adjoining properties. Spray weeds with a non-specific herbicide at least 2 weeks prior to the commencement of clearing in each work area.	Table 6-2 FF38 Appendix E
6	Where noxious weed areas are disturbed by your construction activities, weeds and topsoil potentially containing weed propagules must be removed and disposed of in accordance with the requirements of the local Council.	Table 6-2 FF35
6	Monitor the effectiveness of weed treatments and re-apply treatments if previous weed treatments are not fully effective. The frequency and duration of weed monitoring inspections must be appropriate for the vegetation in the clearing footprint, with flexibility to respond to changes in the environment. As a minimum, undertake weed inspections on a monthly basis for a period of six months (or as necessary responding to seasonal and climatic conditions), then at least one session every three months for the remainder of the work under the contract. Report to the Principal the results of each monitoring inspection and prepare an Action Plan to manage any ongoing weed problems.	Section 8.1 Appendix E
6	The wheels of all construction plant must be washed down before transportation to the site, to avoid the risk of importation of root-rot fungus, other pathogens or weeds into the local area. Keep records of all screening checks and subsequent actions taken.	Table 6-2 FF37
6	Do not stockpile weed infested or contaminated topsoil adjacent to areas of native vegetation. Weed infested topsoil must be disposed off site as directed by the Principal in accordance with TfNSW Specification R44.	Table 6-2 FF60 Appendix E
Annexure G40/D	Provide a Clearing and Grubbing Plan which must include, but not be limited to, the following information: (a) methods used to identify and mark areas of weeds to be removed and methods for their removal (Clause 2.4); (b) procedure for the disposal of weeds and exotics (Clause 2.4);	Appendix G

Section	Measure/requirement	EWFFMP Reference
	<p>(c) procedure for protecting threatened flora species and trees marked for preservation (Clause 2.4);</p> <p>(d) methods used for identifying, marking and removing or pruning unsound trees likely to fall upon the roadway or onto private property (Clause 2.4); and</p> <p>(e) procedure for identifying and removing trees, stumps and logs above the specified size and within the hazard line (Clause 2.2)</p> <p>(f) Exclusion zones, in accordance with RMS' Biodiversity Guidelines (RTA 2011), for sensitive areas, weeds and riparian zones that do not need to be accessed must be established before works start.</p> <p>(g) Machinery must be cleaned prior to entering and leaving the site to ensure that weed seeds and propagules and soil or other pathogens are not imported to the site.</p> <p>(h) Where possible, clearing (including weed species) in areas prone to sheet flows would avoid ripping and grubbing, so as to preserve the root mass to provide stabilisation as protection against erosion.</p> <p>(i) Clearing of vegetation from riparian areas would use the cut stump method wherever possible to minimise the potential of erosion of stream banks.</p> <p>(j) Clearing procedure to comply with RMS publication "RMS Biodiversity Guidelines: Protecting and Managing Biodiversity on RMS Projects" Guides 1, 2, 4 & 9 and the EWEMP.</p>	
Annexure G40/D	Include in the Clearing and Grubbing Plan procedures for the disposal of weeds and exotics and for the recycling and disposal of all other materials from clearing and grubbing operations	Appendix G
Annexure G40/D	The Clearing and Grubbing Plan and must be consistent with the requirements of the other TfNSW specifications and must supplement you're the EWEMP as set out in TfNSW G36.	Appendix G

Appendix C – Procedure for Vegetation Clearing

Appendix C

Early Works Flora and Fauna Management Sub-plan

Vegetation Clearing Procedure

M12 Motorway – Temporary Roundabout on Elizabeth Drive, Badgerys
Creek



November 2021

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Document control

File Name	M12PPW-CPB-EDR-EN-PLN-00001_E_S3_Appendix C
Title	M12 Motorway EW FFMP Appendix C – Vegetation Clearing Procedure M12 Motorway – Temporary Roundabout on Elizabeth Drive, Badgerys Creek
Document Number	M12PPW-CPB-EDR-EN-PLN -00001

Approval and authorisation

Plan reviewed by:	Plan reviewed by:
David Bone	Simon Lendrum
Associate Director – EMM Consulting	Environmental Site Representative – CPB Contractors
Date: 02/11/2021	Date: 02/11/2021
Signed 	Signed 

Revision history

Revision	Date	Description
A	25/08/2021	First Draft for TfNSW Review
B	09/09/2021	Updated following TfNSW review
C	30/09/2021	Updated following change of document template and addressing TfNSW comments
D	27/10/2021	Updated to address TfNSW and ER comments
E	01/01/2021	Address ER comments

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Glossary/ Abbreviations

Abbreviations	Expanded text
AR	Amendment Report
ARSR	Amendment Report Submissions Report
BC Act	<i>Biodiversity Conservation Act 2016</i>
CEEC	Critically Endangered Ecological Community
CoA	Conditions of Approval
DAWE	Commonwealth Department of Agriculture, Water and Environment
DBH	Diameter at Breast Height
DPIE	NSW Department of Planning, Industry and Environment
EEC	Endangered Ecological Community
EES	NSW Environment, Energy and Science Group (a part of DPIE)
EIS	Environmental Impact Statement
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EWFFMP	Early Works Flora and Fauna Management Plan
EWEMP	Early Works Environmental Management Plan
EWMS	Environmental Work Method Statements
Project, the	M12 Motorway Project
PCT	Plant Community Type
RTA	Former Roads & Traffic Authority
RtS	Response to Submission
TfNSW	Transport for New South Wales
Tree	Long-lived woody perennial plant with one or relatively few main stems, with a trunk size of 300 mm or more at 1.5 metres from ground AND/OR a height of 3 metres or more
WIRES	NSW Wildlife Information Rescue and Education Service

1 Introduction

1.1 Purpose

Clearing associated with Early Works of the M12 Motorway Project (the Project) will result in the loss of vegetation and fauna habitat, with impacts on native flora and fauna, including threatened species and Endangered Ecological Communities (EEC). This Vegetation Clearing Procedure has been prepared in accordance with *Guide 1: Pre-clearing process*, *Guide 2: Exclusion zones* and *Guide 4: Clearing of vegetation and removal of bushrock*, *Biodiversity Guidelines* (RTA, 2011) and Transport for NSW (TfNSW) specifications.

The purpose of this Procedure is to outline environmental control measures to minimise clearing of vegetation associated with the Early Works and impacts on biodiversity and the surrounding environment. It provides a framework for the management of vegetation to be retained or removed and the minimisation of loss of habitat and harm to associated fauna.

1.2 Induction/training

All site personnel (including sub-contractors) will be inducted on the potential threatened species and EEC and sensitive environmental areas occurring within the Early Works, and this Procedure. Training will include inductions, toolbox talks, pre-starts and targeted training as required.

All site personnel working in the Early Works area will be informed of exclusion zones as illustrated on the Sensitive Area Maps and where they are located.

1.3 Scope

This Procedure details control measures to minimise impacts of vegetation clearing to be implemented throughout the Early Works.

1.4 Roles and Responsibilities

The following specialised roles are required for Early Works clearing activities:

- A suitably qualified and experienced Early Works Ecologist will undertake pre-clearing surveys, including targeted surveys, where required, for the Cumberland Land Snail, Grey-headed Flying-fox and Southern Myotis
- A qualified arborist will undertake an assessment of existing trees within the road reserve that are to be retained and identify techniques to maximise tree health and longevity. Any pruning will be carried out by an arborist using only the appropriate tools.
- An experienced, licenced wildlife carer or fauna handler will supervise vegetation clearing and capture and relocate fauna.

1.5 Consultation

Development of the EWFFMP includes consultation with NSW Environment, Energy and Science (EES) Group.

1.6 Review

This Procedure will be reviewed annually, or as required in accordance with the continuous improvement process described in Section 8 of this EWFFMP.

2 Vegetation Clearing Procedure

2.1 Clearing and Grubbing Plan and EWMS

A Clearing and Grubbing Plan with EWMS is included as Appendix G. This will include reporting and management of the presence of weeds and unsound trees, together with written notice that limits of clearing and areas of weed infestation identified in the Early Works Ecologist report have been marked, at least 15 working days prior to starting any clearing. The Clearing and Grubbing Plan and EWMS will include:

- Methods used to identify and mark areas of weeds to be removed and for their removal
- Procedure for the disposal of weeds and exotics
- Procedure for protecting threatened flora species and trees marked for preservation
- Methods used for identifying, marking and removing or pruning unsound trees likely to fall upon the roadway or onto private property
- Procedure for identifying and removing trees (including potential habitat, hollow-bearing trees), stumps and logs above the specified size and within the hazard line
- Management measures to be implemented to identify and protect clearing limits, habitat features and exclusion areas
- Detailed Sensitive Area Plans.

2.2 Pre-clearing

2.2.1 Pre-clearing process

The pre-clearing process provides a final check for any threatened flora or fauna species that may have moved into the area since previous surveys were undertaken. A suitably qualified and experienced Ecologist will undertake the pre-clearing survey to identify and mark any habitat features within the area to be cleared and to advise on the presence of any fauna. The pre-clearing process will include the following activities:

- Identify and locate habitat features on site
- Identify exclusion zones, install fencing/flagging/signage
- Install erosion and sedimentation controls
- Identify fauna that have the potential to be disturbed, injured or killed during clearing activities (e.g. nesting birds) which would then require development of a Relocation Plan as required by G36 Section 4.8(l)
- Survey for the presence of threatened flora and fauna species identified as being confirmed or likely to occur in the Early Works area
- Identify the number and species of trees, beyond those identified in the TfNSW tree survey, outside of EECs where a tree is defined as *“long-lived woody perennial plant with one or relatively few main stems, with a trunk size of 300 mm or more at 1.5 metres from ground AND/OR a height of 3 metres or more”*

- Identify the number and species of trees within EECs outside of those identified in the TfNSW tree survey
- Record the details for all hollow-bearing trees, trees containing threatened fauna and threatened flora
- Mark habitats to be protected during clearing
- Identify suitable habitat areas for fauna relocation
- 24 hours prior to clearing, licensed wildlife carers and/or ecologists should capture and/or remove fauna that have the potential to be disturbed as a result of clearing activities and relocate to the pre-determined location (as above).

Note: tree survey information obtained by TfNSW will be used to help facilitate pre-clearing surveys.

2.2.2 Targeted pre-clearing survey – Southern Myotis

Targeted pre-clearing surveys will be carried out, where required, for the Southern Myotis in the potential habitat tree, by the Early Works Ecologist as per Figure 2-1.

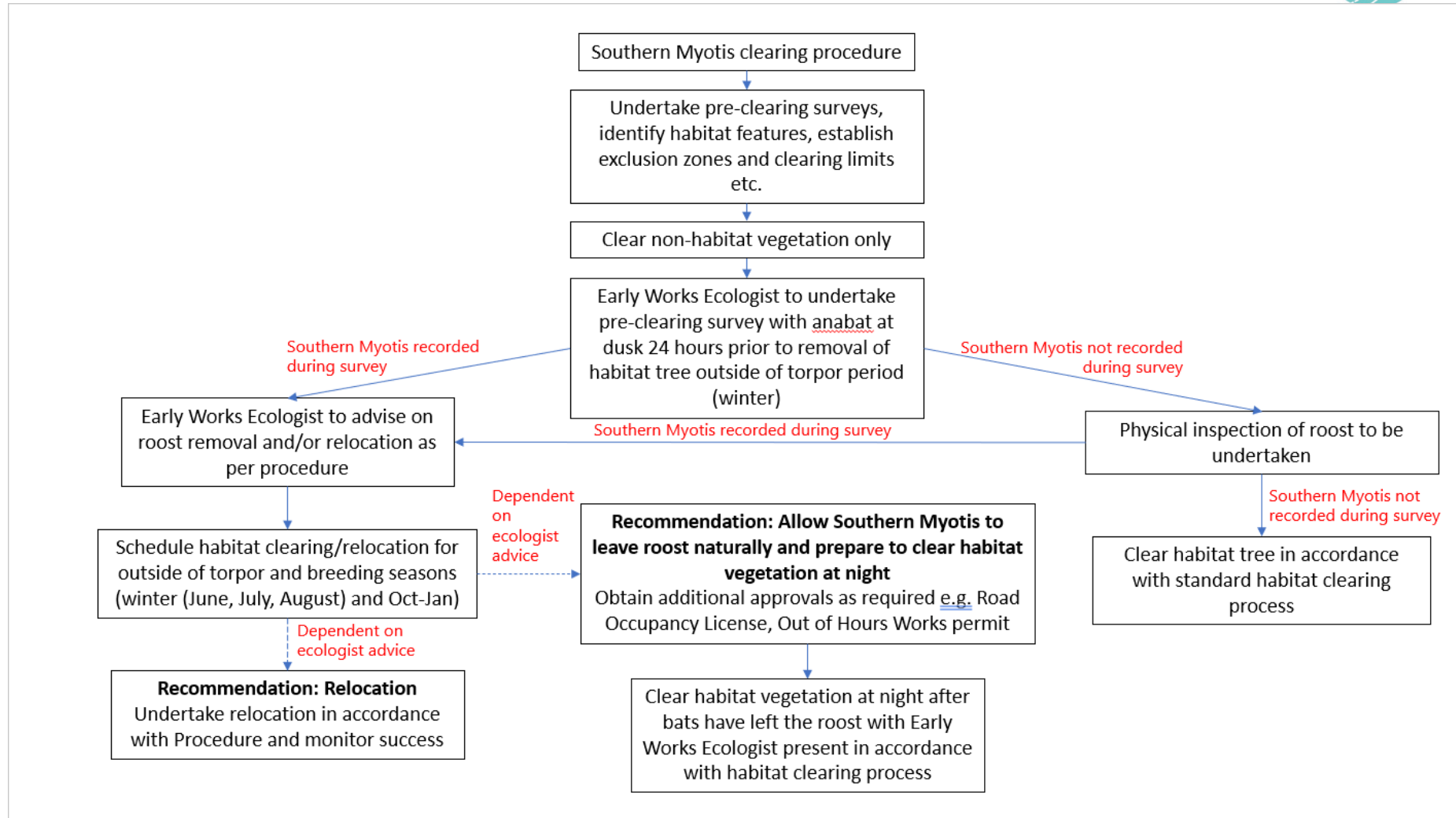


Figure 2-1 Southern Myotis Clearing Procedure

2.2.3 Targeted pre-clearing survey - Cumberland Plain Land Snail

In areas identified as potential Cumberland Plain Land Snail (CPLS) habitat (CPLS lives under leaf and bark litter, leaves and logs, or shelters in loose soil around grass clumps. It has been found under rubbish), (detailed in Figure 1-1 of the EWFFMP), the following procedure will be followed:

1. Within 7 days of clearing, identify the closest safe receiving habitat where snails can be safely transferred to (preferably within 100 metres of habitat to be cleared)
2. Search the habitat to be cleared by hand, to minimise chance of damaging snail shells. Collect all live snails. Photograph and record the location found, and translocated to, for all potential CPLS (if in doubt, assume it is a CPLS but take photos of ventral and dorsal surfaces and get expert verification (for example Michael Shea from the Australian Museum). Garden Snails (*Helix aspersa*) and other *Meridolum* species can be confused with CPLS
3. Dampen receiving habitat and translocate some soil from the habitat to be cleared (to ensure that the fungus that CPLS feeds on is available within the receiving habitat)
4. Search the habitat at night for signs of active snails, as CPLS is generally active at night
5. Just prior to clearing, scrape habitat away down to at least 10cm since CPLS can burrow down into the soil, especially during dry periods. Translocate any remaining live snails.

2.2.4 Targeted pre-clearing survey - Grey-headed Flying-fox foraging habitat

If nightworks in foraging habitat is required, supervision by the Early Works Ecologist, as per standard clearing procedures is considered adequate to address any potential risks to foraging flying foxes.

2.2.5 Exclusion zones

Exclusion zones will be established to prevent damage to native vegetation and fauna habitats and prevent the distribution of pests, weeds and disease in accordance with the following:






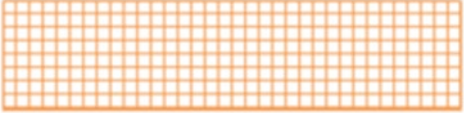
- Identify exclusion zones on a suitable plan to be displayed in prominent places in the Project area. Include in the plan aerial photographs, construction chainages, clear labelling of what is being excluded and access points
- Mark out exclusion zones on site with temporary markings such as pegs or paint and where possible use a qualified surveyor
- Erect signs to inform personnel of the purpose of exclusion zone fencing
- Ensure all exclusion zones are regularly inspected and repairs to fencing are made where required
- Maintain exclusion fencing until the risk to disturbance within the excluded zone has been eliminated through other means
- Update Sensitive Area Maps to ensure exclusion zones are clearly detailed
- Undertake removal of fencing in consultation with the CPB Contractors Environmental Representative.

2.2.6 Flagging protocol

Site delineation, including environmentally sensitive area protection, habitat tree identification and clearing limits, must be consistent with the TfNSW Flagging Protocol. Clearing boundary survey pegs must be numbered as outlined in the Flagging Protocol. Refer to Table 2-1 and Figure 2-2.

Clearing limits will be flagged at least seven working days prior to the proposed commencement of clearing. Clearing limits will be identified using signage and highly visible continuous barrier or tape such as bunting, nightline or other similarly robust and durable material. Sensitive areas, Aboriginal heritage areas and non-Aboriginal heritage areas will be identified. No vegetation clearing within the excluded areas will occur.

Table 2-1 Flagging type

Flagging Type	Description
	Red Flagging – Early Works Boundary
	Orange Flagging – Clearing Limits/Exclusion Fencing. No clearing outside this flagging at any time during the Early Works
	<u>HABITAT TREE</u> Red and White Tape around habitat tree. Spray circle and write “H” (in white) on habitat tree
	Yellow and Black Tape – 10m exclusion zone from underground services. Trees to only be stump cut within this area
	To be allocated by CPB Contractors
	Orange Parrawebbing with “NO ENTRY – ENVIRONMENTAL PROTECTION AREA” sign – (heritage, threatened flora/fauna). Absolutely no entry without written permit from Senior Environmental Officer

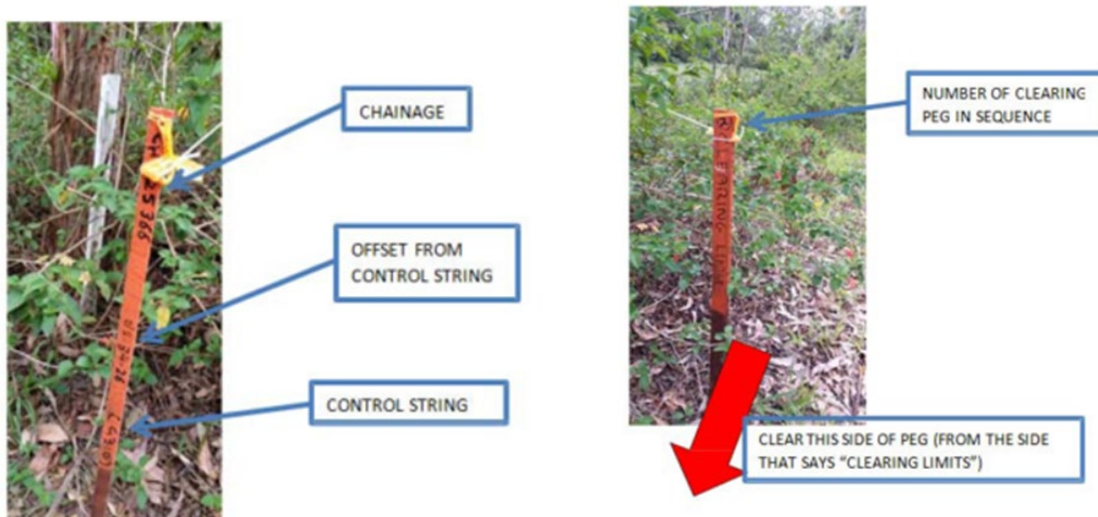


Figure 2-2 Pegging arrangement

2.3 Clearing Process

The area to be cleared will be confirmed following a site inspection with the TfNSW Environment and Sustainability Manager (or delegate). Clearing within identified environmentally sensitive areas will not be undertaken without the approval of the TfNSW Project Manager and Environment and Sustainability Manager (or delegate). Clearing of riparian vegetation or EECs will be in accordance with the areas assessed in the Environmental Assessment Documentation and Infrastructure Approval.

Exclusion zone fencing will be installed to delineate the areas to be cleared.

Clearing will be undertaken in accordance with the following methods:

- Carefully clear vegetation so as not to mix topsoil with debris and to avoid impacts to surrounding native vegetation
- Separate woody vegetation into millable timber, secondary re-use or exotic vegetation
- Temporary stockpiles of vegetation and timber will be less than 2 metres in height, and mulched as soon as practical and managed in accordance with the Management of Tannins from Vegetation Mulch Procedure (refer to the EWEMP)
- Non-woody vegetation should be incorporated into the stripping of topsoil to retain any organic materials and nutrients
- Topsoil is not to be mixed with subsoil and will be stockpiled separately for re-use
- Topsoil stockpiles are not to be compacted, as this can damage the soil structure
- Topsoil stockpiles are to be managed in accordance with the EWEMP and EWFFMP
- The staged habitat removal process is to be used when identified habitat is to be removed, with a licensed wildlife carer or ecologist on site
- Undertake bush rock removal in a way that minimises damage to the bush rock, avoids excessive soil disturbance and avoids climatic seasons when species are utilising this resource
- Pruning will be supervised by a Level 3 qualified arborist.

2.3.1 Staged habitat removal

The staged habitat removal process will be used when identified habitat (e.g. hollow-bearing trees, habitat trees or bushrock) is to be removed.

Staged habitat removal is conducted in at least two stages. Non-habitat trees and surrounding understorey vegetation will be felled or cleared first in order to give any fauna an opportunity to relocate. Habitat trees will be felled or cleared under the supervision of the Early Works Ecologist after a minimum of 24 hours after clearing of non-habitat vegetation.

The following actions will be undertaken for stage habitat removal:

- Removal works will be timed to minimise impacts on fauna (e.g. avoid known breeding/nesting seasons)
- Contact vets and wildlife carers prior to commencing works to ensure willingness to assist if required
- The Early Works Ecologist and/or a licensed wildlife carer will be present on-site during habitat removal
- Habitat trees will be felled using the "slow drop" technique and relocated for re-use, where possible
- Accurate records will be maintained.

2.4 Controls for protection of fauna

A qualified fauna handler, wildlife carer or ecologist will be present during clearing and will direct clearing in a manner that encourages and allows fauna to safely flee the clearing area. Where animals are unable to flee as a result of injury or otherwise, they will be captured and placed in adjacent areas of equivalent habitat.

In the event that fauna handling is required, the Fauna Handling and Rescue Procedure will be implemented. A Relocation Plan will also be prepared and approved by TfNSW in accordance with G36 Section 4.8(l). Section 2.3.1 details the two staged clearing process for identified habitat trees.

If fauna is encountered during clearing activities, a stop work procedure will be implemented in accordance with the Unexpected Threatened Species or EEC Finds Procedure.

The following steps will be taken:

- Cease work in the vicinity of the fauna and immediately notify the Environmental Site Representative
- Allow the animal to relocate by itself, however if it is injured (or suspected to be injured), contact a licenced fauna handler or rescuer (e.g. WIRES) or the Early Works Ecologist
- Injured fauna will be transferred to a local vet for treatment
- Non-injured fauna will be relocated to appropriate pre-determined nearby habitat.

2.5 Controls for protection of vegetation

2.5.1 General controls

Protective measures to be implemented during clearing to avoid damaging or destroying vegetation and habitat which have been marked or otherwise identified for preservation. Measures will include:

- Installation of suitable fencing to prevent plant and equipment entering the exclusion zones
- Avoid stockpiling of materials and vehicle parking under the tree canopy
- Avoid excavation or the placing of fill near any tree without advice from an arborist
- Haul roads and access tracks will be located away from the tree canopy
- Trees will be marked for directional felling to avoid damage to environmentally protected areas
- Assess existing trees within the road reserve that are to be retained to identify techniques to maximise their health and longevity
- Access tracks will be constructed and aligned to minimise erosion as per the Blue Book (Landcom, 2004)
- Plant and equipment will be selected to minimise tracking and disturbance of existing ground.

2.5.2 Threatened flora

Early Works will not result in impacts to threatened plant species. Should any threatened species be identified during pre-clearing surveys, the Unexpected Finds Procedure will be implemented and include the establishment of Exclusion zones will be established around any additional plants identified during the pre-clearing surveys.

2.5.3 Root ball management

During vegetation clearing, timber and root balls will be retained where practicable for reuse in habitat enhancement and rehabilitation work. The retained timber and root balls may be used on or offsite.

Prior to the commencement of vegetation clearing, practicable options to reuse native trees and vegetation that are to be removed will be identified in accordance with the Reuse Strategy detailed in Section 6.10 and Appendix H of the EWFFMP. If it is not possible to reuse all removed native trees and vegetation, CPB Contractors will consult with Council, Western Sydney Parklands, Landcare groups and government agencies to determine whether hollows, tree trunks, mulch, bush rock, root balls, collected plant material seeds and/or propagated plants could be used by others in habitat enhancement, beneficial re-use and rehabilitation work before pursuing other disposal options.

2.6 Post-clearing

The post-clearing process includes:

- Completion of a post-clearance checklist

- Stabilisation of disturbed areas with revegetation or other material to be carried out where earthworks are not planned to commence within four weeks of clearing, to prevent erosion
- Any damage to vegetation to be retained will be immediately reported to the Environmental Site Representative and TfNSW Environment and Sustainability (or delegate) and rectified with the advice of an ecologist or arborist

Where holes remaining after tree removal are located in areas where pedestrian or foot traffic is likely to occur, the holes will be backfilled and vegetated. Backfill material will prevent the infiltration and ponding of water and be compacted to at least the relative compaction of adjacent ground.

3 Reporting

3.1 Pre-Clearing Survey Report

A Pre-Clearing Survey Report will be prepared by the Early Works Ecologist after undertaking the pre-clearing survey for review by the TfNSW Environment and Sustainability (or delegate). The report will include:

- Description of the pre-clearing survey methodology
- Identification of targeted species including, as a minimum, the Cumberland Plain Land Snail, Southern Myotis and Grey-headed Flying-fox
- Identification of number and species of trees to be removed
- Identification of habitat trees to be removed within areas to be cleared
- Identification of active nests present.

3.2 Post-Clearing Report

The Early Works Ecologist will prepare Post-Clearing Reports containing a summary of the results of post-clearing surveys, and any fauna rescues, injuries or mortalities during clearing activities. The Post-Clearing Reports will be reviewed by the TfNSW Environment and Sustainability Manager (or delegate). The reports will be provided progressively (weekly) and a final report prepared within 21 days from the completion of substantial clearing. The reports will include:

- Name and qualifications of the Ecologist or wildlife carer present during clearing
- Assessment of the habitat and handling of fauna
- Information on clearing operations, dates, procedures, areas
- Areas of Plant Community Type (PCTs), EECs, Critically Endangered Ecological Communities (CEECs) and all other vegetation removed and areas approved for removal in the EIS and Amendment Report
- Number and species of trees and other vegetation removed
- Number and size of hollows contained in trees removed
- Live fauna sightings, captures, any releases or injured/shocked wildlife
- Any damage to trees to be retained, nests or other fauna habitat features
- Injury or mortality of fauna
- Photographs of rescued fauna
- Records of all fauna rescue events, including locations to where fauna has been relocated.

Appendix D – Unexpected Threatened Species and Endangered Ecological Communities (EECs) Finds Procedure

Appendix D

Early Works Flora and Fauna Management Sub-plan

Unexpected Threatened Species and Endangered Ecological Communities (EECs) Finds Procedure

M12 Motorway – Temporary Roundabout on Elizabeth Drive, Badgerys
Creek



November 2021

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Document control

File Name	M12PPW-CPB-EDR-EN-PLN-00001_E_S3_Appendix D
Title	M12 Motorway EW FFMP Appendix D – Unexpected Finds Protocol M12 Motorway Temporary Roundabout on Elizabeth Drive, Badgerys Creek
Document Number	M12PPW-CPB-EDR-EN-PLN-00001

Approval and authorisation

Plan reviewed by:	Plan reviewed by:
David Bone	Simon Lendrum
Associate Director – EMM Consulting	Environmental Site Representative – CPB Contractors
Date: 02/11/2021	Date: 02/11/2021
Signed 	Signed 

Revision history

Revision	Date	Description
A	25/08/2021	1 st Draft for TfNSW Review
B	30/09/2021	2 nd Draft for TfNSW review
C	30/09/2021	3 rd Draft and template changes for TfNSW review
D	27/10/2021	Address TfNSW and ER comments
E	01/01/2021	Address ER comments

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Glossary/ Abbreviations

Abbreviations	Expanded text
CoA	Conditions of Approval
DAWE	Commonwealth Department of Agriculture, Water and Environment
DPI Fisheries	NSW Department of Primary Industries - Fisheries
DPIE	NSW Department of Planning, Industry and Environment
EEC	Endangered Ecological Community
EES	NSW Environment, Energy and Science group (a part of DPIE)
EIS	Environmental Impact Statement
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
ER	Environmental Representative
ESM	TfNSW Environment and Sustainability Manager
ESR	Early Works Contractor - Environmental Site Representative
EWEMP	Early Works Environmental Management Plan
EWFFMP	Early Works Flora and Fauna Management Plan
RTA	Former Roads & Traffic Authority, now Transport for New South Wales
Project, the	M12 Motorway Project
TfNSW	Transport for New South Wales

1 Introduction

1.1 Purpose

This Unexpected Threatened Species and Endangered Ecological Community (EEC) Finds Procedure details the actions to be taken when a threatened flora or fauna species or EEC is unexpectedly encountered during Early Works of the M12 Motorway Project (the Project). This Procedure has been developed in accordance with *Guide 1: Pre-clearing process, Biodiversity Guidelines* (RTA, 2011).

1.2 Scope

This Procedure is applicable to all activities conducted by site personnel that have the potential to come into contact with threatened flora and fauna species and EECs during Early Works of the Project.

Where threatened fauna is unexpectedly encountered, the Fauna Handling and Rescue Procedure (Annexure C) will be followed.

1.3 Induction / training

All site personnel (including sub-contractors) will be inducted on the potential threatened species and EECs occurring, or likely to occur, within the Early Works area and the requirements of this Procedure. Training will include inductions, toolbox talks, pre-starts and targeted training as required. CPB Contractors will include photos and descriptions of threatened species and EECs occurring or likely to occur within the Early Works area in the Procedure and communicate the information to all site personnel.

1.4 Roles and responsibilities

CPB Contractors Environmental Site Representative will be notified in the event of an unexpected species or EEC find on site during Early Works of the Project. The Environmental Site Representative is the key contact point for the Transport for NSW (TfNSW) Environment and Sustainability Manager (or delegate) in regard to this Procedure. The Early Works Ecologist is responsible for the implementation of this Procedure as directed by the Environmental Site Representative.

The TfNSW Environment and Sustainability Manager (or delegate) will act as the liaison between the Environmental Site Representative and relevant government agencies in the event that a significant impact to a threatened species or EEC is likely to occur.

All site personnel are responsible for reporting any unexpected species or EEC finds for the duration of the Early Works.

1.5 Review




This Procedure will be updated by the Environmental Site Representative in consultation with the Early Works Ecologist and reviewed by the TfNSW Environment and Sustainability Manager (or delegate) prior to commencement of Early Works of the Project.



This Procedure will be reviewed annually, or as required in accordance with the continuous improvement process described in Section 8 of the Early Works Flora and Fauna Management Sub-plan (EWFFMP).

2 Threatened species and EECs likely to occur in the Early Works area

The threatened flora and fauna species and EECs which may be impacted by the Early Works are identified in Section 4 of the overarching EWFFMP. In the event that these species or EECs (or other threatened species or EECs) not considered in the Environmental Assessment Documentation or Section 4 of the EWFFMP, be encountered on site, works must stop and this Procedure must be implemented. The specific flora and fauna species identified in Section 4 of the EWFFMP are shown in Table 2-1.

Table 2-1 Potential threatened species

Species	Photo
Cumberland Plain Land Snail	
Southern Myotis	
Grey-headed Flying-fox	

Species	Photo
<i>Dillwynia tenuifolia</i>	
<i>Pultenaea parviflora</i>	

3 Procedure

3.1 Overview

An overview of the steps to be followed in the event that a threatened flora or fauna species or EEC is unexpectedly discovered on site is outlined in Figure 3-1, with further detail provided below.

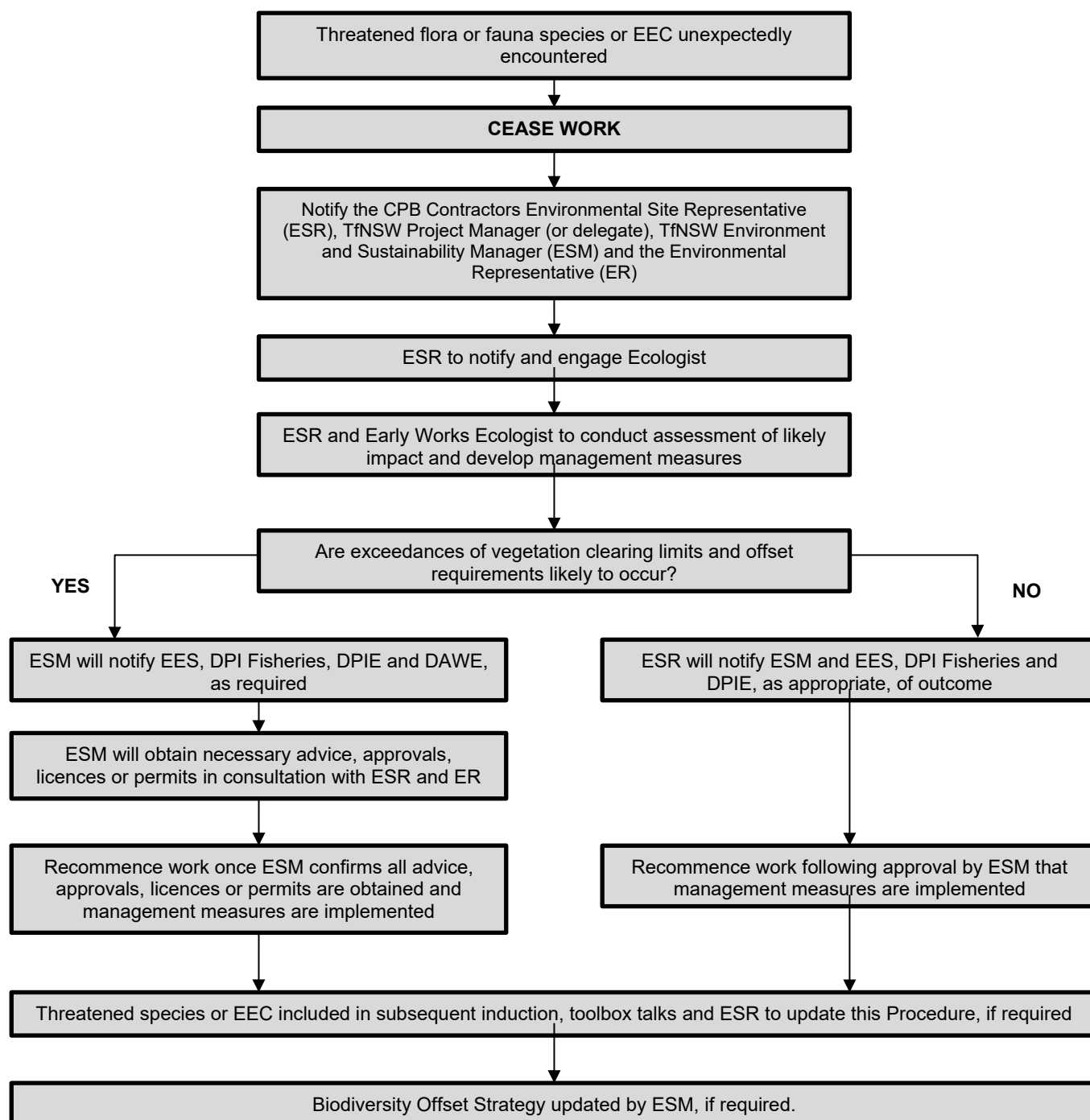


Figure 3-1: Unexpected threatened species or EECs finds procedure flow chart

3.2 Detailed procedure

Step 1	Threatened flora or fauna species or EEC unexpectedly encountered during Early Works activities
	<p>If a new threatened flora or fauna species or EEC is unexpectedly encountered:</p>
	<p><u>Cease work</u> in the vicinity of the unexpected find.</p>
	<p>Immediately notify the Environmental Site Representative and the TfNSW Environment and Sustainability Manager (or delegate) and the ER. The Environmental Site Representative will notify and engage the Early Works ecologist and notify NSW Department of Planning, Industry and Environment (DPIE), Commonwealth Department of Agriculture, Water and Environment (DAWE), NSW Environment, Energy and Science (EES) and NSW Department of Primary Industries (DPI) Fisheries, if required.</p>
Step 2.	Assessment of impact
	<p>The Environmental Site Representative and Early Works Ecologist will conduct an assessment of the likely impact to the threatened species or EEC, calculate if additional off-sets are needed, and develop management measures, as required.</p>
	<p>The Environmental Site Representative will notify the TfNSW Environment and Sustainability Manager (or delegate) and the ER, EES, DPI Fisheries and DPIE, as appropriate, of the outcome of the assessment, including any management measures to be implemented.</p>
	<p>If the Early Works Ecologist assessment determines that exceedances of the vegetation clearing limits and offset requirements in the CoA is likely to occur, the TfNSW Environment and Sustainability Manager (or delegate) will notify EES, DPI, DPIE and DAWE as appropriate. Management measures will be developed in consultation with the appropriate authorities who will also confirm any necessary approvals, licences or permits required. If practical, reductions in vegetation clearing in another area may be possible to compensate.</p>
	<p>DAWE will be notified and consulted if the threatened species or EEC encountered is listed under the <i>Commonwealth Environmental Protection and Biodiversity Conservation Act 1999</i> (EPBC Act).</p>
Step 3	Approvals
	<p>Any approvals, licences or permits required will be obtained by the TfNSW Environment and Sustainability Manager (or delegate) in consultation with the Environmental Site Representative and the Environment Representative (ER).</p>
Step 4.	Recommencement of works
	<p>Where impact is likely to occur, work will not recommence prior to confirmation by the TfNSW Environment and Sustainability Manager (or delegate) in consultation with the ER, that appropriate advice has been received, relevant approvals, licences and permits have been obtained, and the approved management measures have been implemented.</p>
	<p>Regular inspections by the Environmental Site Representative, in consultation with the Early Works Ecologist, if appropriate, will be conducted to ensure that management measures have been effectively implemented.</p>

Step 5. Review and update of environmental management documentation

The Environmental Site Representative will include the threatened species or EEC in subsequent inductions and toolbox talks and will update the listed species or EECs in this Procedure, if required.

The TfNSW Environment and Sustainability Manager (or delegate) will update the Biodiversity Offset Strategy to account for any impacts to threatened flora and/or fauna, where required.

4 Records

Accurate records of all unexpected threatened species or EEC finds will be maintained for the duration of the Early Works.

Appendix E – Weed and Pathogen Management Procedure

Appendix E

Early Works Flora and Fauna Management Sub-plan

Weed and Pathogen Plan

M12 Motorway – Temporary Roundabout on Elizabeth Drive, Badgerys Creek



November 2021

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File Name	M12PPW-CPB-EDR-EN-PLN-00001_E_S3_Appendix E
Title	M12 Motorway EW FFMP Appendix E – Weed and Pathogen Plan M12 Motorway – Temporary Roundabout on Elizabeth Drive, Badgerys Creek
Document number	M12PPW-CPB-EDR-EN-PLN-00001

Approval and authorisation

Plan reviewed by:	Plan reviewed by:
David Bone	Simon Lendrum
Associate Director – EMM Consulting	Environmental Site Representative – CPB Contractors
Date: 02/11/2021	Date: 02/11/2021
Signed 	Signed 

Revision history

Revision	Date	Description
A	25/08/2021	1 st Draft for TfNSW Review
B	09/09/2021	2 nd TfNSW review
C	30/09/2021	3 rd TfNSW review and template changes
D	14/10/2021	Address TfNSW and ER comments
E	01/01/2021	Address ER comments

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- Attachment 1 Biodiversity Guide 6 Overview
- Attachment 2 Biodiversity Guide 7 Overview
- Attachment 3 Priority weeds
- Attachment 4 Other weeds of regional concern

Glossary/ Abbreviations

Abbreviations	Expanded text
BC Act	<i>Biosecurity Act 2015</i>
DAWE	Commonwealth Department of Agriculture, Water and Environment
DPI Fisheries	NSW Department of Primary Industries - Fisheries
DPIE	NSW Department of Planning, Industry and Environment
EEC	Endangered Ecological Community
EES	NSW Environment, Energy and Science Group (a part of DPIE)
ER	Environmental Representative
LGA	Local Government Area
NATA	National Association of Testing Authorities
PBFD	Psittacine beak and feather disease
Pesticide Act	<i>Pesticides Act 1999</i>
Project, the	M12 Motorway Project
RTA	Former Roads & Traffic Authority, now Transport for New South Wales
TfNSW	Transport for New South Wales

1 Introduction

1.1 Purpose

Early Works has the potential to cause the spread or importation of weeds and pathogens. Activities including vegetation clearing, soil disturbance, erosion and sediment control, vehicle movements, inadequate rehabilitation/ revegetation of disturbed areas and inappropriate topsoil management have been identified as potential risks in weed and pathogen management.

This Weed and Pathogen Management Plan has been prepared to identify the presence and management of pathogens and key weed species and their distribution across the Early Works area, and to outline the processes required to control and prevent the spread of weeds and pathogens. It has been prepared in consultation with the Early Works Ecologist and in accordance with the *Biosecurity Act 2015, Guide 6: Weed management* and *Guide 7: Pathogen management, Biodiversity Guidelines* (RTA, 2011) and the *Greater Sydney Regional Strategic Weed Management Plan 2017 - 2022*. The overviews from Guide 6 and Guide 7 of the *Biodiversity Guidelines* are attached to this template Weed and Pathogen Management Plan (Attachment 1 and 2 respectively). Priority weeds and other weeds of regional concern are also attached to this Plan (Attachment 3 and Attachment 4 respectively).

The purpose of this Plan is to:

- Identify the pathogens and key weed species and their distribution across the Early Works sites
- Prevent the introduction and spread of weeds and pathogens throughout Early Works
- Establish an inspection and reporting framework for weeds and pathogens
- Set out performance criteria for the management of weeds and pathogens for the Project.

1.2 Scope

This Plan details control measures to be implemented throughout the Early Works. This Plan focuses on weed control prior to vegetation clearance, weed management during clearing, and progressive weed control throughout Early Works.

1.3 Induction / training

All site personnel (including sub-contractors) will be inducted in this Plan and the existence of priority and other weeds in the Early Works area. Training will also include requirements to inspect machinery and clean footwear to prevent the spread of weeds, and measures to identify and prevent the introduction or spread of *Phytophthora cinnamomi* (Root Rot).

Training will include inductions, toolbox talks, pre-starts and targeted training as required.

1.4 Roles and responsibilities

The Environmental Site Representative is responsible for ensuring the effective implementation of this Plan and training of site personnel in the requirements of this Plan.

The Early Works Ecologist will advise on appropriate weed removal and control techniques for each weed species and for pathogens.

All persons entering the Early Works sites are responsible for preventing the spread of weeds and pathogens within the Early Works area and offsite.

1.5 Review

This Plan will be reviewed by the Transport for NSW (TfNSW) Environment and Sustainability Manager (or delegate) prior to commencement of Early Works of the Project.

This Plan will be updated throughout Early Works to include any new weed or pathogen findings and subsequent management measures required. This Plan will be reviewed annually, or as required in accordance with the continuous improvement process described in Section 8 of the Early Works Flora and Fauna Management Sub-plan (EWFFMP) and Section 7.7 of the Early Works Environmental Management Plan (EWEMP).

2 Weeds and pathogens in the Early Works area

2.1 Weeds

The *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022* identifies priority weeds and other regional weeds of concern for the Greater Sydney Region, including the Liverpool, Fairfield and Penrith Local Government Areas (LGAs). The WeedWise website and associated app (<https://weeds.dpi.nsw.gov.au/>) also provides details on weed identification, control options and biosecurity duty. This website and app will be utilised during Early Works to inform identification and management options.

2.1.1 Priority weeds in the Greater Sydney Region

State level determined priority weeds and regionally determined priority weeds, as identified in the *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022*, are provided in Attachments 1 and 2 of the plan respectively. Management requirements for weeds, whether that be specific regulatory measures (state level priorities) or outcomes to demonstrate compliance with the General Biosecurity Duty (regional priority weeds), are also detailed in Attachment 1 of the *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022*.

The outcomes applied to a particular weed depend on factors such as the biology and ecology of the weed, the land use(s) in which it occurs, the distribution in the region and size of the infestation, potential pathways for infestation and others. These factors were taken into account in determining the suite of outcomes to demonstrate compliance with the General Biosecurity Duty and strategic responses. These obligations apply to all private and public landholders in the region.

2.1.2 Other regional weeds of concern list

Attachment 2 of the *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022* outlines other priority weeds identified by the Greater Sydney Regional Weed Committee in consultation with the community. These are species for which a consistent and/or collaborative approach to management will provide the best outcome across the region. Weeds identified within Attachment 2 of the *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022* are also subject to the General Biosecurity Duty and may be a focus for local management plans and coordinated campaigns by the community and other stakeholder groups in the region.

2.1.3 Weed identification and mapping

Detailed weed identification and mapping of Early Works sites and adjacent areas will be undertaken by the Early Works Ecologist during pre-clearing surveys, and/or personnel trained in weed management prior to the commencement of Early Works.

The Early Works Ecologist will then update this Weed and Pathogen Management Plan with a detailed list of all weed species identified during the pre-clearing. The Early Works Ecologist will include details of the weed species including photographs, detailed descriptions and known locations. The detail to be provided will also include the weed status in accordance with Attachments 1 and 2 of the *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022*.

This information will be disseminated to site personnel during training and induction.

2.2 Pathogens

Pathogens that have been identified to potentially occur in the Project area include:

- Soil-borne pathogen *Phytophthora cinnamomi* (Phytophthora)
- *Austropuccinia psidii* which causes the disease Myrtle rust
- *Batrochytridium dendrobatidis* (Chytrid (Frog) fungus)
- Psittacine beak and feather disease (PBFD).

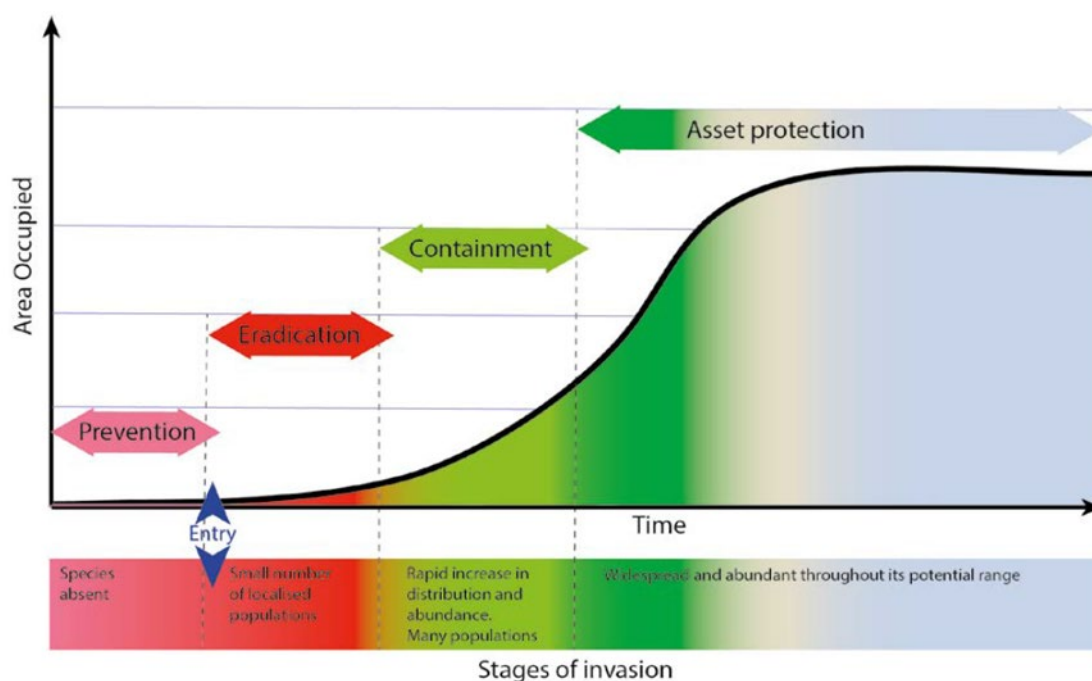
Identification and/or fact sheets on each pathogen identified as having the potential to occur within the Early Works area or with the potential to be introduced to the area will be prepared for use in toolbox talks and pre-start meetings during the clearing period.

3 Weed management procedure

3.1 Approach to weed management

In NSW all plants are regulated with a general biosecurity duty under the *Biosecurity Act 2015* to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable.

Figure 3-1, from the *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022*, illustrates the invasion process for weeds from arrival to widespread establishment and shows that the effort and resources required to control a weed rise with time and area occupied. Managing weeds earlier rather than later is more effective. The asset protection phase shown in Figure 3-1 illustrates the shift in the focus from controlling a weed species to limiting the impact it may have on important assets.



Source: Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022

Figure 3-1: Weed invasion curve

Further detail of the management categories identified in Figure 3-1 is provided in Table 3-1.

Table 3-1: Regional weed management categories

Category	Objective	Weed Characteristics
Prevention	To prevent the weed species arriving and establishing in the region.	<p>These species are not known to be present in the region.</p> <p>They have a high to very high weed risk (highly invasive and high threat) and have a high likelihood of arriving in the region due to potential distribution and/ or an existing high-risk pathway.</p>
Eradication	To permanently remove the species and its propagules from the region OR to destroy infestations to reduce the extent of the weed in the region with the aim of local eradication.	<p>These species are present in the region to a limited extent only and the risk of re-invasion is either minimal or can be easily managed.</p> <p>They have a high to very high weed risk and high feasibility of coordinated control.</p>
Containment	To prevent the ongoing spread of the species in all or part of the region.	<p>These species have a limited distribution in the region.</p> <p>Regional containment strategies aim to prevent spread of the weed from an invaded part of the region (core infestation), and/or exclude the weed from an uninvaded part of the region (exclusion zone).</p>
Asset Protection	To prevent the spread of weeds to key sites/ assets of high economic, environmental and social value, or to reduce their impact on these sites if spread has already occurred.	<p>These weed species are widespread and unlikely to be eradicated or contained within the wider regional context.</p> <p>Effort is focussed on reducing weed threats to protect priority high value assets.</p>

3.2 Site weed assessment

The Environmental Site Representative will undertake an inspection of the site with the Early Works Ecologist to assess the area for weeds. Weed assessments will occur:

- As part of the pre-clearing survey
- Prior to drainage works
- During regular site inspections
- When a potential weed infestation has been identified.

The weed assessment will involve the following activities:

- Identify and describe or map weed infested areas
- Include photographic guide to identifying common weed species within the Early Works area
- Identify surrounding land uses and sensitive environmental areas
- Determine weed management priorities and objectives in accordance with Attachments 1 and 2 of the *Greater Sydney Regional Strategic Weed Management Plan 2017 – 2022*.

3.3 Establish weed control measures

3.3.1 Prevention of weed spread / importation

Environmental controls will be implemented in consultation with the Early Works Ecologist to prevent the spread or introduction of weeds within the Early Works footprint. Controls will include:

- Map and mark areas that are infested with weeds as an exclusion zone with fencing and signage to limit access by personnel and vehicles
- Install wheel wash and rumble grids
- Provide boot wash down facilities
- Program works from least to most weed infested areas, where possible.

3.3.2 Determine weed control / removal methods

Weed control methods include mechanical, physical and chemical techniques. The suitability of control techniques will vary depending on the target weed species and the desired outcomes. The Early Works Ecologist will advise on the most appropriate weed treatment methodology and timing.

3.3.3 Implement weed control / removal methods

Weed control methods will be implemented under guidance from the Early Works Ecologist. Methods will include:

- Use of mechanical weed control methods such as slashing or mowing
- Controlled use of herbicides to avoid the development of herbicide resistance
- Mowing/slashing of areas infested with weeds before they seed to reduce the propagation of new plants
- Separate weeds from native vegetation where native vegetation is to be used for mulch
- Topsoil recovered from areas of low weed infestation will be stockpiled separately
- Remove weeds immediately onto suitable trucks and dispose of without stockpiling
- Following weed removal, any exposed areas will be stabilised and/or rehabilitated to reduce erosion and minimise the potential for further weed invasion.

3.3.4 Pesticide use

The use of pesticides must be in accordance with the NSW *Pesticides Act 1999*, other relevant legislation, label directions, any relevant industry codes of practice and the requirements of TfNSW QA Specification G36.

The Environmental Site Representatives will ensure that a Pesticide Application Record is completed and public notifications made in accordance with relevant legislation and TfNSW specifications, where pesticides are to be used in areas that could be accessed by members of the public. The Environmental Site Representatives will complete a Pesticides Application Record Sheet (provided in TfNSW QA Specification G36/G) within 24 hours of applying the pesticide and submit a copy to the Transport for NSW Environment and Sustainability (or delegate).

The Records Sheet does not need to be completed if all of the following are satisfied:

- The pesticide is, or is part of a product that is widely available to the general public at retail outlets

- The pesticide is only applied by hand or by using hand-held equipment
- If applied outdoors on any single occasion, in quantities of no more than 5 L/5 kg of concentrated product or 20 L/20 kg of the ready-to-use product or, if applied indoors, in quantities of no more than 1 L/1 kg of concentrated product or 5 L/5 kg of the ready-to-use product.

Public notification of pesticide use will be in accordance with TfNSW specification G36/H whenever pesticides are used adjacent to, or across the road from a public place or private property. Appropriate environmental management measures will be implemented where pesticides are proposed during Early Works to avoid or minimise impacts on adjoining properties.

Any spraying of priority weeds must avoid damage to adjacent native vegetation and to prevent overspray entering waterways or adjoining properties. Only pesticides registered for use near water may be used near any waterways.

The following measures will be implemented whenever pesticides are to be used adjacent to, or across the road from, a “sensitive place”:

- Use of mechanical means of pest control (such as mowing or slashing) where feasible or
- Use of hand-held application of pesticides where mechanical means of pest control are not feasible.

Pesticide application will be appropriately scheduled. Pesticides will not be applied:

- On hot days when plants are stressed
- After seed has set
- Within 24 hours of rain or when rain is imminent
- When winds will cause drift of pesticides into non-target areas.

All personnel managing and using pesticides must receive appropriate training and hold an appropriate licence prior to commencing work.

3.3.5 Ongoing management of weeds

Measures for the ongoing management of weeds will be implemented, including the following:

- Minimise soil disturbance within weed infested areas
- Ensure topsoil imported onto site is free of weed propagules
- Regularly inspect and clean machinery, vehicles and footwear using installed facilities
- Wash down the wheels of all construction plant before transportation to the site
- Keep records of all screening checks and subsequent actions taken
- Securely cover loads of weed-contaminated material during transportation
- Avoid use of weeds as mulch
- Avoid re-use vegetation or topsoil containing weed material on site unless appropriately treated
- Monitor disturbed and rehabilitated sites for presence of weeds.

3.4 Weed disposal

Weeds and topsoil potentially containing weed propagules disturbed by Early Works activities will be removed and disposed of at a suitable landfill location in accordance with the requirements of

the relevant local Council and *Biosecurity Act 2015*. Exotic plant species will be removed, bagged (or appropriately segregated) and disposed offsite to a licensed landfill facility.

4 Pathogen management procedure

4.1 Site pathogen assessment

A detailed site assessment for potential risk of pathogens in the Early Works area will be undertaken by the Early Works Ecologist during pre-clearing surveys. The site assessment will identify and describe or map potential pathogen-containing vegetation areas. DPI guidelines will be referred to for the most up-to-date hygiene protocols for each pathogen and for the most recent locations of contamination.

Testing from a National Association of Testing Authorities (NATA) approved laboratory may be required where potential risk areas are identified to confirm the presence of pathogens in the soil and/or water.

Works will not proceed until the results of any such tests are confirmed and suitable prevention and control measures have been implemented if necessary.

4.2 Establish pathogen control measures

4.2.1 Prevention of introduction or spread of pathogens

Pathogens can be spread on footwear, vehicles and machinery, particularly during wet weather or in wet conditions. Controlling the introduction and spread of pathogens that have the potential to harm the environment in the Early Works area is a high priority. Environmental controls will be implemented in consultation with the Early Works Ecologist to prevent the spread or introduction of pathogens to the Early Works area. Controls will include:

- Map and mark areas that are infested with pathogens as an exclusion zone with fencing and signage to limit access by personnel and vehicles
- Install rumble grids
- Provide boot wash down facilities
- Program works from uninfected areas to infected areas, where possible.

4.2.2 Determine pathogen prevention / control methods

Management measures for pathogens can include planning or awareness measures, exclusion measures and containment measures. The suitability of control techniques will vary depending on the pathogen and will be determined on advice from the Early Works Ecologist and best practice guidelines. Best practice protocols include:

- Minimise work during excessively wet or muddy conditions
- Provide parking and turn-around points on hard, well-drained surfaces
- Restrict vehicles to designated tracks, trails and parking areas
- Restrict personnel to designated tracks and trails
- Personnel working in an infected site should shower and launder clothes before moving to another vegetated site
- Use disinfectant or gloves when handling frogs and only handle frogs when necessary

- Ensure vehicles and footwear are free of soil before entering or exiting the site (i.e. directed to wash down area before entering or exiting the site)
- Use a certified supply of plants and soil that is disease-free
- Hygiene protocols, such as use of disposable suits, will be used where site personnel are required to work in areas identified as containing pathogens that are located in the vicinity of threatened flora or fauna or Endangered Ecological Communities (EECs)
- Removed infected vegetation will be securely wrapped in bags prior to disposal.

4.3 Material disposal

Disposal of infected material will vary depending on the pathogen in the affected material.

Where materials are known or suspected to be affected by *Phytophthora*, the material will be retained within the contaminated area. Stockpiles of mulch, topsoil and fill material will be separated to avoid potential contamination and spread.

Plant material infected with Myrtle Rust will be buried on site if possible and will not be disposed of at another vegetated site. Buried material sites will be recorded on maps to prevent re-exposure. Where material is unable to be buried, advice will be sought from NSW Environment, Energy and Science (EES) or other agencies.

To avoid cross contamination of frogs with *Chytrid*, CPB Contractors will avoid, where possible, transferring water between two or more separate waterbodies.

5 Inspection, monitoring and reporting

Monitoring of weed and/or pathogen infestations will occur as part of the routine weekly environmental inspections to determine the effectiveness of management controls. The presence of any weeds and/or pathogens and the necessary management actions will be noted on the Environmental Inspection Checklist.

A weed and pathogen monitoring program will be implemented as follows:

- Inspection of the general condition of the Early Works area including identification of additional weeds and pathogens or reduction in the occurrence of weeds and pathogens
- Assessment of the effectiveness of weed and pathogen treatments, where implemented
- Suggest modifications to weed and pathogen treatments where they are noted to be ineffective
- Provide a schedule to re-apply treatments if previous treatments are not fully effective
- Identify measures to improve the quality of habitat in retained vegetation
- Conduct mapping and fixed point photographs of the Early Works area and adjoining impacted areas.

Dedicated inspections will be carried out on a monthly basis for a period of six months (or as necessary responding to seasonal and climatic conditions), then at least every three months for the remainder of the Early Works. The Early Works Ecologist will undertake all monitoring and inspections. The Environmental Site Representative will report the results of each monitoring inspection against the weed and pathogen management objectives to the TfNSW Project Manager and the TfNSW Environment and Sustainability Manager (or delegate).

An action plan will be prepared, where required, to manage any ongoing weed and pathogen problems identified by inspections.

Attachment 1 Biodiversity Guide 6 Overview

Biodiversity Guide 6 – Weed management

Objective

The objective of this guide is to prevent or minimise the spread of noxious and environmental weed species on all RTA project sites and during roadside maintenance.

Application of this guide

This guide is applicable where RTA activities disturb vegetation, soil or aquatic environments.

This guide outlines weed management guidelines for environmental and noxious weeds during construction but also provides some general principles for works during maintenance works.

Management Requirements:

- Use an **ecologist or person trained in weed management** and identification to undertake a site weed assessment to identify and describe or map weed infested areas within the site and adjacent areas.
- Identify and manage any Weeds of National Significance (WONS), National Environmental Alert Weeds and/or noxious weeds located within the site or adjacent areas in consultation with the weeds officer at the relevant local council.
- Identify surrounding land uses and consult with surrounding landholders where required.
- Develop a weed management plan for the site.
- Refer to the Department of Primary Industries (DPI) Calendar of Growth Cycle and Control Times for different regions across NSW (see www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/publications/management/calendar).
- The application of herbicide should ensure the safety of users and other people, and minimise risks to the broader environment.
- The RTA has obligations to notify the community of proposed pesticide use (including herbicides) in accordance with the NSW Pesticides Regulation 2009 (see the RTA's *Pesticide Use Notification Plan*).
- Map and mark areas that are infested with weeds as an exclusion zone with fencing and signage to limit access by personnel and vehicles.
- Use mechanical weed control methods such as slashing or mowing, as well as a range of herbicides to avoid the development of herbicide resistance (eg glyphosate resistance).
- Mow/slash areas infested with weeds before they seed. This may reduce the propagation of new plants.
- Program works from least to most weed infested areas.
- Clean machinery, vehicles and footwear before moving to a new location.
- Securely cover loads of weed-contaminated material to prevent weed plant material falling or blowing off vehicles.
- Dispose of weed-contaminated soil at an appropriate waste management facility.
- Remove weeds immediately onto suitable trucks and dispose of without stockpiling.
- Separate weeds from native vegetation where native vegetation is to be used for mulch. Do not use weeds for mulch.
- Send samples of topsoil being imported onto site to a **National Association of Testing Authorities (NATA)** approved soil laboratory to ensure it contains no weed seeds or propagules (vegetative parts of plants such as buds or offshoots that can grow into new individuals).
- Minimise soil disturbance within weed infested areas. Topsoil recovered from areas of low weed infestation can be re-used onsite with treatment but should be stockpiled separately.
- All weed plant material and topsoil containing weed plant material should be disposed of to an appropriate waste management facility.
- For more information on aquatic weed control techniques, refer to *NSW DPI Primefact 30: Aquatic weed management in waterways and dams*.

Attachment 2 Biodiversity Guide 7 Overview

Biodiversity Guide 7 – Pathogen management

Objective

The objective of this guide is to provide guidance for preventing the introduction and/or spread of disease causing agents such as bacteria and fungi.

Application of this guide

This guide is applicable wherever pathogens are known or suspected to occur on or adjacent to RTA projects and during maintenance works.

Management Requirements:

- Consideration for the potential for pathogens on site or in the area should be given at an early stage (eg in the environmental assessment).
- Pathogen management is ongoing throughout the period in which works are being carried out.
- Check the **Department of Primary Industries (DPI) website (www.industry.nsw.gov.au)** for the most up-to-date hygiene protocols for each pathogen and for the most recent locations of contamination.
- Ensure the risk of spreading pathogens and the mitigation measures required on site are regularly communicated to staff and contractors eg during inductions and toolbox talks.
- Advice from **DPI or the Office of Environment and Heritage (OEH)** regarding the most practical hygiene management measures may be required if pathogens are present.
- Programming of works should move from uninfected areas to infected areas.
- Ensure vehicles and footwear are free of soil before entering or exiting the site (ie directed to wash down area before entering or exiting the site).
- Provide vehicle and boot wash down facilities.
- Testing from a **National Association of Testing Authorities (NATA)** approved laboratory may be required to confirm the presence of pathogens in the soil and/or water.
- Set up exclusion zones with fencing and signage to restrict access into contaminated areas.
- Restrict vehicles to designated tracks, trails and parking areas.

Attachment 3 Priority Weeds

A1.1 State level determined priority weeds

State Priority Weed Objective – PREVENTION:

The following weeds are currently not found in the state, pose significant biosecurity risk and prevention of the biosecurity risk is a reasonably practical objective.

Species	Biosecurity Act requirements & Strategic Response in the region
All species of vascular plant (Tracheophyta)	<p>Mandatory Measure (Division 8, Clause 34) Duty to notify on importation of plants into the State:</p> <p>(1) A person must not import a species of vascular plant (Tracheophyta) into the State if the species is not currently present in the State unless the person has, at least 20 working days before the plant is imported into the State, notified the species of plant and its proposed location within the State.</p> <p>(2) The notification is to be given to the Secretary and is to be given in accordance with Part 6.</p> <p>(3) A species of plant is taken not to be present in the State if the National Herbarium of New South Wales does not show it as being present in the State.</p> <p>Note. See http://plantnet.rbgsyd.nsw.gov.au/.</p> <p>Regional Strategic Response: Manage in accordance with the New Weed Incursion Plan.</p>
Gamba grass - <i>Andropogon gayanus</i>	<p>Prohibited Matter (Part 4, Biosecurity Act, 2015): A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.</p> <p>Regional Strategic Response: Manage in accordance with the New Weed Incursion Plan.</p>
Pond apple - <i>Annona glabra</i>	
Bridal veil creeper - <i>Asparagus declinatus</i>	
Kochia - <i>Bassia scoparia</i> (excluding subsp. <i>trichophylla</i>)	
Spotted knapweed - <i>Centaurea stoebe</i> subsp. <i>australis</i>	
Black knapweed - <i>Centaurea x moncktonii</i>	
Siam weed - <i>Chromolaena odorata</i>	
Koster's curse - <i>Clidemia hirta</i>	
Rubber vine - <i>Cryptostegia grandiflora</i>	
Anchored water hyacinth - <i>Eichhornia azurea</i>	
Hawkweed - <i>Hieracium</i> spp (all species)	
Hydrocotyl/Water pennywort - <i>Hydrocotyle ranunculoides</i>	
Lagarosiphon - <i>Lagarosiphon major</i>	
Frogbit / Spongeplant - <i>Limnobium</i> spp. (all species)	
Yellow burrhead - <i>Limnocharis flava</i>	
Miconia - <i>Miconia</i> spp. (all species)	
Mikania vine - <i>Mikania micrantha</i>	

State Priority Weed Objective – PREVENTION:

The following weeds are currently not found in the state, pose significant biosecurity risk and prevention of the biosecurity risk is a reasonably practical objective.

Species	Biosecurity Act 2015 requirements & Strategic Response in the region
Mimosa - <i>Mimosa pigra</i>	<p>Prohibited Matter (Part 4, Biosecurity Act, 2015): A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.</p> <p>Regional Strategic Response: Manage in accordance with New Weed Incursion Plan.</p>
Eurasian water milfoil - <i>Myriophyllum spicatum</i>	
Mexican feather grass - <i>Nassella tenuissima</i> (syn. <i>Stipa tenuissima</i>)	
Broomrape - <i>Orobanch</i> spp. (all species except the native <i>O. cernua</i> var. <i>australiana</i> and <i>O. minor</i>)	
Water soldier - <i>Stratiotes aloides</i>	
Witchweed - <i>Striga</i> spp. (except the native <i>S. parviflora</i>)	
Water caltrop - <i>Trapa</i> spp. (all species)	
Karoo acacia - <i>Vachellia karroo</i> (syn. <i>Acacia karroo</i>)	
Prickly acacia - <i>Vachellia nilotica</i> (syn. <i>Acacia nilotica</i>)	
Parthenium Weed - <i>Parthenium hysterophorus</i>	<p>Prohibited Matter (Part 4, Biosecurity Act, 2015): A person who deals with any biosecurity matter that is Prohibited Matter throughout the State is guilty of an offence.</p> <p>Mandatory Measure (Division 8, Clause 35, Biosecurity Regulation, 2017) - Parthenium weed carriers – machinery and equipment</p> <p>(1) This clause applies to the following equipment:</p> <ul style="list-style-type: none"> (a) grain harvesters (including the comb or front), (b) comb trailers (including the comb or front), (c) bins used for holding grain during harvest operations (d) augers or similar equipment used for moving grain (e) vehicles used for transporting grain harvesters (f) vehicles used as support vehicles with grain harvesters and that have been driven in paddocks during harvest operations, and (g) mineral exploration drilling rigs and vehicles used for transporting those rigs. <p>(2) A person must not import into the State from Queensland any equipment to which this clause applies</p> <p>Regional Strategic Response: Manage in accordance with the New Weed Incursion Plan.</p>

State Priority Weed Objective – ERADICATION:

The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.

Species	Biosecurity Act 2015 requirements & Strategic Response in the region
Boneseed - <i>Chrysanthemoides monilifera</i> subspecies <i>monilifera</i>	<p>Biosecurity (Boneseed) Control Order 2017</p> <p>6. Control measures for owners and occupiers of land</p> <p>Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Boneseed Control Zone on which there is Boneseed must:</p> <p>(a) notify the local control authority for the area if the Boneseed is part of a new infestation on the land:</p> <ol style="list-style-type: none"> as soon as practicable after becoming aware of the new infestation; verbally or in writing; giving the following: <ol style="list-style-type: none"> the person's full name and contact number; the location of the Boneseed, including the property identification code for the land (if this is known); and any other information reasonably requested by the local control authority; and <p>(b) immediately destroy all Boneseed on the land;</p> <p>(c) ensure that subsequent generations of Boneseed are destroyed; and</p> <p>(d) the land is kept free of Boneseed.</p> <p>(e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.</p> <p>7. Control measures for persons dealing with carriers</p> <p>Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Boneseed in the Boneseed Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Boneseed on the land or in or on the carrier, must:</p> <p>(a) ensure that Boneseed (including any seed and propagules) is not moved from the land; and</p> <p>(b) immediately notify the local control authority for the area:</p> <ol style="list-style-type: none"> as soon as practicable after becoming aware of the presence of Boneseed; verbally or in writing; giving the following: <ol style="list-style-type: none"> the person's full name and contact number; the location of the Boneseed, including the property identification code for the land (if this is known); and any other information reasonably requested by the local control authority. <p>(c) The person who deals with a carrier of Boneseed does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.</p> <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not move, import into the State or sell.</p> <p>Regional Strategic Response:</p> <ul style="list-style-type: none"> manage in accordance with New Weed Incursion Plan detailed surveillance and mapping to locate infestations high level analysis of pathways to identify potential introduction areas and prevention options implement quarantine and/or hygiene protocols, and monitor progress towards eradication

State Priority Weed Objective – ERADICATION:

The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.

Species	Biosecurity Act 2015 requirements & Strategic Response in the region
Chinese violet - Asystasia gangetica	<p>Biosecurity (Chinese violet) Control Order 2019</p> <p>6. Control measures for owners and occupiers of land</p> <p>Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Chinese violet Control Zone on which there is Chinese violet must:</p> <p>(a) notify the local control authority for the area if the Chinese violet is part of a new infestation on the land:</p> <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the new infestation; ii) verbally or in writing; iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number; (2) the location of the Chinese violet, including the property identification code for the land (if this is known); and (3) any other information reasonably requested by the local control authority; and <p>(b) immediately destroy all Chinese violet on the land;</p> <p>(c) ensure that subsequent generations of Chinese violet are destroyed; and</p> <p>(d) the land is kept free of Chinese violet.</p> <p>(e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.</p> <p>7. Control measures for persons dealing with carriers</p> <p>Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Chinese violet in the Chinese violet Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Chinese violet on the land or in or on the carrier, must:</p> <p>(a) ensure that Chinese violet (including any seed and propagules) or matter suspected to be or contain Chinese Violet (including any suspected seeds and propagules) is not moved from the land; and</p> <p>(b) immediately notify the local control authority for the area:</p> <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the presence of Chinese violet; ii) verbally or in writing; iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number; (2) the location of the Chinese violet, including the property identification code for the land (if this is known); and iv) any other information reasonably requested by the local control authority. <p>(c) The person who deals with a carrier of Chinese violet does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.</p> <p>Regional Strategic Response:</p> <ul style="list-style-type: none"> • manage in accordance with New Weed Incursion Plan

State Priority Weed Objective – ERADICATION:

The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.

Species	Biosecurity Act 2015 requirements & Strategic Response in the region
Parkinsonia - <i>Parkinsonia aculeata</i>	<p><u>Biosecurity (Parkinsonia) Control Order 2017</u></p> <p><u>6. Control measures for owners and occupiers of land</u></p> <p>Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Parkinsonia Control Zone on which there is Parkinsonia must:</p> <ul style="list-style-type: none"> (a) notify the local control authority for the area if the Parkinsonia is part of a new infestation of Parkinsonia on the land: <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the new infestation; ii) verbally or in writing; iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number; (2) the location of the Parkinsonia, including the property identification code for the land (if this is known); and (3) any other information reasonably requested by the local control authority; and (b) immediately destroy all Parkinsonia on the land; and (c) ensure that subsequent generations of Parkinsonia are destroyed; and (d) the land is kept free of Parkinsonia. (e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. <p><u>7. Control measures for persons dealing with carriers</u></p> <p>Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Parkinsonia in the Parkinsonia Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Parkinsonia on the land or in or on the carrier, must:</p> <ul style="list-style-type: none"> (a) ensure that Parkinsonia (including any seed and propagules) is not moved from the land; and (b) immediately notify the local control authority: <ul style="list-style-type: none"> i) as soon as practicable after becoming aware of the presence of Parkinsonia; ii) verbally or in writing; iii) giving the following: <ul style="list-style-type: none"> (1) the person's full name and contact number; (2) the location of the Parkinsonia, including the property identification code for the land (if this is known); and iv) any other information reasonably requested by the local control authority. (c) The person who deals with a carrier of Parkinsonia does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area. <p><u>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017):</u> A person must not move, import into the State or sell.</p> <p>Regional Strategic Response: Manage in accordance with the New Weed Incursion Plan.</p>

State Priority Weed Objective – ERADICATION:

The following weeds are present in limited distribution and abundance in some parts of the state. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.

Species	Biosecurity Act 2015 requirements & Strategic Response in the region
Tropical soda apple - <i>Solanum viarum</i>	<p>Biosecurity (Tropical Soda Apple) Control Order 2017</p> <p><u>6. Control measures for owners and occupiers of land</u></p> <p>Pursuant to section 62(1)(b) of the Act, an owner or occupier of land in the Tropical Soda Apple Control Zone on which there is Tropical Soda Apple must:</p> <p>(a) notify the local control authority for the area if the Tropical Soda Apple is part of a new infestation of Tropical Soda Apple on the land:</p> <ol style="list-style-type: none"> as soon as practicable after becoming aware of the new infestation; verbally or in writing; giving the following: <ol style="list-style-type: none"> the person's full name and contact number; the location of the Tropical Soda Apple, including the property identification code for the land (if this is known); and any other information reasonably requested by the local control authority; and <p>(b) destroy all Tropical Soda Apple on the land, including fruit; and</p> <p>(c) ensure that subsequent generations of Tropical Soda Apple are destroyed; and</p> <p>(d) that the land is kept free of Tropical Soda Apple.</p> <p>(e) The owner or occupier does not need to comply with (a) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.</p> <p><u>7. Control measures for persons dealing with carriers</u></p> <p>Pursuant to section 62(1)(b) of the Act, a person who deals with a carrier of Tropical Soda Apple in the Tropical Soda Apple Control Zone, in circumstances where the person knows or ought reasonably to know of the presence of Tropical Soda Apple on the land or in or on the carrier, must:</p> <p>(a) ensure that Tropical Soda Apple (including any seed and propagules) is not moved from the land; and</p> <p>(b) immediately notify the local control authority for the area:</p> <ol style="list-style-type: none"> as soon as practicable after becoming aware of the presence of Tropical Soda Apple; verbally or in writing; giving the following: <ol style="list-style-type: none"> the person's full name and contact number; the location of the Tropical Soda Apple, including the property identification code for the land (if this is known); and any other information reasonably requested by the local control authority. <p>(c) The person who deals with a carrier of Tropical Soda Apple does not need to comply with (b) above if they know that notification of the infestation on the land has already been given to the local control authority for the area.</p> <p>Regional Strategic Response: Manage in accordance with the New Weed Incursion Plan</p>

State Priority Weed Objective – CONTAINMENT:

These weeds are widely distributed in some parts of the state. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed these weeds is reasonably practicable.

Land area where requirements apply	Biosecurity Act 2015 requirements & Strategic Response in the region
Alligator Weed - <i>Alternanthera philoxeroides</i>	
<p>A biosecurity zone, to be known as the alligator weed biosecurity zone, is established for all land within the State except land in the following regions:</p> <p>(a) Greater Sydney,</p> <p>(b) Hunter (but only in respect of land in the local government area of City of Lake Macquarie, City of Maitland, City of Newcastle or Port Stephens).</p>	<p>Biosecurity Regulation 2017 - Part 5, Division 2 (Biosecurity Zone) An owner or occupier of land in the alligator weed biosecurity zone on which there is the weed <i>Alternanthera philoxeroides</i> (Alligator weed) must:</p> <p>(a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6, and</p> <p>(b) eradicate the weed or, if that is not practicable, destroy as much of the weed as is practicable and suppress the spread of any remaining weed.</p> <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not move, import into the State or sell.</p> <p>Regional Strategic Response: Refer Appendix 1.2 Containment.</p>
Bitou Bush - <i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i>	
<p>A biosecurity zone, to be known as the bitou bush biosecurity zone, is established for all land within the State except land within 10 kilometres of the mean high water mark of the Pacific Ocean between Cape Byron in the north and Point Perpendicular in the South.</p>	<p>Biosecurity Regulation 2017 - Part 5, Division 3 (Biosecurity Zone) An owner or occupier of land in the bitou bush biosecurity zone on which there is the weed <i>Chrysanthemoides monilifera</i> subsp. <i>rotundata</i> (Bitou bush) must:</p> <p>(a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6, and</p> <p>(b) eradicate the weed or, if that is not practicable, destroy as much of the weed as is practicable and suppress the spread of any remaining weed.</p> <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not move, import into the State or sell.</p> <p>Regional Strategic Response: Manage in accordance with NSW Threat Abatement Plan and Saving Our Species.</p>

State Priority Weed Objective – CONTAINMENT:

These weeds are widely distributed in some parts of the state. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed these weeds is reasonably practicable.

Land area where requirements apply	Biosecurity Act 2015 requirements & Strategic Response in the region
Water Hyacinth <i>Eichhornia crassipes</i>	
<p>A biosecurity zone, to be known as the water hyacinth biosecurity zone, is established for all land within the State except land in the following regions:</p> <p>(a) Greater Sydney or North Coast, (b) North West (but only land in that region that is in the local government area of Moree Plains), (c) Hunter (but only land in that region that is in the local government area of City of Cessnock, City of Lake Macquarie, Mid-Coast, City of Maitland, City of Newcastle or Port Stephens), (d) South East (but only land in that region that is in the local government area of Eurobodalla, Kiama, City of Shellharbour, City of Shoalhaven or City of Wollongong).</p>	<p>Biosecurity Regulation 2017 - Part 5, Division 4 (Biosecurity Zone)</p> <p>An owner or occupier of land in the water hyacinth biosecurity zone on which there is the weed <i>Eichhornia crassipes</i> (Water hyacinth) must:</p> <p>(a) if the weed is part of a new infestation of the weed on the land, notify the local control authority for the land as soon as practicable in accordance with Part 6, and</p> <p>(b) eradicate the weed, or if that is not practicable, destroy as much of the weed as is practicable and suppress the spread of any remaining weed.</p> <p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not move, import into the State or sell.</p> <p>Regional Strategic Response: See Appendix 1.2 Containment.</p>

State Priority Weed Objective – ASSET PROTECTION (Whole of State):

These weeds are widely distributed in some areas of the State. As Weeds of National Significance, their spread must be minimised to protect priority assets.

Species	Biosecurity Act 2015 requirements & Strategic Response in the region
Madeira vine - <i>Anredera cordifolia</i>	<p>Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation 2017): A person must not import into the State or sell.</p> <p>Regional Strategic Response: Identify priority assets for targeted management.</p> <p># Refer Appendix 1.2 Prevention. † Refer Appendix 1.2 Eradication. †† Refer Appendix 1.2 Containment. ‡ Refer Appendix 1.2 Asset Protection.</p>
Asparagus weeds - <i>Asparagus aethiopicus</i> , † <i>A. africanus</i> , <i>A. asparagoides</i> including the Western Cape form*, <i>A. plumosus</i> , and <i>A. scandens</i>	
‡Cabomba - <i>Cabomba caroliniana</i>	
‡Scotch/English broom - <i>Cytisus scoparius</i> subsp. <i>scoparius</i>	
‡Cat's Claw Creeper - <i>Dolichandra unguis-cati</i>	
Cape/Montpellier broom - <i>Genista monspessulana</i>	
Flax-leaf broom - <i>Genista linifolia</i>	
#Hymenachne - <i>Hymenachne amplexicaulis</i>	
Bellyache bush - <i>Jatropha gossypifolia</i>	
Lantana - <i>Lantana camara</i>	
African boxthorn - <i>Lycium ferocissimum</i>	
Chilean needle grass - <i>Nassella neesiana</i>	
††Serrated tussock - <i>Nassella trichotoma</i>	
Opuntia- <i>Opuntia</i> spp., <i>Cylindropuntia</i> spp., <i>Austrocylindropuntia</i> spp. (Excludes <i>O. ficus-indica</i>)	
Mesquite - <i>Prosopis</i> spp.	
Blackberry - <i>Rubus fruticosus</i> agg. (Blackberry except the varieties Chester Thornless, Dirksen Thornless, Loch Ness, Silvan, Black Satin, Murrindindi, Smooth Stem, Thornfree and Chehalem)	
Sagittaria - <i>Sagittaria platyphylla</i>	
†Willows - <i>Salix</i> spp.(excludes <i>S.babylonica</i> , <i>S.X calodendron</i> & <i>S. x reichardtiji</i>)	
††Salvinia - <i>Salvinia molesta</i>	
Fireweed - <i>Senecio madagascariensis</i>	
Silver-leaf nightshade - <i>Solanum elaeagnifolium</i>	
Athel pine - <i>Tamarix aphylla</i>	
††Gorse - <i>Ulex europaeus</i>	

A1.2 Regional priority weeds

Regional Priority Weed Objective – PREVENTION:

The following weeds are currently not found in the Greater Sydney region, pose significant biosecurity risk and prevention of the biosecurity risk posed by these weeds is a reasonably practical objective.

Coral creeper - *Barleria repens*

East Indian hygrophylla - *Hygrophylla polysperma*

Giant devil's fig - *Solanum chrysotrichum*

Giant rats tail grass - *Sporobolus pyramidalis*

Hymenachne - *Hymenachne amplexicaulis*

Nodding thistle - *Carduus nutans*

Spanish broom - *Spartium junceum*

Water lettuce - *Pistia stratiotes*

Water star grass - *Heteranthera zosterifolia*

White blackberry / Mysore raspberry - *Rubus niveus*

Outcomes to demonstrate compliance with the GBD

- The plant is eradicated from the land and the land is kept free of the plant.
- Land managers mitigate the risk of the plant being introduced to their land.
- The plant or parts of the plant are not traded, carried, grown or released into the environment.
- Local Control Authority is notified if the plant is found on the land

Strategic response in the region

- Implement quarantine and/or hygiene protocols
- Undertake high risk sites & pathways analysis to identify potential introduction areas and preventative options
- Have a collaborative rapid response protocol in place

Supporting documents:

New Weed Incursion Plan (includes rapid response protocol)
Look, Learn, Act Community awareness program

Regional Priority Weed Objective – ERADICATION:

The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.

Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Black willow - <i>Salix nigra</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017): A person must not move, import into the State or sell. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations.
Chinese knotweed - <i>Persicaria chinensis</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations.
Climbing asparagus - <i>Asparagus africanus</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017): A person must not move, import into the State or sell. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations.
Glory lily – <i>Gloriosa superba</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations.
Grey sallow – <i>Salix cinerea</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017): A person must not move, import into the State or sell. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations.

Regional Priority Weed Objective – ERADICATION:

The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.

Outcomes to demonstrate compliance with the GBD	Strategic response in the region
<i>Groundsel bush - Baccharis halimifolia</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene controls
<i>Hygrophila - Hygrophila costata</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations.
<i>Kei apple - Dovyalis caffra</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations.
<i>Kidney leaf mud plantain - Heteranthera reniformis</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene protocols.
<i>Kudzu - Pueraria lobata</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene protocols.
<i>Leaf cactus - Pereskia aculeata</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene protocols.

Regional Priority Weed Objective – ERADICATION:

The following weeds are present in limited distribution and abundance. Elimination of the biosecurity risk posed by these weeds is a reasonably practical objective.

Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Ming fern - <i>Asparagus macowanii</i> var. <i>zuluensis</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Land managers mitigate the risk of the plant being introduced to their land. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Detailed surveillance and mapping to locate all infestations. High level pathways analysis to identify potential introduction areas and preventative options. Implement quarantine and/or hygiene protocols. Monitor progress towards eradication.
Mysore thorn - <i>Caesalpinia decapetala</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene protocols.
Sicilian sea lavender - <i>Limonium hyblaum</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene protocols.
Sicklethorn - <i>Asparagus falcatus</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene protocols.
Skunk vine - <i>Paederia foetida</i>	
<ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Manage in accordance with New Weed Incursion Plan. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene protocols.

Regional Priority Weeds objective – CONTAINMENT: *These weeds are widely distributed in the region. While broad scale elimination is not practicable, minimisation of the biosecurity risk posed by these weeds is reasonably practicable.*

Land area where requirements apply	Outcomes to demonstrate compliance with the GBD	Strategic response in the region
African olive - <i>Olea europaea</i> subsp. <i>cuspidata</i>		
An exclusion zone is established for all lands in the Blue Mountains local government area and lands to the west of the Nepean River in the Penrith local government area. The remainder of the region is classified as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. 	<p>Whole region:</p> <ul style="list-style-type: none"> Implement quarantine and/or hygiene protocols. Surveillance and mapping to locate all infested properties and maintain currency of exclusion zone and objectives. Monitor change in current distribution to ensure containment of spread. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> Destruction of all infestations, aiming at local eradication where feasible <p>Within Core infestation:</p> <ul style="list-style-type: none"> Identify priority assets for targeted management.
Alligator weed - <i>Alternanthera philoxeroides</i>		
An exclusion zone is established for all lands in the Blue Mountains local government areas. The remainder of the region is classified as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. Land managers reduce the impact on priority assets. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33): A person must not move, import into the State or sell.</p> <p>Note a Biosecurity Zone applies to this species under Part 5 of Division 2 of the <i>Biosecurity Regulation 2017</i>. However this does not apply to the Greater Sydney region.</p>	<p>Blue Mountains LGA:</p> <ul style="list-style-type: none"> Destruction of all infestations, where feasible. Implement quarantine and/or hygiene protocols. <p>Remainder of region:</p> <ul style="list-style-type: none"> Implement quarantine and/or hygiene protocols. Manage in accordance with the Priorities for the control of Alligator Weed in the Sydney Region.

Regional Priority Weeds objective – CONTAINMENT:		
Land area where requirements apply	Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Asparagus fern - <i>Asparagus virgatus</i>		
An exclusion zone is established for the whole of the region except Central Coast local government area. Central Coast local government area is classified as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Local Control Authority is notified if the plant is found on the land. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. 	<ul style="list-style-type: none"> Destruction of all infestations where feasible. Monitor change in current distribution to ensure containment of spread.
Gorse - <i>Ulex - europaeus</i>		
An exclusion zone is established for the Blue Mountains local government area. The remainder of the region is classified as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017): A person must not move, import into the State or sell.</p>	<ul style="list-style-type: none"> Destruction of all infestations, aiming at local eradication where feasible. Detailed surveillance and mapping to locate all infestations. Implement quarantine and/or hygiene protocols. Monitor progress towards eradication.

Regional Priority Weeds objective – CONTAINMENT:

Land area where requirements apply	Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Holly-leaved senecio - <i>Senecio glastifolius</i>		
An exclusion zone is established for the whole of the region except the Royal National Park. The Royal National Park is classified as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Local Control Authority is notified if the plant is found on the land. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. 	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed Monitor change in current distribution to ensure containment of spread.
Horsetails - <i>Equisetum</i> spp.		
An exclusion zone is established for whole of region except Northern Beaches local government area. The Northern Beaches local government area is classified as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. Local Control Authority is notified if the plant is found on the land. The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. 	<ul style="list-style-type: none"> Destruction of all infestations, where feasible. Monitor change in current distribution to ensure containment of spread.

Regional Priority Weeds objective – CONTAINMENT:		
Land area where requirements apply	Outcomes to demonstrate compliance with the GBD	Strategic response in the region
<i>Salvinia - Salvinia molesta</i>		
<p>An exclusion zone is established for the whole of the region except the Georges and Hawkesbury-Nepean Rivers and their tributaries. The Georges and Hawkesbury-Nepean Rivers and tributaries are classified as the core infestation area.</p>	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017): A person must not move, import into the State or sell.</p>	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed Monitor change in current distribution to ensure containment of spread.
<i>Sea spurge - Euphorbia paralias</i>		
<p>An exclusion zone is established for whole of region except Sutherland local government area. Sutherland local government areas is classified as the core infestation area.</p>	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. 	<ul style="list-style-type: none"> Destruction of all infestations, where feasible. Detailed surveillance and mapping to locate all infestations. High level pathways analysis to identify potential introduction areas and preventative options. Implement quarantine and/or hygiene protocols. Monitor progress towards eradication.

Regional Priority Weeds objective – CONTAINMENT:

Land area where requirements apply	Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Senegal tea - <i>Gymnocoronis spilanthoides</i>		
An exclusion zone is established for the whole of the region except Central Coast LGA, Royal National Park and the Hawkesbury-Nepean River and its tributaries. Central Coast LGA, Royal National Park and the Hawkesbury-Nepean River and its tributaries are classified as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Local Control Authority is notified if the plant is found on the land. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. 	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed Monitor change in current distribution to ensure containment of spread.
Serrated tussock - <i>Nassella trichotoma</i>		
An exclusion zone is established for all lands in the region, excluding areas comprising Wollondilly and Camden local government areas, which will be known as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. Local Control Authority is notified if the plant is found on the land. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33, Biosecurity Regulation, 2017): A person must not move, import into the State or sell.</p>	<ul style="list-style-type: none"> Monitor change in current distribution to ensure containment of spread. Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed.

Regional Priority Weed Objective – CONTAINMENT:		
Land area where requirements apply	Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Tiger pear - <i>Opuntia aurantiaca</i>		
An exclusion zone is established for the whole of the region except Blacktown and Wollondilly local government areas. Blacktown and Wollondilly local government areas are classified as the core infestation area.	<p>Whole region:</p> <ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. Local Control Authority is notified if the plant is found on the land. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land Land managers reduce the impact on priority assets. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33): A person must not move, import into the State or sell.</p>	<ul style="list-style-type: none"> Destruction of all infestations, where feasible. Monitor change in current distribution to ensure containment of spread.
Water poppy - <i>Hydrocleys nymphoides</i>		
An exclusion zone is established for all lands (and waters) in the region, excluding areas comprising the Hacking River Catchment, which will be known as the core infestation area .	<p>Whole region:</p> <ul style="list-style-type: none"> The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant is eradicated from the land and the land is kept free of the plant. Local Control Authority is notified if the plant is found on the land. <p>Within Core infestation:</p> <ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. Land managers prevent spread from their land where feasible. 	<ul style="list-style-type: none"> Monitor change in current distribution to ensure containment of spread. Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans. <p>Within Exclusion zone:</p> <ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed.

Regional Priority Weed Objective – ASSET PROTECTION:

Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Cat's claw creeper - <i>Dolichandra unguis-cati</i>	
<ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. Land managers mitigate the risk of the plant being introduced to their land. Land managers reduce the impact on priority assets. The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33): A person must not move, import into the State or sell.</p>	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed Identify priority assets for targeted management Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans.
Cabomba - <i>Cabomba caroliniana</i>	
<ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33): A person must not move, import into the State or sell.</p>	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed Implement quarantine and/or hygiene protocols.
Giant reed – <i>Arundo donax</i>	
<ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed Implement quarantine and/or hygiene protocols.
Green cestrum - <i>Cestrum parqui</i>	
<ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to land used for grazing of livestock. Land managers prevent spread from their land where feasible. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed on grazing land Implement quarantine and/or hygiene protocols.
Ludwigia - <i>Ludwigia peruviana</i>	
<ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. The plant or parts of the plant are not traded, carried, grown or released into the environment. Local Control Authority is notified if the plant is found on the land. 	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed. Identify priority assets for targeted management.

Regional Priority Weed Objective – ASSET PROTECTION:	
Outcomes to demonstrate compliance with the GBD	Strategic response in the region
Pampas grass - <i>Cortaderia species</i>	
<ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. Land managers prevent spread from their land where feasible. Land managers reduce the impact on priority assets. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> The plant should be fully and continuously suppressed and destroyed. Identify priority assets for targeted management
Scotch/English Broom - <i>Cytisus scoparius</i>	
<ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. Land managers reduce the impact on priority assets. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33): A person must not move, import into the State or sell.</p>	<ul style="list-style-type: none"> The plant should be managed in accordance with a regional best practice guide identifying assets to be protected, including the Greater Blue Mountains World Heritage Area and Sydney water supply catchment lands.
Singapore daisy - <i>Sphagneticola trilobata</i>	
<ul style="list-style-type: none"> Land managers mitigate the risk of the plant being introduced to their land. Land managers reduce the impact on priority assets. The plant or parts of the plant are not traded, carried, grown or released into the environment. 	<ul style="list-style-type: none"> Manage in accordance with New Weed Incursion Plan Implement quarantine and/or hygiene protocols. Identify priority assets Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans.
Water hyacinth - <i>Eichhornia crassipes</i>	
<ul style="list-style-type: none"> Land managers prevent spread from their land where feasible. The plant or parts of the plant are not traded, carried, grown or released into the environment. <p>The following legislative requirement also applies: Mandatory Measure (Division 8, Clause 33): A person must not move, import into the State or sell.</p> <p>Note a Biosecurity Zone applies to this species under Part 5 of Division 2 of the <i>Biosecurity Regulation 2017</i>. However this does not apply to the Greater Sydney region.</p>	<ul style="list-style-type: none"> Develop and implement Community Campaign Promote best practice principles to landholders, including a range of control techniques for integrated weed management; maintaining competitive vegetation/crops/pastures, hygiene and property management plans.

Attachment 4 Other Weeds of Regional Concern

Appendix 2: Other weeds of regional concern

The following table recognises that whether a plant is a weed depends on the location, and that some plants grown as crops may function as weeds in other land uses. For example, kikuyu is a valuable pasture grass in grazing paddocks but is an invasive weed in the natural environment ie. bushland and National parks. Agapanthus are very popular garden plants, often used as border plants or to hold low banks. However, agapanthus are also known to invade roadsides, bushland and waterways.

Weeds listed in Appendix 2 include species known to occur in the Greater Sydney region as well as species not currently known to occur but at risk of moving into the region in the future. They have been identified as a potential risk in some (not all) situations. Many of the species pose potential risks to biodiversity (i.e. the environment), for example if they were to spread to or be found in a National Park. Some of the species pose potential risks to agriculture and some of the weeds pose potential risks to human health. In most situations this is when ingested but can also include risks associated with asthma and other allergic reactions.

This plan recognises that many weeds are already so well established that they can only be managed and will never be eradicated from the region. The species included in Appendix 2 may warrant resources for control or management programs, or occur in neighbouring regions and are a priority to keep out of the region. Inclusion on the list may assist Local Control Authorities and/or land managers prioritise action in certain circumstances where it can be demonstrated the weed poses a threat to the environment, agriculture and/or the community/human health.

The *Biosecurity Act 2015* provides powers to Local Control Authorities to take action in relation to these weeds in particular circumstances, for example where a weed threatens a high value asset and prevention, elimination or reduction of the risk is feasible and reasonable.

Common name	Scientific name	Asset/value at risk
Aaron's Beard, Rose-of-Sharon	<i>Hypericum calycinum</i>	Environment
African lovegrass	<i>Eragrostis curvula</i>	Environment
African marigold	<i>Cineraria lyratiformis</i>	Environment
Agapanthus	<i>Agapanthus praecox subsp. orientalis</i>	Environment
American Cotton Palm, Cotton Palm, California fan palm.	<i>Washingtonia filifera</i>	Environment
Apple of Sodom	<i>Solanum linnaeanum</i>	Environment, Agriculture, Community amenity
Arrowhead	<i>Sagittaria calycina</i> var. <i>calycina</i>	Environment, Agriculture, Community amenity
Arum lily	<i>Zantedeschia aethiopica</i>	Human health, Environment
Awabuki sweet viburnum	<i>Viburnum odoratissimum</i> var <i>awabuki</i>	Environment
Balloon vine	<i>Cardiospermum grandiflorum</i>	Environment
Banana passionfruit	<i>Passiflora tarminiana</i>	Environment
Beach daisy	<i>Arctotheca populifolia</i>	Environment, Community amenity

Common name	Scientific name	Asset/value at risk
Berberis, Barberry	<i>Berberis aristata</i> , <i>B. darwini</i> and <i>B. thunbergii</i>	Environment
Billardiera, Bluebell creeper	<i>Billardiera heterophylla</i>	Environment
Black cherry, Wild black cherry	<i>Prunus serotina</i>	Environment
Black locust	<i>Robinia pseudoacacia</i>	Environment, Human health
Blue heliotrope	<i>Heliotropium amplexicaule</i>	Agriculture
Blue hound's tongue	<i>Cynoglossum creticum</i>	Agriculture
Blue morning glory	<i>Ipomoea indica</i>	Environment, Human health
Blue stars	<i>Aristea ecklonii</i>	Environment
Bokhara	<i>Melilotus albus</i>	Environment
Box elder	<i>Acer negundo</i>	Environment
Brazilian button flower	<i>Centratherum punctatum</i>	Environment
Brazilian cherry	<i>Eugenia uniflora</i>	Environment
Broad leaf pepper	<i>Schinus terebinthifolius</i>	Environment
Buckthorn	<i>Rhamnus alaternus</i>	Environment
Buffel grass	<i>Cenchrus ciliaris</i>	Environment
Burr ragweed	<i>Ambrosia confertiflora</i>	Agriculture, human health
Bushman's Poison, Hottentot's-poison, Poison arrow plant, Wintersweet	<i>Acokanthera oblongifolia</i>	Agriculture
Camphor laurel	<i>Cinnamomum camphora</i>	Environment, Agriculture, Human health
Cane needle grass	<i>Nassella hyalina</i>	Agriculture
Cape honeysuckle	<i>Tecoma capensis</i>	Environment
Cape ivy	<i>Delairea odorata</i>	Environment
Cape tulip	<i>Moraea flaccida</i>	Environment, Agriculture
Cassia, Senna	<i>Senna pendula</i>	Environment
Cherry guava	<i>Psidium cattleianum</i>	Environment, Agriculture
Chinese celtis/ Chinese hackberry	<i>Celtis sinensis</i>	Environment, Agriculture
Chinese elm	<i>Ulmus parvifolia</i>	Environment
Chinese tallow	<i>Triadica sebifera</i>	Environment
Climbing nightshade, Brazilian nightshade	<i>Solanum seaforthianum</i>	Environment, Human health
Coastal morning glory	<i>Ipomoea cairica</i>	Environment
Cockspur coral tree	<i>Erthrina crista-galli</i>	Environment
Cocos palm	<i>Syagrus romanzoffiana</i>	Environment
Coffee bush, Leucaena	<i>Leucaena leucocephala</i>	Environment, Community amenity
Common morning glory	<i>Ipomoea purpurea</i>	Environment, Agriculture
Coolatai grass	<i>Hyparrhenia hirta</i>	Environment, Agriculture
Coral Berry	<i>Ardisia crenata</i>	Environment
Coral tree, Common coral tree	<i>Erythrina x sykesii</i>	Environment
Corky passionflower	<i>Passiflora suberosa</i>	Environment
Cotoneaster	<i>Cotoneaster</i> spp	Environment

Common name	Scientific name	Asset/value at risk
Creeping lantana, trailing lantana	<i>Lantana montevidensis</i>	Environment, Agriculture
Crofton weed	<i>Ageratina adenophora</i>	Environment, Agriculture
Cumbungi	<i>Typha latifolia</i>	Environment
Day-lily, Kwanso	<i>Heimerocallis fulva</i>	Environment
Dense waterweed, Leafy elodea, Egeria, Anacharis, Brazilian elodea	<i>Egeria densa</i>	Environment, Community amenity
Dipogon, Dolichos pea,	<i>Dipogon lignosus</i>	Environment
Dutchmans pipe	<i>Aristolochia elegans</i>	Environment
Espartillo, Broad-kernel espartillo	<i>Amelichloa caudata</i> (syn. <i>Achnatherum caudatum</i>)	Environment, Agriculture
Espartillo – narrow kernel	<i>Amelichloa brachychaeta</i>	Environment, Agriculture
European olive	<i>Olea europaea subsp. europaea</i>	Environment
Firethorn	<i>Pyracantha</i> spp.	Environment
Fishbone fern	<i>Nephrolepis cordifolia</i>	Environment
Formosa lily, Taiwan lily	<i>Lilium formosanum</i>	Environment
Fountain grass	<i>Pennisetum setaceum</i>	Environment
Foxglove tree, Empress tree	<i>Paulownia tomentosa</i>	Environment
Galenia	<i>Galenia pubescens</i>	Environment, Agriculture
Giant Parramatta grass (GPG)	<i>Sporobolus fertilis</i>	Environment, Agriculture
Ginger lily	<i>Hedychium gardnerianum</i>	Environment
Golden rain tree	<i>Koelreuteria elegans</i>	Environment
Golden wreath wattle	<i>Acacia saligna</i>	Environment
Harrisia cactus	<i>Harrisia</i> spp.	Environment
Himalayan honeysuckle	<i>Leycesteria formosa</i>	Environment
Holly, English holly	<i>Ilex aquifolium</i>	Environment
Honey locust	<i>Gleditsia triacanthos</i>	Environment, Agriculture
Indian hawthorn	<i>Rhaphiolepis indica</i>	Environment
Japanese climbing Fern	<i>Lygodium japonicum</i>	Environment
Japanese hawthorn, Yeddo hawthorn	<i>Rhaphiolepis umbellata</i>	Environment
Japanese honeysuckle	<i>Lonicera japonica</i>	Environment
Keriberry	<i>Rubus rugosus</i>	Environment
Kikuyu	<i>Pennisetum clandestinum</i>	Environment
Long leaf water primrose	<i>Ludwigia longifolia</i>	Environment, Agriculture, Community amenity
Lote tree, Nettle tree, Mediterranean hackberry	<i>Celtis australis</i>	Environment
Mahonia, Chinese Holly	<i>Berberis lomariifolia</i>	Environment
Mexican water lily, Yellow water lily	<i>Nymphaea mexicana</i>	Environment
Mimosa bush, Briar bush, Yellow mimosa	<i>Vachellia farnesiana</i>	Environment, Agriculture
Mirror bush, Mirror plant	<i>Coprosma repens</i>	Environment

Common name	Scientific name	Asset/value at risk
Mistflower	<i>Ageratina riparia</i>	Environment, Agriculture
Monkey's comb	<i>Pithecoctenium crucigerum</i>	Environment
Montbretia	<i>Crocasmia x crocosmiiflora</i>	Environment
Mossman river grass	<i>Cenchrus echinatus</i>	Environment
Moth vine, Moth plant	<i>Araujia sericifera</i>	Environment
Mother of millions	<i>Bryophyllum</i> spp.	Environment, Agriculture, Human health
New Zealand flax	<i>Phormium tenax</i>	Environment
Ochna	<i>Ochna serrulata</i>	Environment
Onion Grass	<i>Romulea rosea</i>	Environment, Agriculture
Orange jessamine, Murraya	<i>Murraya paniculata</i>	Environment
Osage orange	<i>Maclura pomifera</i>	Environment
Ox-eye daisy	<i>Leucanthemum vulgare</i>	Environment
Pampas lily of the valley	<i>Salpichroa organifolia</i>	Environment
Paper mulberry	<i>Broussonetia papyrifera</i>	Environment
Paterson's curse	<i>Echium plantagineum</i>	Environment, Agriculture, Human health
Patula pine, Mexican weeping pine	<i>Pinus patula</i>	Environment
Pellitory, Asthma weed	<i>Parietaria judaica</i>	Environment, Human health
Periwinkle, Blue periwinkle	<i>Vinca major</i>	Environment
Phoenix palm, Canary Island date palm	<i>Phoenix canariensis</i>	Environment
Pink trumpet vine	<i>Podranea ricasoliana</i>	Environment
Privet spp.	<i>Ligustrum sinense, Ligustrum lucidum, Ligustrum vulgare</i>	Environment, Human health
Radiata pine, Pine wildings	<i>Pinus radiata</i>	Environment
Rattleseed pod, Rattlepod	<i>Crotalaria lunata</i>	Environment
Red ludwigia	<i>Ludwigia repens</i>	Environment, Agriculture, Community amenity
Reed canary grass	<i>Phalaris arundinacea</i>	Environment
Reed sweet grass	<i>Glyceria maxima</i>	Environment
Rhizomatous bamboo, Black bamboo	<i>Phyllostachys nigra</i>	Environment
Rhizomatous bamboo, Fishpole bamboo, Yellow bamboo	<i>Phyllostachys aurea</i>	Environment
Rhodes grass	<i>Chloris gayana</i>	Environment
Rhus tree	<i>Toxicodendron succedaneum</i>	Human health
Rush	<i>Juncus articulatus</i>	Environment
Rush	<i>Juncus effusus</i>	Environment
Scotch, Illyrian thistles	<i>Onopordum acanthium, O. Illyricum</i> and <i>O. acaulon</i>	Agriculture
Sedge, Cyperus	<i>Cyperus teneristolon</i>	Environment, Agriculture
Spanish heath	<i>Erica lusitanica</i>	Environment
Spiderwort, Moss inch plant	<i>Tradescantia cerinthoides</i>	Environment

Common name	Scientific name	Asset/value at risk
Spiny burrgrass - longispinus	<i>Cenchrus longispinus</i>	Environment, Agriculture, Human health
Spiny rush, Spike rush, Sharp rush	<i>Juncus acutus</i>	Environment
St John's wort	<i>Hypericum perforatum</i>	Environment, Agriculture
Sweet briar	<i>Rosa rubiginosa</i>	Agriculture
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>	Environment, Agriculture
Tall wheat grass	<i>Thinopyrum ponticum</i>	Environment
Tangier Pea	<i>Lathyrus tingitanus</i>	Environment
Telegraph Weed	<i>Heterotheca grandiflora</i>	Environment
Trad	<i>Tradescantia fluminensis</i>	Environment
Tree of heaven	<i>Ailanthus altissima</i>	Environment, Human health
Turkey rhubarb	<i>Acetosa sagittata</i>	Environment
Tussock paspalum, Blue grass	<i>Paspalum quadrifarium</i>	Environment
Tutsan	<i>Hypericum androsaemum</i>	Environment
Umbrella tree	<i>Schefflera actinophylla</i>	Environment
Viper's bugloss	<i>Echium vulgare</i>	Agriculture
Watsonia	<i>Watsonia meriana</i>	Environment
Whisky grass	<i>Andropogon virginicus</i>	Environment
White jasmine, Chinese jasmine	<i>Jasminum polyanthum</i>	Environment
Wild poinsettia	<i>Euphorbia cyathophora</i>	Environment
Wild tobacco bush	<i>Solanum mauritianum</i>	Environment, Agriculture
Yellow bells, Golden bells	<i>Tecoma stans</i>	Environment, Agriculture
Yorkshire fog	<i>Holcus lanatus</i>	Environment

Appendix F – Fauna Handling and Rescue Procedure

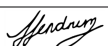
Annexure F

Fauna Handling and Rescue Procedure

M12 Early Works Temporary Roundabout

Document number: M12PPW-CPB-EDR-EN-PLN-00001_E_S3_Appendix
Revision date: 1/11/2021
Revision: E

Document Approval

Rev.	Date	Prepared by	Reviewed by	Remarks
A	25/08/21	EMM Consulting	S Lendrum	Issued for Review
B	30/09/21	EMM Consulting	S Lendrum	TfNSW Comments
C	30/09/21	EMM Consulting	S Lendrum	TfNSW Comments
D	27/10/21	EMM Consulting	S Lendrum	TfNSW and ER Comments
E	01/11/21	EMM Consulting	S Lendrum	Address ER comments
Signature:				

Details of Revision Amendments

Document Control

The Project Manager is responsible for ensuring that this plan is reviewed and approved.

The CPB Environmental Site Representative is responsible for updating this plan to reflect changes to environmental, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Manager and/or client before being distributed / implemented.

Revision Details

Revision	Details
A	Initial draft for review
B	Addressing TfNSW Comments
C	Addressing further TfNSW Comments
D	Addressing further TfNSW and ER Comments, formatting
E	Address ER comments

Glossary/ Abbreviations

Abbreviations	Expanded text
AR	Amendment Report
ARSR	Amendment Report Submissions Report
BAR	Biodiversity Assessment Report
BC Act	<i>Biodiversity Conservation Act 2016</i>
BOS	Biodiversity Offset Strategy
CEMP	Construction Environmental Management Plan
Construction	Includes all activities required to construct the CSSI as described in the documents listed in Condition A1, including commissioning trials of equipment and temporary use of any part of the CSSI, but excluding Low Impact Work which is carried out to complete prior to the approval of the CEMP, works approved under a Site Establishment Management Plan, demolition of acquired residential houses, structures and sheds, and works specified in Appendix B and approved under an environmental management plan(s) in accordance with Condition A24.
CoA	Conditions of Approval
CSSI	Critical State Significant Infrastructure
DAWE	Commonwealth Department of Agriculture, Water and the Environment
DECC	Former NSW Department of Environment and Climate Change
DECCW	Former NSW Department of Environment, Climate Change and Water
DPI	Department of Primary Industries
DPIE	NSW Department of Planning, Industry and Environment
Early Works	Works specified in Appendix B of the Development Consent which are required to be approved under an Early Works Environmental Management Plan required under Condition A24.
EEC	Endangered Ecological Community
EES	Environmental, Energy and Science (a part of NSW DPIE)
EIS	Environmental Impact Statement
EMS	Environmental Management Systems
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPA	NSW Environment Protection Authority
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence

Abbreviations	Expanded text
ER	Environmental Representative
EWEMP	Early Works Environmental Management Plan
EWFFMP	Early Works Flora and Fauna Management Plan
EWMS	Environmental Work Method Statements
FM Act	<i>Fisheries Management Act 1994</i>
HCP	Habitat Compensation Plan
KFH	Key Fish Habitat
KTP	Key Threatening Process
NPW Act	<i>National Parks and Wildlife Act 1974</i>
OCS	Overarching Communication Strategy
OEH	NSW Office of Environment and Heritage, now Environment Energy and Science
PBFD	Psittacine beak and feather disease
PCT	Plant Community Type
Pesticide Act	<i>NSW Pesticides Act 1999</i>
PMST	Protected Matters Search Tool
POEO Act	<i>NSW Protection of the Environment Operations Act 1997</i>
Primary CoA/REMM	CoA or REMM that is specific to the development of this Plan
REMM	Revised Environmental Management Measures
RIAR Group	NSW Regions, Industry, Agriculture and Resources Group (a part of DPIE)
Roads and Maritime	NSW Roads and Maritime Services, now Transport for New South Wales
RTA	Roads & Traffic Authority. Former NSW Roads and Maritime Services. Now Transport for NSW
Secondary CoA/REMM	CoA or REMM that is related to, but not specific to, the development of this Plan
TEC	Threatened Ecological Communities
TfNSW	Transport for New South Wales
TSC Act	<i>NSW Threatened Species Conservation Act 1995</i>

Abbreviations	Expanded text
WSIA	Western Sydney International Airport
WSP	Western Sydney Parklands

1. Introduction

1.1. Purpose

Handling of fauna during the Project may be required where fauna is encountered during Construction and is required to be relocated or transported to a vet or wildlife carer in the case of injury. This Fauna Handling and Rescue Procedure details the actions to be taken in the event that fauna (including injured, shocked, dependent juvenile or other) is discovered that requires handling during Construction of the Project. This Procedure has been developed in accordance with Guide 9: Fauna handling, Biodiversity Guidelines (RTA, 2011).

1.2. Objective

CPB Contractors (CPB) is committed to planning and executing the Work under the Contract to undertake fauna rescue and release in a manner that does not cause harm.

The procedure, as cited in TfNSW Specification G36 *Environmental Protection*, is to address the following:

- Steps to be followed when rescue or relocation of fauna is required
- A process to ensure that, if native fauna is captured during vegetation clearing or other activities, it is released into a suitable nearby habitat that has been identified as such by an ecologist
- Fauna rescue and release management measures for aquatic fauna and fish
- A procedure for handling of fauna by a licensed fauna handler such as a fauna spotter/catcher, fauna ecologist or wildlife carer with specific animal handling experience
- The responsibilities of the Early Works Ecologist
- A process to keep records of fauna captured and relocated
- A process to report any injury or death of threatened species.

1.3. Scope

This Procedure is applicable to all activities that may result in site personnel handling or rescuing fauna during Construction of the Project. It is applicable to all native and introduced species that are found in the Project area.

1.4. Induction / training

All site personnel (including sub-contractors) will be inducted on this Procedure. Best practice methods for fauna handling will be communicated to site personnel to minimise the risk of injury in the event that unavoidable handling of fauna occurs on site during Construction.

Training in this Procedure will include inductions, toolbox talks, pre-starts and targeted training as required.

1.5. High Risk Activities

- Activities during construction which have the greater potential to require fauna rescue and release include the following (but are not limited to).
- Ancillary facility site establishment.
- Vegetation clearing.
- Earthworks.

1.6. Accountabilities and Responsibilities

- CPB is accountable for undertaking and supervising all fauna rescue and release activities.
- TfNSW is accountable for ensuring CPB and its sub-contractors comply with this procedure to the extent they are obligated to under the Contract.

- The Environmental Site Representative is responsible for ensuring all personnel are aware of this procedure and its requirements.
- The Foreman is responsible for ensuring any fauna discovered within the project is brought to the attention of the Environmental Site Representative and are provided an opportunity to move off site.
- Site personnel must be inducted and aware of this procedure.
- A licensed fauna ecologist or wildlife carer with specific animal handling experience will be used to carry out any animal handling and relocation.

This Procedure will be updated by the Environmental Manager in consultation with the Early Works Ecologist and reviewed by the TfNSW Environment and Sustainability Manager (or delegate) prior to commencement of Construction of the Project.

This Procedure will be reviewed annually, or as required.

2. Fauna rescue and relocation process

The process detailed in Figure 1 must be followed in each instance of fauna rescue and relocation.

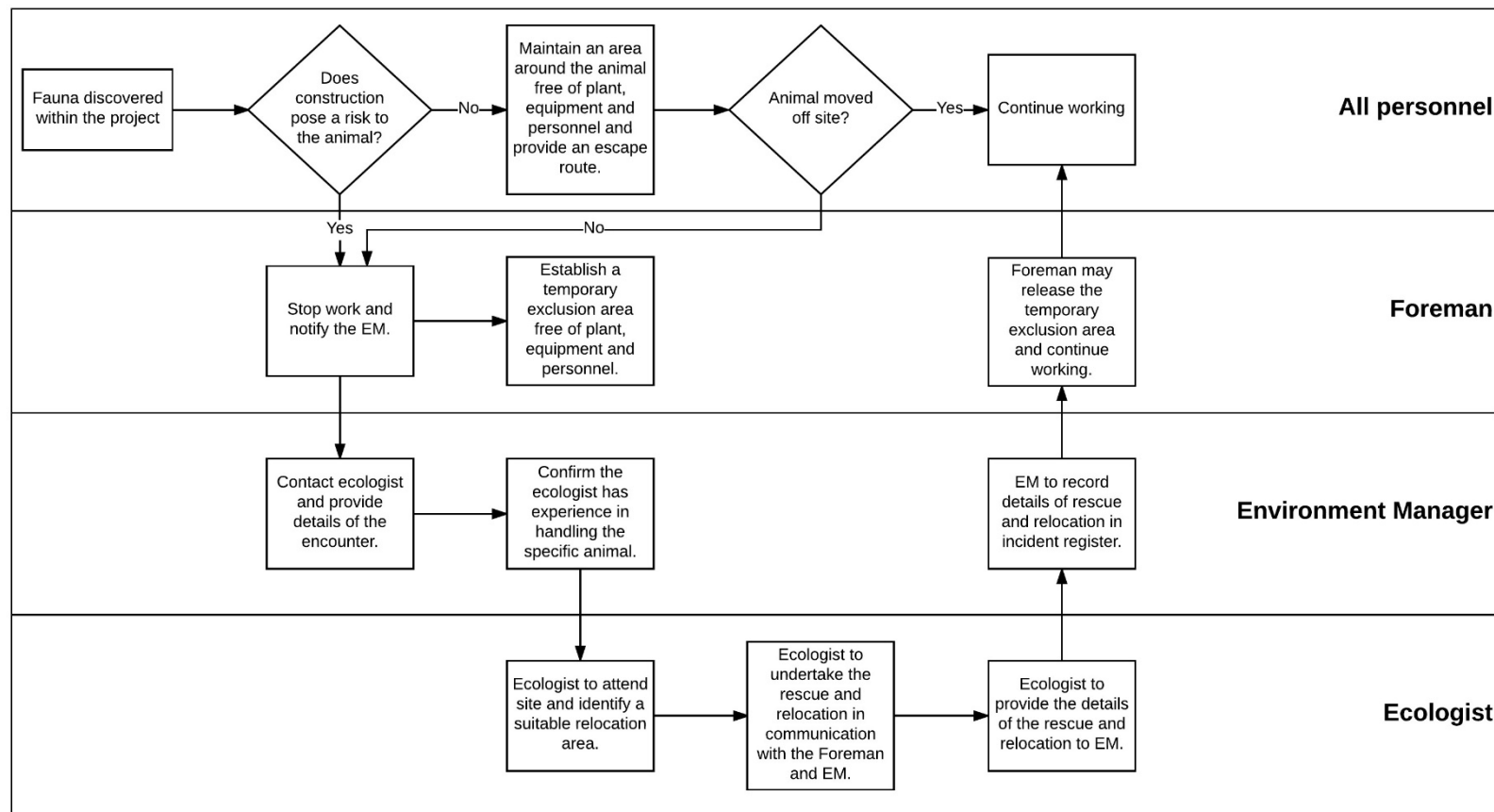


Figure 1 The fauna rescue and relocation process

3. Management measures

Fauna should only be handled when absolutely necessary, and where this is the case, should only be undertaken by a licensed ecologist or wildlife carer skilled in handling the type of fauna encountered (See Section 6.5 for handling procedures). Contact an animal rescue agency/wildlife care group or vet before works start to ensure they are willing and available to be involved in fauna rescue and assist with injured animals (see Table 6.1 for details).

Table 3.1 presents some items to be considered should a licensed ecologist or wildlife carer be required to handle certain fauna types.

Table 3.1 Handling considerations

Fauna type / activity	Consideration
Handling of snakes	Never deliberately kill a snake as all snakes are protected under the <i>Biodiversity Conservation Act 2016</i> . If a snake must be handled to remove the risk of harm to the snake or people then handling should only be done by a licensed fauna ecologist or wildlife carer with skills and experience in snake handling. Handling of snakes can be unsafe and bites from these species can result in serious illness, damage to organs or even death. Some monitor species also have anticoagulants that result in excessive bleeding. Handling of these species should only be attempted by appropriately qualified personnel and utilise no-direct contact handling techniques (i.e. use of snake hook and bag opposed to handling the animal).
Handling of bats and microbats	Some species of bats carry the Australian Bat Lyssavirus which is a form of rabies. Anyone handling bats should be vaccinated and wear gloves to protect against bites and scratches. Bats that are held should be stored in a calico bag or sealed bat nest box. Prior to clearing of vegetation with decorticated bark, hollow trees and existing structures, an assessment for microbats and other fauna residing in the structure should be completed. If the assessment determines that microbats are likely to roost in the structure, the procedure in Appendix D of the EWFFMP will be followed. . Survey and relocation to be undertaken in accordance with Appendix D of the EWFFMP and in accordance with Early Works Ecologist directions.
Handling of frogs	Handling of frogs can result in the spread of the Amphibian Chytrid Fungus and shall be undertaken in accordance with the <i>DECC Hygiene Protocol for Control of Disease in Frogs</i> (DECC 2008). They are to be placed into plastic bag (zip lock) or other plastic containers with a small amount of water and vegetation.
Handling of mammals and birds	Mammals and birds are capable of causing injury to handlers (e.g. bites, scratches) or themselves if handled incorrectly. Wear gloves when handling mammals to protect against bites and scratches. Animals should be placed into a calico/hessian bag or a cardboard box. Possums which can easily rip through calico bags and should be placed within double lined canvas bags.
Arboreal animals	In the event that arboreal animals do not move or they cannot be captured because the tree hollow is too large, high or its recovery would breach safety requirements then the tree shall be lopped in such a way that the risk of injury or mortality to fauna is minimised, such as top-down lopping, with lopped sections gently lowered to the ground, or by lowering whole trees to the ground with the "grab" attachment of a machine..
Handling of fish and aquatic species	Fish should only be handled by experienced aquatic ecologists. Ensure that containers for holding aquatic species provide sufficient water and adequate aeration. During relocation, fish would be relocated into aerated transportation tubs. Tubs would be located in the shade during capture and transportation to avoid sudden changes in temperature.

Fauna type / activity	Consideration
	temperature. Frogs, turtles, fish and eels would be treated in a similar manner, however different fauna should not be transported within the same tub to prevent injury or consumption of smaller fauna. Turtles and frogs should be damp, but not submerged in water. Fish and other aquatic fauna would be transported to the recipient site as quickly as practical. Any invasive species would be euthanised in accordance with animal care and ethics permits requirements. Accurate records of species released or euthanised (in the case of exotic species) would be recorded and provided to NSW DPI upon completion.
Relocation and release of terrestrial animals	Release fauna into pre-determined habitat identified for fauna release. Animals should only be released at a time and place that is suitable to the species and provides it with a likely chance of survival (i.e. release should not increase the risk of stress or predation to the species). Release fauna into similar habitat, as near as possible to capture location. Release should not take place during periods of heavy rainfall. Release nocturnal fauna at dusk. Temporary fauna fencing may be required on projects to reduce the chances of road kill/injury from public traffic or construction machinery.
Relocation and release of aquatic animals	<p>All fish and aquatic fauna works will require a Fisheries Permit issued by the NSW Department of Primary Industries (DPI) under Section 37 of the Fisheries Management Act 1994. Any native fish or aquatic fauna (including turtles) present would be relocated into a similar aquatic environment to which it was found by trained aquatic ecologists.</p> <p>The selection of relocation sites would be conducted in consultation with DPI Fisheries upon permit application, and will consider permanence of water, any upstream disturbances, habitat, water quality conditions. Fish and other aquatic fauna should be relocated into a waterway with similar water quality and habitat characteristics to minimise stress. Where possible the relocation site would be within the same sub-catchment to avoid the inadvertent dispersal of fauna into unsuitable habitat.</p>
Release of nocturnal species	Nocturnal animals captured during the day will be immediately taken to adjacent bushland and placed into a relocated tree hollow or nest box or held until the evening and released shortly after dusk (see below for holding of animals).
Temporarily holding animals	<p>Collected animals may be held for a short period of time (preferably less than 24 hours prior to release).</p> <p>Animals kept for any purpose will be secured in a container and stored in a quiet, ventilated and preferably dark location away for construction activities.</p>
Injured Animals	<p>Contact the nominated animal rescue agency/wildlife care group or vet if an animal is injured. Injured animals will be cared for according to specific animal care and ethics guidelines and be given appropriate veterinary care, and if available, the services of one of the local animal welfare groups.</p> <p>Keep the injured animal in a box in a quiet, warm, dark place until transferred. If an injured animal is dangerous, carefully place a box over the top of it if possible, or section off the area and wait for an experienced and licensed fauna ecologist or wildlife carer to arrive.</p>
Euthanasia	<p>In some instances, severely injured and pest animals may need to be euthanized. Any undertaking to euthanasia animals will only be undertaken using a suitable technique (i.e. cervical dislocation for small mammals and ice slurry for introduced fish) done by personnel trained and competent (e.g. Project Ecologist) in the use of acceptable methods of euthanasia or will be taken to a veterinarian for euthanasia. Personnel required to euthanize animals shall consider methods that are humane, painless and rapid.</p>

Fauna type / activity	Consideration
Pest species	Pest animals are not to be released and should be euthanized.
Release site selection	During the preliminary pre-clearing assessments, the Early Works Ecologist is to identify suitable release sites in appropriate habitat for fauna adjacent to the project area.

4. Procedure

4.1. Pre-clearing procedure

Twenty four hours prior to clearing licensed fauna handlers must capture and/or remove fauna that have the potential to be disturbed as a result of clearing. If native fauna are captured during vegetation clearing, they must be released in accordance with the procedure in Section 4.2.

4.2. Rescue procedure

In the event that wildlife is discovered on the Project site during Construction activities and there is a risk that these activities may harm the animal or pose risk to site personnel, the following steps will be taken:

1. Stop all work in the vicinity of the fauna and immediately notify the Superintendent who will then notify the Environmental Site Representative and the TfNSW Environment and Sustainability Manager (or delegate) or the Early Works Ecologist, if the latter is present on site.
2. Contact the Early Works Ecologist to obtain positive identification of the subject species.
3. Preferably allow the animal to leave the area without intervention.
4. If immediately available, use a licensed fauna ecologist or wildlife carer with specific animal handling experience to carry out any fauna handling.
5. If no ecologist or wildlife carer is available on site and the animal is able to be handled safely, to minimise stress to fauna and/or remove the risk of further injury, the Environmental Site Representative will undertake the activities described in Section 6.4 of this Procedure in consultation with the ecologist or fauna rescue service.
6. If the animal cannot be safely handled (i.e. venomous reptiles): - exclude all personnel from the vicinity with fencing and/or signage - record the exact location of the animal/s and provide the details to the Project Ecologist or appropriate rescue agency (e.g. WIRES).
7. Contact the appropriate rescue agency immediately and follow any advice provided by the agency. Once the rescue agency arrives at the Project site, they are responsible for the animal. Any decisions regarding the care of the animal will be made by the rescue agency.

CPB have provided the relevant fauna rescue services and local veterinary surgeries contact details in Table 6.1. The contact details for the Project Ecologist will be displayed at prominent locations within the Project area, such as at ancillary facilities and compound sites, to enable quick contact and access to the Early Works Ecologist.

Table 4.1: Fauna rescue contact details

Agency / business	Contact no.
Early Works Ecologist	TBD
Sydney Wildlife	02 9413 4300
WIRES	1300 094 737
RSPCA Care Centre Rouse Hill	02 8883 0622
Veterinary Services: Nepean Animal Hospital	50 Mulgoa Road Regentville NSW 2745 Phone: 02 4733 3456

In the event that the rescue service and/or local veterinary service cannot be contacted, the injured animal will be delivered to the relevant agency as soon as practically possible.

If the fauna species is identified as a threatened species, the Environmental Site Representative will implement the Unexpected Species Procedure in Appendix D of the EWFFMP.

The adequacy of existing safeguards will be reviewed in consultation with the above stakeholders.

4.3. Relocation procedure

Relocation of fauna will be undertaken by, or under advice from, the Early Works Ecologist or wildlife carer and records will be maintained in a register. If the animal is not injured or stressed, it will be released nearby in an area that is not to be disturbed by Construction, in accordance with the following procedures:

- pre-determined sites identified as suitable release points by the Early Works Ecologist or wildlife rescuer
- sites of similar habitat and located as close to the original capture location as possible.
- at a time of day appropriate for release of the specie, e.g. if the species is nocturnal, release will be carried out at dusk
- avoid release during periods of heavy rainfall where feasible
- hollow-dependent species, particularly those with dependent young, will be released into a temporary nest box.

If the animal has been placed into care due to injury, age (i.e. young) or stress, upon its rehabilitation it will be released in an area that is not to be disturbed by the Project Construction works, at the discretion of the Early Works Ecologist or wildlife rescuer.

4.4. Aquatic fauna

There are no creeks or dams located within the Early Works footprint and therefore the potential for fish and other aquatic fauna, including turtles and eels, to be present is considered low.

4.5. Handling procedure

The following handling procedures will be implemented to minimise stress to fauna and/or remove the risk of further injury:

1. If time permits, call ecologist or fauna rescue for advice.
2. Attempt to herd terrestrial fauna into adjoining forest or other vegetated area.
3. If capture is necessary, cover larger animals with a towel or blanket and place in a large cardboard box or hessian bag.
4. Place smaller animals in a cotton/calico bag tied at the top.
5. Keep the animal in a quiet, warm, ventilated and dark place away from noisy Construction activities.
6. Animals such as venomous reptiles and raptors require particular handling and will only be handled by appropriately qualified personnel, i.e. Project Ecologist or wildlife rescuer.
7. If handling bats, the handler must be vaccinated against the Australian Bat Lyssavirus.
8. Frogs will be transported in moistened plastic bags (1 frog/bag) with a small amount of leaf litter. Handling and translocation of frogs shall be in accordance with the Hygiene Protocol for the Control of Disease in Frogs (DECC, 2008). This protocol recommends onsite hygiene precautions be undertaken to minimise the transfer of disease between and within wild frog populations.

Recommended measures include:

- thoroughly cleaning/disinfecting footwear and equipment before entering frog habitat and when moving from one site to another
- in high risk areas, spraying/flushing vehicle tyres with a disinfecting solution and avoid driving through frog habitat

- cleaning/disinfecting hands between collecting samples/frogs (preference would be given to using bags, rather than bare hands to handle frogs)
- limiting one frog or tadpole to a bag. Bags should not be reused.

4.6. Recommencement of work

Following consultation with all relevant stakeholders, the Environmental Site Representative, and Early Works Ecologist will implement any corrective actions and additional safeguards identified. Following confirmation by the Environmental Site Representative, the ER and Early Works Ecologist that all appropriate safeguards have been implemented, Construction works can recommence.

4.7. Early Works Ecologist responsibilities for fauna handling and rescue

The Early Works Ecologist has the following responsibilities in regard to this Procedure:

- relocation of captured fauna will be undertaken in accordance with Sections 4.2, 4.3, 4.4 and 4.5 of this Procedure
- record and provide capture and relocation data in the Post-Clearing Report as required by Section 7.6 of the EWFFMP. Data will include the species, number, and general health of each individual
- in the event that the rescue service and/or local veterinary service cannot be contacted or non-native fauna are captured, the most appropriate euthanasia will be administered by the Early Works Ecologist (i.e. cervical dislocation for small vertebrates, ice slurry for introduced fish). This is to occur in accordance with applicable guidelines and legislative requirements.
- if the fauna species is identified as a threatened species that is not identified in this FFMP, notify the Environmental Site Representative, ER and TfNSW Environment and Sustainability Manager (or delegate).

5. Records

The Contractors will maintain accurate records of all fauna captured and relocated during the Project. The following details are to be recorded for each event:

- species name
- location and time captured
- location and time released
- behaviour and condition upon release
- details of any injury or death that occurred
- contact details and location of licensed wildlife carer or vet if the animal was transferred into their care.

6. Reporting

The Early Works Ecologist will record fauna finds, relocations and euthanised animals in the TfNSW Environmental Incident Report or Weekly Environmental Inspection Checklist.

CPB will immediately report any injury to or death of a threatened species to the TfNSW Project Manager, TfNSW Environment and Sustainability Manager (or delegate), ER and Environmental Site Representative.

Appendix G – Clearing and Grubbing Plan

M12 Early Works Temporary Roundabout Clearing and Grubbing Plan

ENVIRONMENTAL WORK METHOD STATEMENT (EWMS)

EWMS Title:	Clearing & Grubbing	EWMS No:	M12PPW-CPB-EDR-EN-PLN-00001_E_S3_Appendix G	Revision No:	E
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Introduction

Summary/Purpose of Activity:

Purpose of clearing and grubbing is to remove vegetation from the project corridor so as to facilitate construction of the roadway and all other related infrastructure.

Objectives of this EWMS:

Objective is to avoid and minimise impacts to flora and fauna located outside the clearing limits of the project, as well as minimising the impact to fauna when clearing habitat trees, and promote the reuse and recycling of suitable timber and mulch.

Area/Location of Activity/Site:

Clearing and grubbing works is required wherever vegetation exists within the approved clearing footprint of the project.

Timing of works/Expected duration:

The majority of clearing and grubbing works will be carried out at the onset of construction prior to the commencement of earthworks on the project and is expected to run for a period of approximately 1-2 week. Isolated clearing and grubbing works may be required at any time during construction of the project such as in response to design refinements.

Approvals Required:

The development of this EWMS is a requirement identified in TfNSW QA G36 and detailed in TfNSW QA Specification G40. It is included in the EWFFMP as a sub-plan to the EWEMP and must be submitted at least 15 days prior to the commencement of clearing activities and be approved by the TfNSW Representative (G40 Hold Point).

Consultation Requirements:

This EWMS must be prepared in consultation with Transport for NSW, and the Project ER.

Relevant References:

The information included in this EWMS has been sourced from the Early Works Flora & Fauna Management Plan, as well as TfNSW Specification G36, G38, and G40.

Incident Response:

In the event of an incident that may result in contaminated land, or the disturbance of vegetation outside the clearing limit and/or injury to wildlife, then the Work Supervisor will give directions to stop work and will contact the Environmental Site Representative immediately. The ESR or their delegate will respond to the incident in accordance with the TfNSW Environmental Incident Classification and Reporting Procedure.

Plant & Machinery:

- Dozer;

Equipment:

- Survey tape / Paraweb fencing and sensitive area signs.

<ul style="list-style-type: none"> • Drott, • Positrack • Excavator with cutting tool and grabs; • Mulcher • Slasher • Chainsaw. 	<ul style="list-style-type: none"> • Flagging (as per Appendix C of the EWFFMP) • Survey Paint
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Work Methodology

#	Sequence of Work Activities <i>How will the work be done?</i>	Potential Hazards <i>What harm can occur?</i>	Risk <i>High-Med-Low</i>	Safeguards / controls <i>How can the risk be minimised?</i>	Responsibility <i>Who will ensure that controls are in place?</i>
1	Training of personnel and subcontractors undertaking the works	Non-compliance with agreed work methods	Medium	<ul style="list-style-type: none"> • Ensure all working crews have undertaken site specific induction and have been toolboxed on this EWMS. This will include the clearing process, ecologist role, flagging protocol, boundaries for clearing, exclusion zones, weed management/containment obligations and pathogen containment, unexpected finds procedures for heritage and threatened flora, fauna injury and rescue procedures, sensitive areas, salvage and reuse of habitat resources, mulch stockpiling areas and management of woody debris as relevant to the work activity and location. • Ensure site personnel responsible for construction and maintenance of temporary erosion and sediment controls are appropriately knowledgeable in the principles of erosion and sedimentation controls. 	Environmental Site Representative (ESR) / Early Works Ecologist Work Supervisor
2	Planning of works	Works commencing without approval	High	<ul style="list-style-type: none"> • Ensure this EWMS has been consulted on with appropriate authorities and stakeholders and submitted to the TfNSW Environmental Representative, at least 15 days prior to commencement of clearing works for approval. • Provide TfNSW Representative with the following prior to clearing: <ul style="list-style-type: none"> • This work method statement, • Permit to Clear, • Flagging protocol, • Weed management plan, • Sensitive area maps, • Pre-clearing survey report, • Arborist report on unsound trees, and • Written notice that limits of clearing and areas of weed infestations identified in the above plans are marked. 	Works Supervisor / Environmental Site Representative
		Disturbance to sensitive areas or not approved areas	High	<ul style="list-style-type: none"> • Sensitive area maps to identify all site constraints relevant to the proposed works including sensitive receivers, sensitive vegetation, waterways and drainage, approved work areas. These are to be provided to all work crews as part of inductions / training. • All vegetation outside the clearing limit is to be considered a sensitive area. 	Works Supervisor / Environmental Site Representative / Project Surveyor / Early Works Ecologist

#	Sequence of Work Activities <i>How will the work be done?</i>	Potential Hazards <i>What harm can occur?</i>	Risk <i>High-Med-Low</i>	Safeguards / controls <i>How can the risk be minimised?</i>	Responsibility <i>Who will ensure that controls are in place?</i>
				<ul style="list-style-type: none"> Clearing limits and project boundaries to be clearly delineated on site. The delineation must be checked and verified as correct by a surveyor independent of the parties that installed the delineation at least five (5) working days prior to the commencement of clearing and then immediately prior to clearing commencing. Erect protection area signage on exclusion zone fencing or bunting. Undertake pre-clearing inspection with Project Ecologist and TfNSW Representative to verify that clearing limits have been clearly delineated and identify unsound trees outside of the clearing limits to be felled, or sound trees to be retained within the clearing limits. Where work is required in an area not covered by the original approval then consult with the TfNSW Environmental Representative. All retained threatened species, hollow-bearing trees, culturally significant areas and Endangered Ecological Communities (EECs) are to be clearly marked in the field with appropriate signage to identify and protect these areas. 	
		Works not carried out within the approved hours	Medium	<ul style="list-style-type: none"> Works will be limited to Monday to Friday 7.00am to 6.00pm; and Saturday 8.00am to 1.00pm. <ul style="list-style-type: none"> No work outside of these hours or on Sundays and Public Holidays, unless with prior approval from the Environmental Site Representative, or In case of emergency work to avoid the loss of lives, property and/or to prevent environmental harm. 	Works Supervisor
		Community are exposed to impacts without prior notice	Medium	All neighbours potentially affected by dust, noise or other environmental issues to be consulted / notified of the expected levels and duration of impact in accordance with The requirements of the EWEMP. Where impacts are expected, site specific environmental controls (mitigation strategies, monitoring, negotiated agreements) to be implemented to mitigate adverse impacts to sensitive receivers in accordance with the requirements of the EWEMP.	Project Engineer / Community Manager
		Erosion and sediment runoff into environment	Medium	<ul style="list-style-type: none"> Progressive Erosion and Sediment Control Plans (ESCPs) to be developed and submitted to both the project Environmental Site Representative and the TfNSW Representative for approval ten (10) days prior to commencement of clearing activities. 	Project Engineer / Environmental Site Representative
		Clearing to construction boundary	High	<ul style="list-style-type: none"> These boundaries must be clearly identified in the field using the flagging procedure in Appendix C of the EWFFMP 	Project Surveyor / Environmental Site Representative
		Presence of weeds within the clearing footprint	High	Weed management to be in accordance with Appendix E of the EWFFMP.	Environmental Site Representative / Project Engineer
		Clearing of trees outside the clearing footprint or branches overhanging the road reserve	High	<ul style="list-style-type: none"> Clearing of trees outside of the clearing limits is only permitted where the tree is considered to be unsound by an arborist and identified as per the procedures in the Clearing and grubbing Plan, Appendix G of the EWFFMP. Branches overhanging the road formation must be cut back flush with the tree trunk or primary branch. 	Works Supervisor / Project Ecologist

#	Sequence of Work Activities <i>How will the work be done?</i>	Potential Hazards <i>What harm can occur?</i>	Risk <i>High-Med-Low</i>	Safeguards / controls <i>How can the risk be minimised?</i>	Responsibility <i>Who will ensure that controls are in place?</i>
		Pre clearing and clearing not carried out in accordance with the project's approved clearing procedure	Medium	<ul style="list-style-type: none"> The pre-clearing and clearing requirements of the clearing and grubbing plan is to be followed and implemented at each stage of works. 	All
		Unnecessary clearing	Medium	<ul style="list-style-type: none"> Stockpile sites, compound areas and other ancillary facility areas must be identified in the Site Establishment Management Plan and located within the clearing limits and must not involve any significant additional native vegetation clearing. 	Project Engineer / Works Supervisor
3	Site Preparation	Unnecessary impact to environment outside designated work areas	Medium	<ul style="list-style-type: none"> No works are to be undertaken outside the designated work areas, as identified on Sensitive Area Maps. Should threatened flora or fauna species be encountered during the activities, follow the procedure in Appendix D of the EWFFMP. Report any nuisance, injured, sick or killed fauna to the Project Ecologist or Wildlife Handler and contact local wildlife carer. Prior to entering and leaving the site all vehicle tyres, equipment, and boots shall be inspected for the presence of weeds and pathogens and cleaned as required in the procedure in Appendix E of the EWFFMP. 	Works Supervisor / Project Ecologist / Project Surveyor
		Damage to trees or ecological communities that have been marked for preservation or protection	Medium	<ul style="list-style-type: none"> Tree protection measures to be installed in accordance with Australian Standards. Protective Fencing should be erected clear of the canopy line and in accordance with tree protection requirements of Australian Standard 4970:2009 Protection of Trees on Development Sites. Ensuring no materials are stockpiled and no vehicles are parked under the canopy of trees. Avoiding excavation or the placing of fill near any tree without advice from an ecologist. Locating haul roads and access tracks must be clear of the protected trees 	Works Supervisor
		Erosion and sediment runoff into environment	High	<ul style="list-style-type: none"> ESCP to be implemented prior to the area being disturbed. 	Works Supervisor
		Incidents & disturbance to sensitive environment areas	Low	<ul style="list-style-type: none"> Clearing boundary to be clearly delineated and all staff made aware that disturbance is not permitted outside the clearing boundary unless in accordance with specific approvals or in accordance with the project EWEMP and sub plans. No refuelling of plant is permitted within 20 metres of the waterway and is to be carried out on level ground. Storage of plant or vehicles is not permitted within 20 metres of waterways. Chemicals are not to be stored within 20 metres of the waterway and are to be banded onsite to prevent accidental release into the environment. Spill kits to be kept onsite at all times and crews toolboxed in its use. <p>Follow <i>TFNSW' Environmental Incident Classification and Reporting Procedure</i> in the event of a spill / environmental incident:</p> <ul style="list-style-type: none"> Contact the Environmental Site Representative immediately. 	Works Supervisor

#	Sequence of Work Activities <i>How will the work be done?</i>	Potential Hazards <i>What harm can occur?</i>	Risk <i>High-Med-Low</i>	Safeguards / controls <i>How can the risk be minimised?</i>	Responsibility <i>Who will ensure that controls are in place?</i>
				<ul style="list-style-type: none"> - Assess human safety and if deemed safe, stop the source of the spill. - Contain the spill and stop it getting bigger. - Clean up. 	
		Mud tracking	Medium	<ul style="list-style-type: none"> • Vehicles shall be kept to existing roads or designated tracks. • Seal roads establish stabilised access points in accordance with the Blue Book to reduce potential of mud tracking on public roads • Notify supervisor if mud tracking on public roads is observed and clean up immediately. 	All
		Discovery of heritage items or human skeletal remains	Medium	<ul style="list-style-type: none"> • If a suspected heritage item or human skeletal remain is found, then stop work and contact the Environmental Site Representative immediately. 	All
		Presence of noxious weeds within the clearing footprint	Medium	<ul style="list-style-type: none"> • All staff involved in the activity is to be made aware of the locations of noxious weeds on the project as well as the weed management procedure in Appendix E of the EWFFMP. 	Works Supervisor
4	Undertaking of clearing & grubbing activities	Clearing of vegetation without approval	Medium	<ul style="list-style-type: none"> • Ensure a Permit to Clear has been issued and is signed by relevant parties and all relevant hold points released prior to clearing and grubbing of vegetation for specified areas. 	Works Supervisor
		Unnecessary impact to environment outside designated work areas	Medium	<ul style="list-style-type: none"> • No works are to be undertaken outside the designated work areas, as identified on Sensitive Area Maps and by the delineation of the clearing boundary on the field. • Should threatened flora or fauna species be encountered during the activities, follow the procedure in Appendix D of the EWFFMP. 	Works Supervisor
		Spread of noxious weeds		<ul style="list-style-type: none"> • Prior to entering and leaving the site all vehicle tyres/tracks, equipment, and boots shall be inspected for the presence of weeds / mud / rocks and cleaned as appropriate. 	Works Supervisor
		Erosion and sedimentation runoff	Medium	<ul style="list-style-type: none"> • Erosion and sediment controls to be installed and maintained during works. • No stockpiling of materials is permitted within the 20-year ARI flood level unless it is carried out in accordance with TFNSW G38. • Site to be inspected weekly, before and after rainfall, and prior to shut down periods to ensure sediment and erosion controls are adequate. 	Works Supervisor / ESR
		Incidents / contaminated ground & water pollution	Low	<ul style="list-style-type: none"> • No refuelling of plant is permitted within 50 metres of the waterway and is to be carried out on level ground in designated bunded area or with portable bund, and refuelling not to be left unattended. • Spill kits are to be kept onsite at all times and crews toolboxed in its use. Follow <i>TFNSW' Environmental Incident Classification and Reporting Procedure</i> in the event of a spill / environmental incident: <ul style="list-style-type: none"> - Contact the Environmental Site Representative immediately. - Assess human safety and if deemed safe, stop the source of the spill. - Contain the spill and stop it getting bigger. - Clean up. 	Works Supervisor

#	Sequence of Work Activities <i>How will the work be done?</i>	Potential Hazards <i>What harm can occur?</i>	Risk <i>High-Med-Low</i>	Safeguards / controls <i>How can the risk be minimised?</i>	Responsibility <i>Who will ensure that controls are in place?</i>
		Exposure of Acid Sulphate Soils (ASS) during works	Low	<ul style="list-style-type: none"> If ASS is known to exist, then any disturbance to the ground should be avoided. If ASS is exposed during works, then affected material and the disturbed area are to be treated in accordance with the project procedure for treatment of Acid Sulphate Soils. 	Works Supervisor
		Discovery of heritage items or human skeletal remains	Low	If a suspected heritage item or human skeletal remain is found, then stop work and contact the Environmental Representative immediately.	All
		Working near sensitive areas	High	No disturbance is permitted to designated exclusion zones fenced and signed for protection during works. Furthermore, no entry is permitted within fenced areas without a permit issued by the Environment Manager for entry to sensitive areas.	All
		Unforeseen incident occurring	Low	<p>Incident Notification:</p> <ul style="list-style-type: none"> 1. Internal Notifications: The Environmental Site Representative, Project Director and Community Relations Manager are to be notified immediately of the following incidents: <ul style="list-style-type: none"> All Class 1 and Class 2 environmental incidents, and High Potential Incidents (HPIs). The Environmental Site Representative is also to be notified immediately of any actual Class 3 environmental incidents, procedural or legal breaches. 2. Client Notifications <ul style="list-style-type: none"> The TFNSW Representative will be notified verbally within 2 hours and in writing within 24 hours of any pollution incidents involving the EPA. All incidents shall be notified to the Project ER and TFNSW via the Project's incident reporting system (e.g. HSE reporting system) in accordance with TFNSW Incident Management and Reporting Procedure and CPB CMS. 3. Authority Notifications <ul style="list-style-type: none"> The ESR (or delegate) shall notify the Environment Protection Authority (EPA) of pollution incidents on or around the site (Environment Line, PH: 131 555), which have occurred in the course of project activities, in the following circumstances: <ul style="list-style-type: none"> If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial. If actual or potential loss or property damage (including clean-up costs) associated with a pollution incident exceeds \$10,000. <p>When required to notify, the ESR shall:</p> <ol style="list-style-type: none"> 1. notify of a pollution incident 'immediately' (i.e. reported promptly and without delay); 2. notify all relevant authorities, including; <ul style="list-style-type: none"> the Environment Protection Authority (EPA) - 131 555; the Ministry of Health (via the local Public Health Unit (PHU)); After Hours Environmental Health: 149 377; 	<p>Works Supervisor / ESR</p> <p>Environmental Site Representative / Construction Manager / Project Director</p> <p>Environmental Site Representative</p>

#	Sequence of Work Activities <i>How will the work be done?</i>	Potential Hazards <i>What harm can occur?</i>	Risk <i>High-Med-Low</i>	Safeguards / controls <i>How can the risk be minimised?</i>	Responsibility <i>Who will ensure that controls are in place?</i>
				<ul style="list-style-type: none"> • Safework - 13 10 50; • Fire and Rescue NSW – 1300 729 579. 	
		Deterioration of any environmental protection signage	Medium	Any environmental protection signage that marks no go zones must be maintained for the duration of project construction.	Works Supervisor / Environmental Site Representative
		Spreading of weeds	High	The project's weed management procedure for the removal and control of weeds is to be implemented during the clearing and grubbing works on the project	Works Supervisor
		Damage of any kind or felling of trees onto private property	Medium	<ul style="list-style-type: none"> • Any vegetation falling as a result of construction activities onto private property is to be removed unless consent by the landowner has been given to leave timber in situ. • Damage of any kind which occurs during clearing operations must be made good. 	Works Supervisor / Project Engineer
		Unnecessary clearing	Medium	Stockpile sites, compound areas and other ancillary facility areas identified in the Site Establishment Management Plan must be located within the clearing limits and must not involve any significant additional native vegetation clearing.	Project Engineer / Works Supervisor
		Works not in accordance with approved procedures	Low	<ul style="list-style-type: none"> • The approved clearing and grubbing procedure contained in the EWFFMP must be followed through each stage of the clearing and grubbing process. • Environmental Site Representative is to inspect works during their weekly inspections and ensure it has been carried out in accordance with procedure contained in the plan. 	Works Supervisor / Project Ecologist / Environmental Site Representative
5	Waste Avoidance	Disposal of cleared vegetation	Medium	<ul style="list-style-type: none"> • Cleared vegetation is to be used in accordance with the requirements of the Materials Reuse Management Plan. • Otherwise, any other proposal for reuse or disposal is to be detailed and require approval from the TFNSW Environment & Sustainability Manager (or delegate). 	Project Engineer / Environmental Site Representative / Works Supervisor
6	Knowledge capture	Repeat incidents	Medium	Project learning's shall be captured from soil and water incidents, inspection issues and actioning, heavy rainfall events, successful/unsuccessful controls, and concerns or other environmental ssues raised.	Works Supervisor / Environmental Site Representative

Environmental Site Representative:
Clearing Contractor Representative:

Date:
Date:

- | | | | |
|---|---|---|---|
| 1 | I understand the requirements of this EWMS | 3 | I understand what the hazards of the work is and what the risks are |
| 2 | I have been given an opportunity to comment on the method of work | 4 | I understand what controls must be in place before starting work |

[illegible][illegible]

Appendix H – Reuse Strategy


Appendix H

Materials Reuse Management Plan

M12 Early Works Temporary Roundabout

Document number: M12PPW-CPB-EDR-EN-PLN-0001
 Revision date: 1/11/2021
 Revision: E

Document Approval

Rev.	Date	Prepared by	Reviewed by	Remarks
A	25/08/21	EMM Consulting	S Lendrum	Issued for TfNSW Review
B	07/10/21	EMM Consulting	S Lendrum	TfNSW Comments
C	10/10/21	EMM Consulting	S Lendrum	Internal changes
D	27/10/21	EMM Consulting	S Lendrum	Final TfNSW and ER comments
E	01/11/21	EMM Consulting	S Lendrum	Address ER comments
Signature:				

Details of Revision Amendments

Document Control

The Project Manager is responsible for ensuring that this plan is reviewed and approved.

The CPB Environmental Site Representative is responsible for updating this plan to reflect changes to environmental, legal and other requirements, as required.

Amendments

Any revisions or amendments must be approved by the Project Manager and/or client before being distributed / implemented.

Revision Details

Revision	Details
A	Initial draft for review
B	Addressed TfNSW Comments
C	Internal comments
D	Final TfNSW and ER Comments
E	Address ER comments

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1. Purpose

This Materials Reuse Management Plan (this Plan) has been developed to meet the following requirements detailed in Table 1.

Table 1: Relevant Conditions, Revised Environmental Mitigation Measures and TfNSW Specifications

Condition or Specification Reference.	Condition or specification requirements	Document Reference
E15	Prior to vegetation clearing, the Proponent must identify where it is practicable for the CSSI to reuse native trees and vegetation that are to be removed. If it is not possible for the CSSI to reuse all removed native trees and vegetation, the Proponent must consult with the relevant council(s), Western Sydney Parklands Trust and Landcare groups and relevant government agencies to determine if:	This plan
	(a) hollows, tree trunks, mulch, bush rock and root balls salvaged from native vegetation impacted by the CSSI; and	Section 5
	(b) collected plant material, seeds and/or propagated plants from native vegetation impacted by the CSSI,	Section 5
	could be used by others in habitat enhancement, beneficial re-use and rehabilitation work, before pursuing other disposal options.	Appendix A
REMM B02	Habitat Compensation Plan (HCP) will be prepared and implemented as part of the CFFMP for the project. The HCP will target those species that will be impacted by the loss of hollows. Measures will include: nest boxes, reuse of salvaged hollows and/or new technologies eg chainsaw hollows), as well as replacement of woody debris and bushrock with consideration to Guide 5 and Guide 8 of Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011).	This Plan
REMM B07	Vegetation and habitat removal will be carried out in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 4: Clearing of vegetation and removal of bushrock).	EWEMP Appendix B2- Appendix G
REMM B09	Habitat will be replaced or re-instated in accordance with Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011) (Guide 5: Re-use of woody debris and bushrock and Guide 8: Nest boxes). A Habitat Compensation Plan, as described in B02 will include this measure.	This Plan
G36 Clause 4.8 (e)	Proposed strategies for re-use of coarse woody debris and bushrock including, but not limited to, relocation instream of all large woody debris or snags existing in waterways including: (i) determining position and relocation areas based on advice from an Ecologist; and (ii) undertaking transport of wood debris and/or bushrock in a manner to minimise disturbance.	Section 5

Condition or Specification Reference.	Condition or specification requirements	Document Reference
G36 Clause 4.8 (n)	<p>Prepare a Reuse Strategy including:</p> <p>(i) consideration of the use of hollows, tree trunks, root balls, bush rock, mulch for habitat relocation on and off site; and</p> <p>(ii) an expression of interest process with Western Sydney Parklands Trust, Local Councils, Landcare groups and relevant Government agencies for the supply of hollows, tree trunks, root balls, mulch, bush rock prior to clearing commencement.</p>	This Plan, Sections 5 and 6
G40 Clause 5	Unless otherwise agreed with the Principal, relocate fauna microhabitat such as hollows, dead wood, dead trees, fallen logs and cleared tree trunks in appropriate locations outside roadway clear zones (as agreed with the Principal), for use in conjunction with soil erosion and sediment control measures.	This Plan

2. Objectives

CPB Contractors is committed to planning and executing the required works to construct the temporary roundabout on Elizabeth Drive and to manage hollows, tree trunks, mulch, bush rock and root balls and other vegetation by-products appropriately to maximise reuse and ensure unused materials are appropriately disposed of.

The primary objectives of this plan are:

- Provide an expression of interest process with stakeholders for the supply of materials generated from the Early Works prior to clearing commencement
- To determine types of material suitable for reuse off site based on the expression of interest
- Transport of materials to those stakeholders that have identified reuse options
- Reuse of suitable materials on site if there is no interest from stakeholders
- Removal of materials offsite for disposal/ recycling at appropriately licensed facilities.

3. High Risk Activities

Activities during the Early Works will result in the clearing of semi mature and mature trees, native and non-native undergrowth, logs and the excavation of root balls.

Suitable materials removed during clearance activities may be utilised onsite or offsite as a beneficial reuse of resources, however the material may also contain pathogens such as *Phytophthora cinnamomi* (*Phytophthora*). This risk will need to be managed during the clearance process and is addressed in Section 5.1.

4. Accountabilities and Responsibilities

- CPB Contractors is accountable for undertaking and supervising all vegetation clearance activities
- TfNSW is accountable for ensuring CPB Contractors and its sub-contractors comply with this Plan to the extent they are obligated to under the Contract and Planning Approval. This includes the review of the FFMP
- The Environment Site Representative (ESR) is responsible for ensuring all personnel are aware of this procedure and monitoring the implementation of the controls

- The ESR will review and identify end location for tree hollows, trunks, mulch, bush rock and root balls
- The ESR will liaise with Western Sydney Parklands Trust, Local Councils, Landcare groups and relevant Government agencies where required to identify potential opportunities for suitable material reuse as fauna habitat. Consultation undertaken to date in relation to this is identified in Section 6 and a summary of the consultation and outcomes is provided in Appendix A
- An Early Works Ecologist will be engaged by CPB Contractors to provide advice on appropriate control of pathogens and will be undertake the preclearance process identified in the EWEMP Appendix Section 6.1
- The Foreman is responsible for implementing this procedure and controls identified herein
- All site personnel (including sub-contractors) entering the project construction sites are responsible for ensuring their activities do not contribute to the spread of pathogens both on and off the site.

5. Reuse of Materials

5.1. Management of Potential Pathogens

Pre-clearance surveys shall target the assessment of native vegetation to identify any potential infestations of pathogens and may need to be confirmed through specific laboratory testing.

Steps involved include:

- All site personnel (including sub-contractors) will be inducted in this Plan and the potential existence of pathogens in the Early Works area. Training will include requirements to inspect machinery and clean construction footwear to prevent the spread of weeds, and measures contained in the EWFFMP Appendix E, Weed and Pathogen Management Procedure to identify and prevent the introduction or spread of *Phytophthora cinnamomi* (Root Rot)
- Pre-clearance surveys undertaken by the Early Works Ecologist shall target the assessment of native vegetation to identify any potential infestations of pathogens in accordance with the EWFFMP Appendix E, Weed and Pathogen Management Procedure
- If laboratory testing confirms the presence of *Phytophthora cinnamomi* then impacted sub-surface materials will be disposed of as waste at a suitably licensed facility
- If laboratory testing does not identify the presence of *Phytophthora cinnamomi* then the material will be made available for reuse.

5.2. Root Ball Reuse

The proposed process for root ball reuse is as following:

- During vegetation clearing, root balls will be retained and stored onsite temporarily
- Where practicable root balls will be reused in habitat enhancement and rehabilitation work at The Northern Road Stage 5/6 revegetation and rehabilitation works locations. The reuse in natural areas of revegetation may provide habitat for native species
- If no opportunities for root ball reuse are available at The Northern Road Stage 5/6 revegetation and rehabilitation works locations, CPB Contractors will progress reuse options with registered interested parties from the process identified in Section 6 and the register contained in Appendix A
- Where no registered parties are initially identified the material will be temporarily stockpiled at The Northern Road Stage 5 compound to allow further consultation to occur
- Where no parties are identified for reuse of the materials, they will be disposed of by CPB Contractors prior to the end of the M12 Early Works program (provisional date March 2022)

Any offsite movement of material from the Project to its end destination will comply with relevant legislation and EPA waste / resource recovery requirements in force at the time. The Project approval does not provide approval for the associated development at any receival site(s), should the works require approval.

5.3. Other Material Reuse

Works at the Early Works location will also result in the potential salvage of:

- Hollows
- Tree trunks
- Mulch
- Bush rock.

The proposed process for other material reuse is as per the following:

- A Pre-Clearing survey undertaken by the Early Works Ecologist will be undertaken identifying the amount (number, length, sizes) of suitable habitat resources present. The Early Works Ecologist will also utilise the tree survey data provided by TfNSW during the pre-clearing survey
- The ESR will review the resources present and identify project requirements
- Consultation with registered stakeholders will then occur to identify any suitable materials available and the timing and sites for relocation
- During vegetation clearing, suitable materials will be loaded and transported to the donor sites, or retained and stored onsite (or at the approved site facilities) temporarily prior to transportation to identified donor sites
- As some materials are fragile (hollows and logs) a post-clearing report by the Early Works Ecologist will be prepared to identify the amount of material available. This will be communicated with the registered stakeholders to ensure the final available amount of material is identified
- Native tree materials (such as mulched vegetation) may be reused on-site or at the TNR 5/6 revegetation sites for suitable purposes such as bank stabilisation / habitat enhancement.

6. Community and Agency Consultation

Prior to the commencement of vegetation clearing, CPB Contractors will continue consultation with community groups and government agencies undertaken by TfNSW. An expression of interest process has been established with Western Sydney Parklands Trust, Local Councils, Landcare groups and relevant Government agencies (including but not limited to NSW National Parks & Wildlife Service (Scheyville Office), Greater Sydney Local Land Services and DPI Fisheries) for the supply of hollows, tree trunks, root balls, mulch, bush rock, collected plant material prior to clearing commencement.

This process will build on consultation already undertaken by TfNSW with these stakeholders, to determine if salvaged materials could be used for environmental rehabilitation projects, before pursuing any other disposal options.

It is noted that where the cost of transport is a barrier to reuse, CPB Contractors will consult with TfNSW to determine if alternate arrangements can be facilitated to meet the objectives of Condition of Approval E15. Where the cost of disposal exceeds the cost of transport for reuse, reuse will be the preferred option.

Figure 1 outlines the expression of interest process proposed to be continued by CPB Contractors.

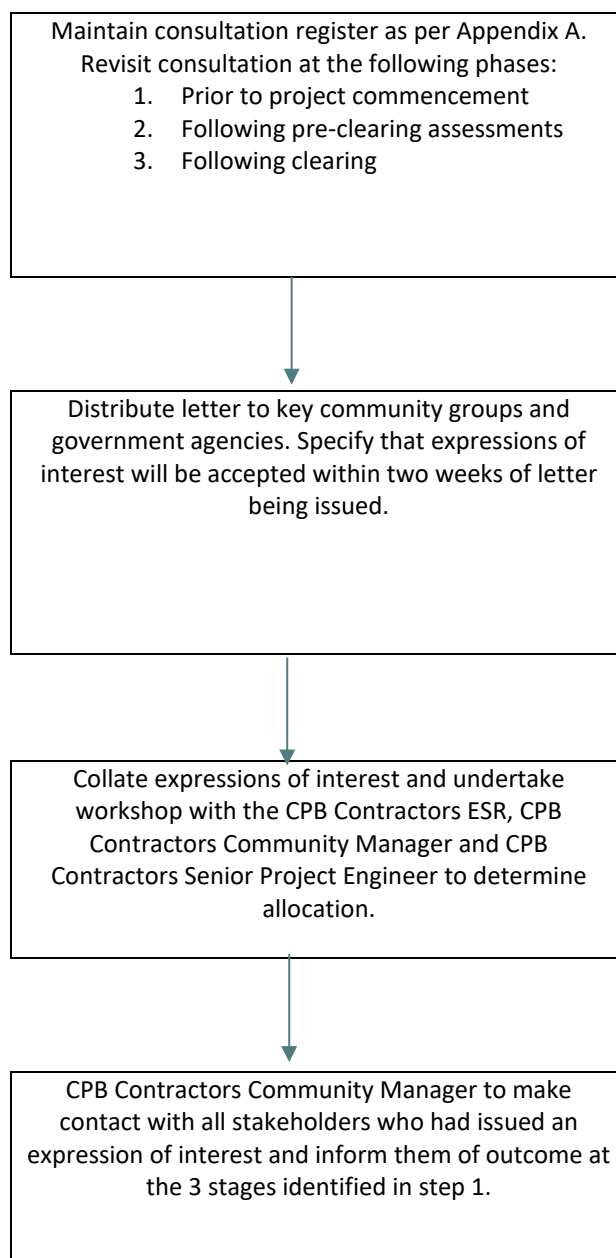


Figure 1: Potential Offsite Reuse Consultation Process

APPENDIX A – Consultation Register

[Drafting note: to be progressively updated]

List of stakeholders with whom CPB Contractors has consulted	Summary of Correspondence
Western Sydney Parklands Trust David Kirkland (DK) (Environment Manager) – Western Sydney Parklands, 0408 536 268, David.Kirkland@wspt.nsw.gov.au	<p>7/9/2021 (email from CPB Contractors) - Sent to WSPT explaining that CPB Contractors will be undertaking a package of early construction works in preparation for construction of the new M12 motorway. These works will generate several hollow bearing timber logs and root balls as a byproduct of vegetation clearing work. CPB Contractors is seeking to salvage the timber and root balls for environmental habitat enhancement and/or rehabilitation work, before pursuing other disposal options. The reuse in natural areas of revegetation may provide beneficial habitat for native species. CPB Contractors may also be able to offer timber mulch, bush rock and plant material.</p> <p>10/9/2021 (email from WSPT) - WSPT responded to CPB's email expressing interest in timber logs and possibly some mulch. Requested a time that this waste would be available.</p> <p>13/9/2021 (email from CPB Contractors) – CPB Contractors provided further information including an estimated availability date pending Early Works approvals. Email mentioned type of trees and approximate quantity. CPB Contractors mentioned some of the mulched material would be also used as erosion and sediment controls but that it's likely there will be stock left over if stakeholders would like it. CPB Contractors intended to stockpile some of this material its main construction site compound at 22-40 Gates Road, Luddenham, NSW 2745, Australia. CPB Contractors informed WSPT that its scope does not include transportation. This being the case CPB Contractors may reuse the material on our project if it cannot be salvaged otherwise.</p>
Penrith City Council Justine Vella (JV)(Bushland Management Coordinator) - (Penrith City Council), 0408 334 098, Justine.Vella@penrith.city	<p>7/9/2021 (email from CPB Contractors) – CPB Contractors email sent to Penrith Council explaining that CPB Contractors will be undertaking a package of early construction works in preparation for construction of the new M12 motorway. These works will generate several hollow bearing timber logs and root balls as a byproduct of vegetation clearing work. CPB is seeking to salvage the timber and root balls for environmental habitat enhancement and/or rehabilitation work, before pursuing other disposal options. The reuse in natural areas of revegetation may provide beneficial habitat for native species. CPB Contractors may also be able to offer timber mulch, bush rock and plant material.</p>
Fairfield City Council	<p>Council have a creek restoration project commencing in the 21/22 financial year approx. 43m over a 700m stretch of creek</p>

List of stakeholders with whom CPB Contractors has consulted	Summary of Correspondence
<p>Scott Reyes (SR)(Catchment Management Branch) - (Fairfield City Council), SReyes@fairfieldcity.nsw.gov.au, www.fairfieldcity.nsw.gov.au</p>	<p>Council may have the potential to store logs for reuse</p> <p>Indicative log specifications</p> <p>4-7m long x 300mm or larger diameter</p> <p>7/9/2021 (email from CPB Contractors) – CPB Contractors email sent to Fairfield Council explaining that CPB Contractors will be undertaking a package of early construction works in preparation for construction of the new M12 motorway. These works will generate several hollow bearing timber logs and root balls as a byproduct of vegetation clearing work. CPB Contractors is seeking to salvage the timber and root balls for environmental habitat enhancement and/or rehabilitation work, before pursuing other disposal options. The reuse in natural areas of revegetation may provide beneficial habitat for native species. CPB Contractors may also be able to offer timber mulch, bush rock and plant material.</p> <p>15/9/21 (email from Scott Reyes) – Will get to back to CPB Contractors with a confirmed yes/no of interest, once he has spoken to his supervisors and confirmed with others about storage and likely transport costs on this in the next few weeks. They have been made aware of this some months ago, however needed to refresh their memory. Scott believes a site inspection would be most valuable to enable understanding and choice of product and working out logistics. Tree size specifications also provided.</p>
<p>National Parks and Wildlife Service</p> <p>Katie Littlejohn (KL)(a/Manager, Flight Business Services) - (National Parks and Wildlife Service), 0419 753 789, Katie.Littlejohn@environment.nsw.gov.au</p>	<p>7/9/2021 (email from CPB Contractors) – CPB Contractors email sent to NPWS explaining that CPB Contractors will be undertaking a package of early construction works in preparation for construction of the new M12 motorway. These works will generate several hollow bearing timber logs and root balls as a byproduct of vegetation clearing work. CPB Contractors is seeking to salvage the timber and root balls for environmental habitat enhancement and/or rehabilitation work, before pursuing other disposal options. The reuse in natural areas of revegetation may provide beneficial habitat for native species. CPB Contractors may also be able to offer timber mulch, bush rock and plant material.</p>
<p>Camden Council</p> <p>Carmel Hamilton (CH) (Team Leader Sustainability) (Camden Council), 4645 5095, Carmel.Hamilton@camden.nsw.gov.au</p>	<p>7/9/2021 (email from CPB Contractors) – CPB Contractors email sent to NPWS explaining that CPB Contractors will be undertaking a package of early construction works in preparation for construction of the new M12 motorway. These works will generate several hollow bearing timber logs and root balls as a byproduct of vegetation clearing work. CPB Contractors is seeking to salvage the timber and root balls for environmental habitat enhancement and/or rehabilitation work, before pursuing other disposal options. The reuse in natural areas of revegetation may provide beneficial habitat for native species. CPB may also be able to offer timber mulch, bush rock and plant material.</p>

List of stakeholders with whom CPB Contractors has consulted	Summary of Correspondence
	<p>7/9/2021 (email) - Carmel passed CPB Contractors details along to Rebecca Mabbott from Soil Conservation Service, that are part of NSW Local Land Services, as she has previously mentioned a need for this kind of material for restoration works?</p> <p>7/9/2021 (email) – CPB Contractors responded by saying thank you for forwarding the email on and will await to receive any feedback.</p>
<p>Liverpool Council</p> <p>Michael Zengovski (MZ) (Manager City Environment) (Liverpool Council), 0408 953 500, zengovskim@liverpool.nsw.gov.au</p>	<p>7/9/2021 (email from CPB Contractors) – CPB Contractors email sent to Liverpool Council explaining that CPB Contractors will be undertaking a package of early construction works in preparation for construction of the new M12 motorway. These works will generate several hollow bearing timber logs and root balls as a byproduct of vegetation clearing work. CPB Contractors is seeking to salvage the timber and root balls for environmental habitat enhancement and/or rehabilitation work, before pursuing other disposal options. The reuse in natural areas of revegetation may provide beneficial habitat for native species. CPB Contractors may also be able to offer timber mulch, bush rock and plant material.</p>
<p>Soil Conservation Service</p> <p>Rhiannon Hughes (RH) (Environment Officer) (Soil Conservation Service), 0437870665, rhiannon.hughes@scs.nsw.gov.au</p>	<p>7/9/2021 (email from CPB Contractors) – CPB Contractors email sent to the Soil Conservation Service explaining that CPB Contractors will be undertaking a package of early construction works in preparation for construction of the new M12 motorway. These works will generate several hollow bearing timber logs and root balls as a byproduct of vegetation clearing work. CPB Contractors is seeking to salvage the timber and root balls for environmental habitat enhancement and/or rehabilitation work, before pursuing other disposal options. The reuse in natural areas of revegetation may provide beneficial habitat for native species. CPB Contractors may also be able to offer timber mulch, bush rock and plant material.</p> <p>9/9/21 (email from Rhiannon Schofield) – Rhiannon thanked CPB Contractors for touching base and has recently moved to the Newcastle team and passed on CPB's email requesting her colleague Rebecca Mabbott to get in touch. The Sydney team has an engineered log jam project coming up and may be interested to utilise some of the products.</p>

List of stakeholders with whom CPB Contractors has consulted	Summary of Correspondence
<p>DPI Fisheries</p> <p>Sarah Conacher (SC) (Fisheries Manager – Coastal Systems Unit) (DPI Fisheries), 0419 314 437, sarah.conacher@dpi.nsw.gov.au)</p> <p>Milly Hobson: milly.hobson@dpi.nsw.gov.au ph: 02 6763 1206</p> <p>Scott Nichols (SN) (Fisheries Manager - Fish Passage) (DPI Fisheries), scott.nichols@dpi.nsw.gov.au, 0429 300 489</p>	<p>7/9/2021 (email from CPB Contractors) – CPB Contractors email sent to the Soil Conservation Service explaining that CPB Contractors will be undertaking a package of early construction works in preparation for construction of the new M12 motorway. These works will generate several hollow bearing timber logs and root balls as a biproduct of vegetation clearing work. CPB Contractors is seeking to salvage the timber and root balls for environmental habitat enhancement and/or rehabilitation work, before pursuing other disposal options. The reuse in natural areas of revegetation may provide beneficial habitat for native species. CPB Contractors may also be able to offer timber mulch, bush rock and plant material.</p> <p>7/9/21 (email from Scott Nichols) – Scott on behalf of DPI Fisheries thanked CPB Contractors for getting in touch and forwarded CPB Contractors email to the most relevant branches in Fisheries to make contact if they have projects that could use the timber. Scott also forwarded the email onto Ozfish habitat manager Cassie Price as they are a recreational fishing organisation who are heavily involved in river rehab projects. Scott mentioned he has moved into a different role, so no longer doing site rehab involving re-snagging.</p>
<p>OzFish Unlimited</p> <p>Cassie Price</p> <p>Director – Habitat Programs</p> <p>OzFish Unlimited</p> <p>M 0402408791, cassieprice@ozfish.org.au</p>	<p>Refer to correspondence above</p>

APPENDIX B – Materials Reused

[Drafting note: to be updated post pre-clearing survey and requests from interested stakeholders]