

# Appendix B2

## Flora and Fauna Management Sub-Plan

Western Harbour Tunnel and Warringah Freeway Upgrade

SSI-8863

Stage 2 – Warringah Freeway Upgrade

January 2022

WHTBLWFU-CPBD-NWW-EO-PLN-000004-1

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## Document control

### Approval and authorisation

<b>Title</b>	Warringah Freeway Upgrade Flora and Fauna Management Sub Plan
<b>Endorsed by Environment Representative</b>	Maurice Pignatelli
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<b>Signed</b>	
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## Document control

Revision	Date	Description	Approval
A	03/03/2021	Draft for Tender	
B	01/10/2021	Response to address TfNSW comments	
C	8/11/2021	Response to consultation comments	
D	12/11/2021	Update based on ER comments	
0	16/11/2021	Endorsed by ER and submission to DPI&E	
1	28/01/2022	Update based on DPI&E comments	

## Distribution of controlled copies

This Flora and Fauna Management Plan (FFMP) as part of the CEMP is available to all personnel and subcontractors via the Project document control management system. An electronic copy can be found on the Project website.

The document is uncontrolled when printed. One controlled hard copy of the FFMP as part of the CEMP and supporting documentation will be maintained by the Quality Manager at the Project office and on the project website [<https://caportal.com.au/rms/whl>].

Copy number	Issued to	Version

# Glossary/ Abbreviations

Abbreviations	Expanded text
AQF	Australian Qualifications Framework
BC Act	<i>Biodiversity Conservation Act 2016</i>
BDAR	Biodiversity Development Assessment Report
CEMP	Construction Environmental Management Plan
CSSI	Critical State Significant Infrastructure
DEC	Department of Environment and Conservation
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
EEC	Endangered Ecological Community
EESG	DPIE Environment, Energy and Science Group
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
ER	Environment Representative
EWMS	Environmental Work Method Statement
FFMP	Flora and Fauna Management Sub-plan
MCoA	NSW Minister's Conditions of Approval
Project, the	Warringah Freeway Upgrade
REMM	Revised Environmental Management Measure
RMS	Formerly NSW Roads and Maritime Services
RTA	Roads and Transport Authority

Abbreviations	Expanded text
RtS	Response to Submissions Report
SAP	Sensitive Area Plan
SEARs	Secretary's Environmental Assessment Requirements
TEC	Threatened ecological community
TfNSW	Transport for NSW
TPZ	Tree Protection Zone
WFU	Warringah Freeway Upgrade

# 1 Introduction

## 1.1 Context

This Flora and Fauna Management Sub Plan (FFMP) forms part of the Construction Environmental Management Plan (CEMP) for the Warringah Freeway Upgrade (the Project), a component of the Western Harbour Tunnel and Warringah Freeway Upgrade project.

This FFMP has been prepared to address the requirements of the Minister's Conditions of Approval (MCoA) for the Western Harbour Tunnel and Warringah Freeway Upgrade project, the Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement dated January 2020 (the EIS), the Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions Report dated September 2020 (the RtS) and applicable guidance and legislation.

This FFMP addresses flora and fauna management applicable to Stage 2 of the Warringah Freeway Upgrade Project as detailed in the Staging Report – Western Harbour Tunnel and Warringah Freeway Upgrade (SSI 8863) – October 2021 Rev 1.

## 1.2 Background and project description

The Western Harbour Tunnel and Warringah Freeway Upgrade project (SSI 8863) comprises a new motorway tunnel connection across Sydney Harbour, and an upgrade of the Warringah Freeway to integrate the new motorway infrastructure with the existing road network and to enable the future connection of the Beaches Link and Gore Hill Freeway Connection project.

The upgrade of Warringah Freeway extends from the northern end of the Sydney Harbour Bridge to Willoughby Road, and will optimise traffic flow, reducing the number of merge points along with introducing a southbound bus lane. The upgrade will also improve Ridge Street and Ernest Street bridges. The project description is outlined in Section 1.3 of the CEMP.

The EIS for the Western Harbour Tunnel and Warringah Freeway Upgrade project was prepared and finalised in January 2020 to assess the impacts of construction and operation of the Project. As part of the EIS development, a Biodiversity Development Assessment Report (BDAR) was prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning, Industry and Environment (DPIE). The BDAR was included in the EIS as the *Biodiversity Technical Working Paper* (Appendix S of the EIS) and the findings of the BDAR were summarised in the EIS as Chapter 19.

It was concluded in the EIS that biodiversity values in the vicinity of the Project would be impacted by the construction works, however these impacts would be managed through the implementation of mitigation and management measures described in this FFMP.

The Western Harbour Tunnel and Warringah Freeway Upgrade Project was approved by the Minister for Planning and Public Spaces on 21 January 2021.

The proponent, Transport for NSW (TfNSW), has contracted the CPB Contractors and Downer Joint Venture (CPB Downer JV) for the design and construction of the Project.

### 1.3 Scope of the Sub-Plan

The scope of this FFMP is to describe how the CPB Downer JV proposes to manage potential flora and fauna impacts during construction of the Project. Operational impacts and operational measures do not fall within the scope of this FFMP and therefore are not included within the processes contained within this FFMP.

This Sub-plan is applicable to all Project activities under the control of the CPB Downer JV, including all areas where physical works will occur or areas that may otherwise be impacted by the construction works. All CPB Downer JV staff and sub-contractors are required to operate fully under the requirements of this Sub-plan and related environmental management plans, for the duration of the construction program.

This FFMP addresses flora and fauna management applicable to Stage 2 of the Warringah Freeway Upgrade Project as detailed in the Staging Report – Western Harbour Tunnel and Warringah Freeway Upgrade (SSI 8863) – October 2021 Rev 1.

### 1.4 Environmental management system overview

This Sub-plan forms part of the CEMP which provides a structured and systematic approach to environmental management. The CEMP is based on the requirements of the CPB Contractors' Management System (CMS) and the requirements of the CSSI approval.

The CMS is certified to *AS/NZS SIO 14001:2015 Environmental Management Systems – requirements with guidance for use*. Additional details on the CEMP and Project environmental management system documents are provided in Section 1.5 of the CEMP.

Key interactions for this Sub-plan with other elements of the CEMP include:

- **Soil and Water Management Sub-plan** – details a number of controls relating to the management of erosion and sediment control and water quality which minimise impacts to flora and fauna.

## 2 Purpose and objectives

### 2.1 Purpose

The purpose of this FFMP is to describe how the CPB Downer JV will manage potential flora and fauna impacts during construction of the Project.

### 2.2 Objectives

The key objective of this FFMP is to ensure that avoidance, mitigation and management measures relevant to the protection of native flora and fauna including threatened species and endangered ecological communities (EECs) are properly implemented. This includes the implementation of commitments and requirements referred to in:

- The EIS prepared for Western Harbour Tunnel and Warringah Freeway Upgrade
- The RtS prepared for Western Harbour Tunnel and Warringah Freeway Upgrade
- MCoA granted to the project on 21 January 2021
- Transport for NSW (TfNSW) specifications G36, G38 and G40
- All relevant legislation and other requirements described in Section 3.1 of this FFMP.

Furthermore, the CPB Downer JV will aim to meet the performance outcomes from the EIS (Chapter 28, Table 28-4) as required by MCoA C2(d)(i). Relevant performance outcomes are detailed in **Table 2-1** including a cross reference to indicate how the matter is addressed in this Sub-plan.

**Table 2-1 Performance Outcomes Identified in the EIS Relevant to this Sub-plan**

Performance Outcome	How Addressed	Records
The project design considers all feasible measures to avoid and minimise impacts on terrestrial and aquatic biodiversity.	Impacts on biodiversity will be minimised through the implementation of management and mitigation measures detailed in Section 7 of this Sub-plan.	Environmental inspection records  Sensitive Area Plans
Offsets and/or supplementary measures are assured which are equivalent to any remaining impacts of project construction and operation.	A process has been established in Section 7.5 of this Sub-plan for the retirement of two credits prior to clearing of <i>Acacia terminalis</i> subsp. <i>terminalis</i> (Sunshine Wattle). Evidence of credit retirement will be provided to the Planning Secretary and included in the Compliance Tracking Program as detailed in Section 3.9.4 of the CEMP.	Credit retirement records



## 2.3 Targets

The following targets have been established for the management of flora and fauna impacts during the Project:

Target	How Achieved
<ul style="list-style-type: none"> <li>Ensure compliance with the relevant legislative requirements, MCoA and environmental management measures</li> </ul>	Described in <b>Table 3-1</b> and <b>Table 3-2</b>
<ul style="list-style-type: none"> <li>Minimise vegetation clearance where practicable</li> </ul>	Described in Sections 7.3, 7.9 and 7.11
<ul style="list-style-type: none"> <li>Maintain the environmental values of nearby, connected and affected water sources, groundwater and dependent ecological systems (where values are achieved) or improved and maintained (where values are not achieved)</li> </ul>	Described in Section 7.6 and the Soil and Surface Water Management Sub-Plan
<ul style="list-style-type: none"> <li>No disturbance to flora and fauna outside the proposed construction footprint (including access tracks and ancillary facilities) unless otherwise approved</li> </ul>	Described in Sections 7.1 and 7.3
<ul style="list-style-type: none"> <li>No increase in distribution of weeds currently existing within the Project area</li> </ul>	Described in Section 7.6
<ul style="list-style-type: none"> <li>No new weed species introduced to the Project area</li> </ul>	Described in Section 7.6
<ul style="list-style-type: none"> <li>No transfer of plant diseases or pathogens to or from the Project area</li> </ul>	Described in Section 7.6
<ul style="list-style-type: none"> <li>Effective rehabilitation/revegetation that meets the Project's ecological and landscaping objectives</li> </ul>	Described in Section 7.9 and 7.11
<ul style="list-style-type: none"> <li>All fauna species encountered during construction are handled humanely in accordance with industry standards</li> </ul>	Described in Section 7.2

# 3 Environmental requirements

## 3.1 Relevant legislation and guidelines

### 3.1.1 Legislation

All legislation relevant to this FFMP is included in Appendix A1 of the CEMP.

### 3.1.2 Additional approvals, licences, permits and requirements

Refer to Appendix A1 of the CEMP.

### 3.1.3 Guidelines

The main guidelines, specifications and policy documents relevant to this Plan include:

- Australian Standard AS 4373 Pruning of Amenity Trees
- Australian Standard: 4970–2009 Protection of Trees
- Commonwealth of Australia Matter of National Environmental Significance Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999, 2013
- Commonwealth of Australia: Referral guideline for management actions in Grey-headed and Spectacled Flying-fox camps, 2015
- Commonwealth Department of Environment Water Heritage and the Arts: Commonwealth Survey Guidelines for Australia's Threatened Bats, 2010
- Department of Environment and Conservation (DEC): NSW Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft, 2004
- Department of Primary Industries (DPI): Policy and Guidelines for Fish Habitat Conservation and Management, 2013
- DPI Risk Assessment Guidelines for Groundwater Dependent Ecosystems, 2012
- Lincoln Smith: 'Aquatic Ecology in Environmental Impact Assessment – EIA Guideline', 2003
- NSW Fisheries: 'Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings', 2003
- TfNSW QA Specification G36–Environmental Protection (Management System)
- TfNSW QA Specification G40–Clearing and Grubbing
- Roads and Transport Authority (RTA) Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects, 2011.

### 3.2 Ministers Conditions of Approval

The MCoA relevant to this FFMP are listed in **Table 3-1**. A cross reference is also included to indicate where the condition is addressed in this Sub-plan or other Project management document.

**Table 3-1 Minister's Conditions of Approval relevant to the FFMP**

Ref #	Condition Requirements	Reference	How Addressed
General			
A5	<p>Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include:</p> <p>(a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;</p> <p>(b) a log of the dates of engagement or attempted engagement with the identified party;</p> <p>(c) documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations;</p> <p>(d) outline of the issues raised by the identified party and how they have been addressed; and</p> <p>(e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.</p>	Appendix F	This FFMP has been prepared in consultation with the relevant agencies identified in MCoA C4(c). Records of consultation are included in Appendix D
Construction Environmental Management Plan			

Ref #	Condition Requirements	Reference	How Addressed	
C4	CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by Condition A5.	Appendix F	This FFMP has been prepared in consultation with the relevant agencies identified in this condition. Records of consultation are included in Appendix D	
	(c)			Flora and fauna
C5	The CEMP Sub-plans must state how:			
	(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;	Table 2-1	The environmental performance outcomes identified in the EIS and RtS are detailed in <b>Table 2-1</b> together with how each outcome is addressed by this Sub-plan.	
	(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;	Section 7	Section 7 details how the mitigation measures identified in the EIS and RtS relating to flora and fauna will be implemented by the CPB Downer JV.	

Ref #	Condition Requirements	Reference	How Addressed
	(c) the relevant terms of this approval will be complied with; and	Section 3	Details of how CPB Downer JV will comply with the relevant terms of approval are listed in this Table, including references to the relevant sections of this Sub-plan.
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles.	CEMP – Section 3.2.1 Section 5.1.7 Section 6	Flora and fauna issues requiring management during construction have been identified in the Environmental Risk Assessment Workshop (Section 3.2.1 of the CEMP) and Section 6 of this Sub-plan. Cumulative impacts are detailed in Section 5.1.7.
C6	A Flora and Fauna Management CEMP Sub-Plan must include, but not be limited to:  (e) details for undertaking pre-clearing/demolition inspections for native fauna including threatened species by a suitably qualified ecologist, of any vegetation to be cleared and any buildings or structures identified as potential roosting habitat for microbats that are to be demolished or refurbished; methods and procedures for welfare and relocation of displaced fauna; and management/offset measures; and	Section 7.3 Appendix A	Pre-clearing/demolition inspections for native fauna will be undertaken by a suitably qualified ecologist prior to any clearing of vegetation or demolition of structures as detailed in Section 7.3.
	(f) details of a dewatering plan of the stormwater harvesting storage facility / dam at Cammeray Golf Course including: (i) a methodology of relocating native fauna species known to inhabit and/or use the dam; (ii) the location and suitability of the proposed relocation sites; and (iii) any potential impacts of relocating the fauna to the relocation sites.	Appendix D	The Cammeray Golf Course Dewatering Plan is included in Appendix D of this Sub-plan and will be implemented during relevant works.

Ref #	Condition Requirements	Reference	How Addressed									
C9	The CEMP Sub-plans must be submitted to the Planning Secretary for approval along with, or subsequent to, the submission of the CEMP but in any event, no later than one month before construction.	Section 2 of the CEMP	This Sub-plan will be submitted to the Planning Secretary for approval no later than one month before construction.									
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved, unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been endorsed by the ER and approved by the Planning Secretary.	Section 2 of the CEMP	Construction of the Project will not commence until the CEMP and all relevant CEMP Sub-plans have been approved, unless otherwise agreed by the Planning Secretary.									
Biodiversity – Species Credits												
E38	<p>Prior to clearing of <i>Acacia terminalis</i> subsp. <i>terminalis</i> (Sunshine Wattle), the species credits in the following table must be retired. The retirement of credits must be carried out in accordance with the offset rules of the <i>Biodiversity Conservation Act 2016</i> (BC Act).</p> <table><tr><td colspan="3">Table 8: Species credits</td></tr><tr><td>Species (only for the below)</td><td>Number of Credits</td><td>In the below IBRA subregions</td></tr><tr><td><i>Acacia terminalis</i> subsp. <i>terminalis</i> (Sunshine Wattle)</td><td>2</td><td>SYB07, Pittwater</td></tr></table>	Table 8: Species credits			Species (only for the below)	Number of Credits	In the below IBRA subregions	<i>Acacia terminalis</i> subsp. <i>terminalis</i> (Sunshine Wattle)	2	SYB07, Pittwater	Section 7.5	A process has been established in Section 7.5 of this Sub-plan for the retirement of two credits prior to clearing of <i>Acacia terminalis</i> subsp. <i>terminalis</i> (Sunshine Wattle). Evidence of credit retirement will be provided to the Planning Secretary and included in the Compliance Tracking Program as detailed in Section 3.9.4 of the CEMP.
Table 8: Species credits												
Species (only for the below)	Number of Credits	In the below IBRA subregions										
<i>Acacia terminalis</i> subsp. <i>terminalis</i> (Sunshine Wattle)	2	SYB07, Pittwater										
E39	The requirement to retire credits in Condition E38 above may be satisfied by payment to the Biodiversity Conservation Fund of an amount equivalent to the class and number of species credits, as calculated by the Biodiversity Offsets Payment Calculator.	Section 7.5										

Ref #	Condition Requirements	Reference	How Addressed
E40	Evidence of the retirement of credits or payment to the Biodiversity Conservation Fund in satisfaction of Condition E38 must be provided to the Planning Secretary prior to the clearing of the <i>Acacia terminalis subsp. terminalis</i> (Sunshine Wattle).	Section 7.5	
Biodiversity – Habitat Enhancement			
E48	Within three months of the removal of any native trees, the Proponent must consult with local community restoration/rehabilitation groups, Landcare groups, relevant councils, DPI Fisheries and any relevant public authorities to determine if there is an interest in the reuse of suitable timber and root balls for habitat enhancement and rehabilitation work. If there is an interest, native trees that are removed for the construction of the CSSI and that are greater than 25-30 centimetres in diameter and three metres in length must be salvaged and stored for a period of at least six weeks to enable collection by interested parties.	Section 7.8	The requirements of this condition are addressed in Section 7.8 of this Sub-plan. Native trees that are removed for the construction of the Project that are greater than 25cm in diameter and three metres in length will be salvaged and offered to local community restoration/rehabilitation groups, Landcare groups, relevant councils, DPI Fisheries and any relevant public authorities to determine if there is an interest in the reuse. Consultation records will be retained to demonstrate compliance.
Tree Removal, Replacement Plantings and Rehabilitation			

Ref #	Condition Requirements	Reference	How Addressed
E184	The CSSI must be designed to retain as many existing trees as possible. Replacement trees and plantings must be provided at a ratio of 2:1 and deliver an increase in tree canopy and aim to enhance the relevant council's position in respect of the Sydney Green Grid, unless otherwise agreed by the Planning Secretary.	Section 7.10	The Project will be designed to retain as many existing trees as possible. Where tree removal is required, replacement trees and plantings will be provided in accordance with the requirements of this condition and the Landscape Strategy Report (Section 7.10 of this Sub-plan).
E185	Replacement trees must: (a) be located on public land and prioritised within 500 metres of the Construction Boundary, that delivers increased shading to footpaths, pedestrian and cycle paths; (b) be of a species suitable to the location, having regard for local ecology and existing street trees; (c) meet the requirements for quality tree stock specified in the AS2303:2018: Tree Stock for Landscape Use; (d) be provided no later than six months following the commencement of operation; and (e) have a minimum pot size consistent with the relevant council's plans / programs / strategies for vegetation management, street planting, or open space landscaping, or as agreed by the relevant council(s).	Section 7.10	The Project will be designed to retain as many existing trees as possible. Where tree removal is required, replacement trees and plantings will be provided in accordance with the requirements of this condition and the Landscape Strategy Report (Section 7.10 of this Sub-plan).



Ref #	Condition Requirements	Reference	How Addressed
E186	Replacement and enhancement of vegetative screening along the project corridor must be undertaken in a progressive manner during construction to allow for the early establishment of vegetative screening.	Section 7.10	The Project will be designed to retain as many existing trees as possible. Where tree removal is required, replacement trees and plantings will be provided in accordance with the requirements of this condition and the Landscape Strategy Report (Section 7.10 of this Sub-plan).
E187	A Landscape Strategy Report must be prepared which details the type, size, number and location of replacement trees. The report must demonstrate how any replacement plantings are consistent with the requirements of Condition E184 and Condition E185	Section 7.10	The Project will be designed to retain as many existing trees as possible. Where tree removal is required, replacement trees and plantings will be provided in accordance with the requirements of this condition and the Landscape Strategy Report (Section 7.10 of this Sub-plan).

### 3.3 Revised Environmental Management Measures

Relevant REMMs, as identified in Part D of the RtS, are listed in **Table 3-2** below. A cross reference is also included to indicate where the commitment is addressed in this Sub-plan or other Project management document.

**Table 3-2 Environmental management measures relevant to this FFMP**

Ref #	Commitment	Reference	How Addressed
B1	Vegetation removal including the clearing of native vegetation and fauna habitat will be further minimised, where feasible and reasonable.	Section 6.2.1 Section 7 Section 7.10	The Project will be designed to retain as many existing trees as possible. Where tree removal is required, replacement trees and plantings will be provided in accordance with the Landscape Strategy Report (Section 7.10 of this Sub-plan). Measures to minimise the clearing of native vegetation and fauna habitat are detailed in Section 7.
B2	Vegetation removal will be carried out in accordance with <i>Guide 4: Clearing of vegetation and removal of bushrock</i> of the <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011).	Section 7.7 Table 7-1 Appendix E	The removal of vegetation will be in accordance with the relevant guideline, as detailed in Section 7.7 and management measure FF03 ( <b>Table 7-1</b> ). Clearing plans will be finalised prior to clearing (initial plans provided in Appendix E)
B3	The unexpected species find procedure included in <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) will be followed if threatened ecological communities (TECs), flora or fauna species, not assessed in the biodiversity assessment, are identified in the construction footprint.	Section 7.4 Appendix B	The unexpected finds procedure included in <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) will be adopted by the Project as detailed in Section 7.4 and <b>Appendix B</b> of this Sub-plan.
B4	Vegetation will be re-established within the project footprint where feasible, in accordance with <i>Guide 3: Re-establishment of native vegetation</i> of the <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011). Where replacement trees cannot be accommodated within the	Section 7.5 Section 7.10 Landscape Strategy Report	The re-establishment of vegetation will occur in accordance with <i>Guide 3: Re-establishment of native vegetation</i> of the <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011) (Section 7.5) and the Landscape Strategy Report (Section 7.10). Reflecting the requirements of

Ref #	Commitment	Reference	How Addressed
	project footprint, locations outside the project footprint will be identified for compensatory plantings. Trees removed by the project will be replaced at a ratio equal to or greater than 1:1. The replacement trees will consist of local native provenance species from the vegetation community that once occurred in the locality (rather than plant exotic or non-local native trees) where available and subject to the urban design and landscape plan.		MCoA E184, replacement trees and plantings will be provided at a ratio of 2:1.
B5	Pre-clearing surveys for threatened flora species will be carried out in accordance with <i>Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011).	Section 7.3 Table 7-1	Pre-clearing surveys will be carried out in accordance with the relevant guideline, as detailed in Section 7.3 and management measures FF04 and FF05 ( <b>Table 7-1</b> ).
B10	Fauna will be managed in accordance with <i>Guide 9: Fauna handling of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011).	Section 7.2	Fauna handling will be carried out in accordance with the relevant guideline, as detailed in Section 7.2 of this Sub-plan.
B11	Pre-clearing surveys will be carried out in accordance with <i>Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011).	Section 7.3 Table 7-1	Pre-clearing surveys will be carried out in accordance with the relevant guideline, as detailed in Section 7.3 and management measures FF04 and FF05 ( <b>Table 7-1</b> ).
B14	Weed species will be managed in accordance with <i>Guide 6: Weed management of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011).	Section 7.6 Table 7-1 Appendix C	Weed management will be undertaken in accordance with the relevant guideline, as detailed in Section 7.6, management measure FF15 ( <b>Table 7-1</b> ) and <b>Appendix C</b> .

Ref #	Commitment	Reference	How Addressed
B15	Pathogens will be managed in accordance with <i>Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011).	Section 7.6	Pathogens will be managed accordance with the relevant guideline, as detailed in Section 7.6 of this Sub-plan.
V8	Existing trees adjacent to the works will be retained and protected where possible to screen construction support sites, minimising clearing where possible.	Section 7.9	Tree retention will be informed by detailed design and arborist inspection and advice.
V9	Where possible, trees will be trimmed rather than removed. Works will be carried out by a qualified arborist.	Section 7.9	Tree retention will be informed by detailed design and arborist inspection and advice.
V10	All areas disturbed by construction and not required for operation of the project will be restored to existing condition or in accordance with the urban design and landscape plan where applicable (environmental management measure V12).	Section 7.11	Restoration of construction sites will be undertaken in accordance with the Landscape Strategy Report.
V11	Early planting works will be considered to provide a screening buffer that has time to mature before the project is fully operational.	Section 7.9	Early planting will be considered where it may be undertaken in accordance with the Landscape Strategy Report.

## 4 Consultation

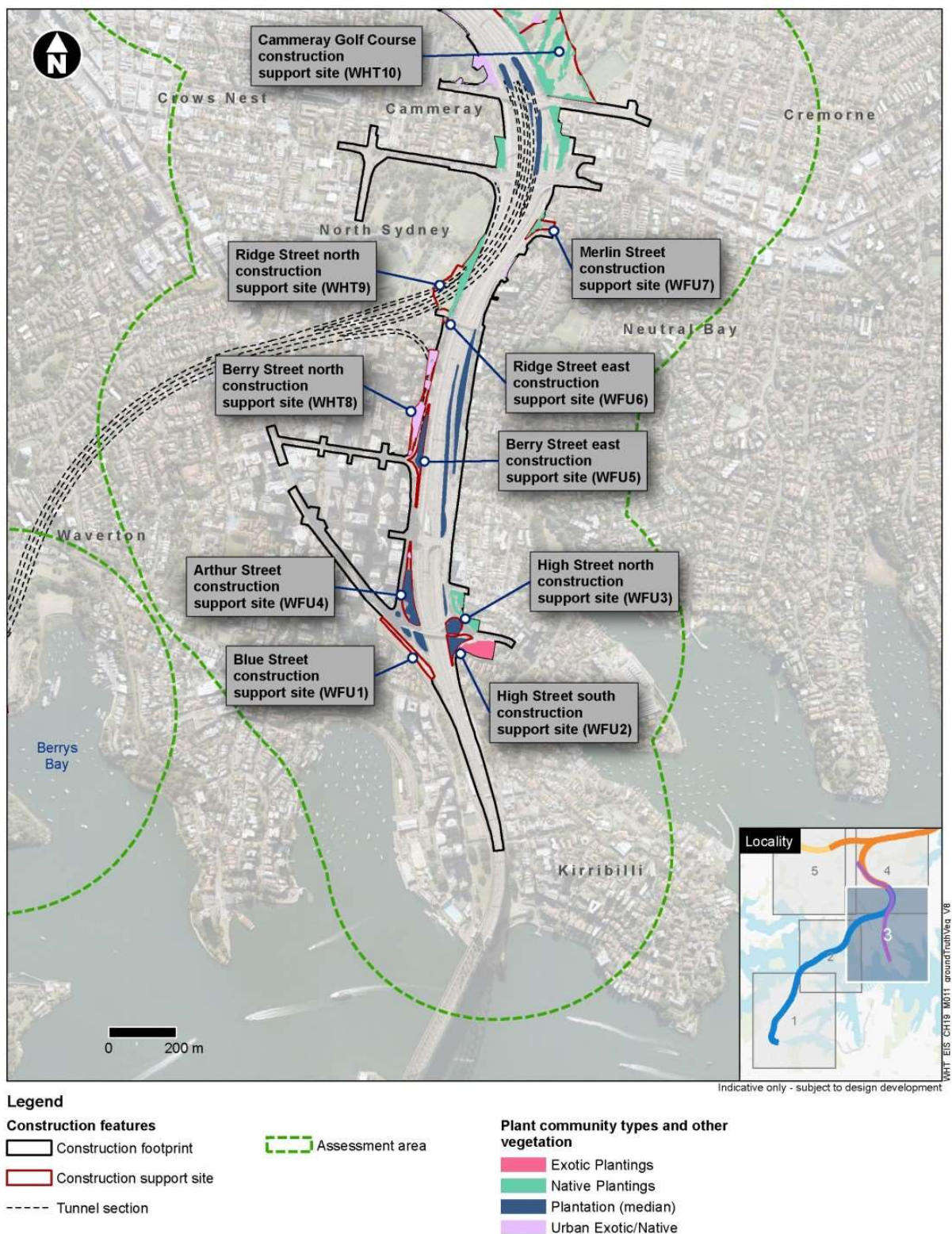
This FFMP will be developed and finalised in consultation with nominated agencies in accordance with MCoA C4(c). Consultation with each agency, including responses received and how any issues raised were addressed in the development of this Sub-plan are included in the records of consultation in **Appendix F**. Where changes occur or additional impacts are identified during the course of construction, further consultation will be undertaken with the relevant parties as necessary.

Community feedback and complaints relating to flora and fauna will be managed in accordance with the Community Communication Strategy and Complaints Management System.

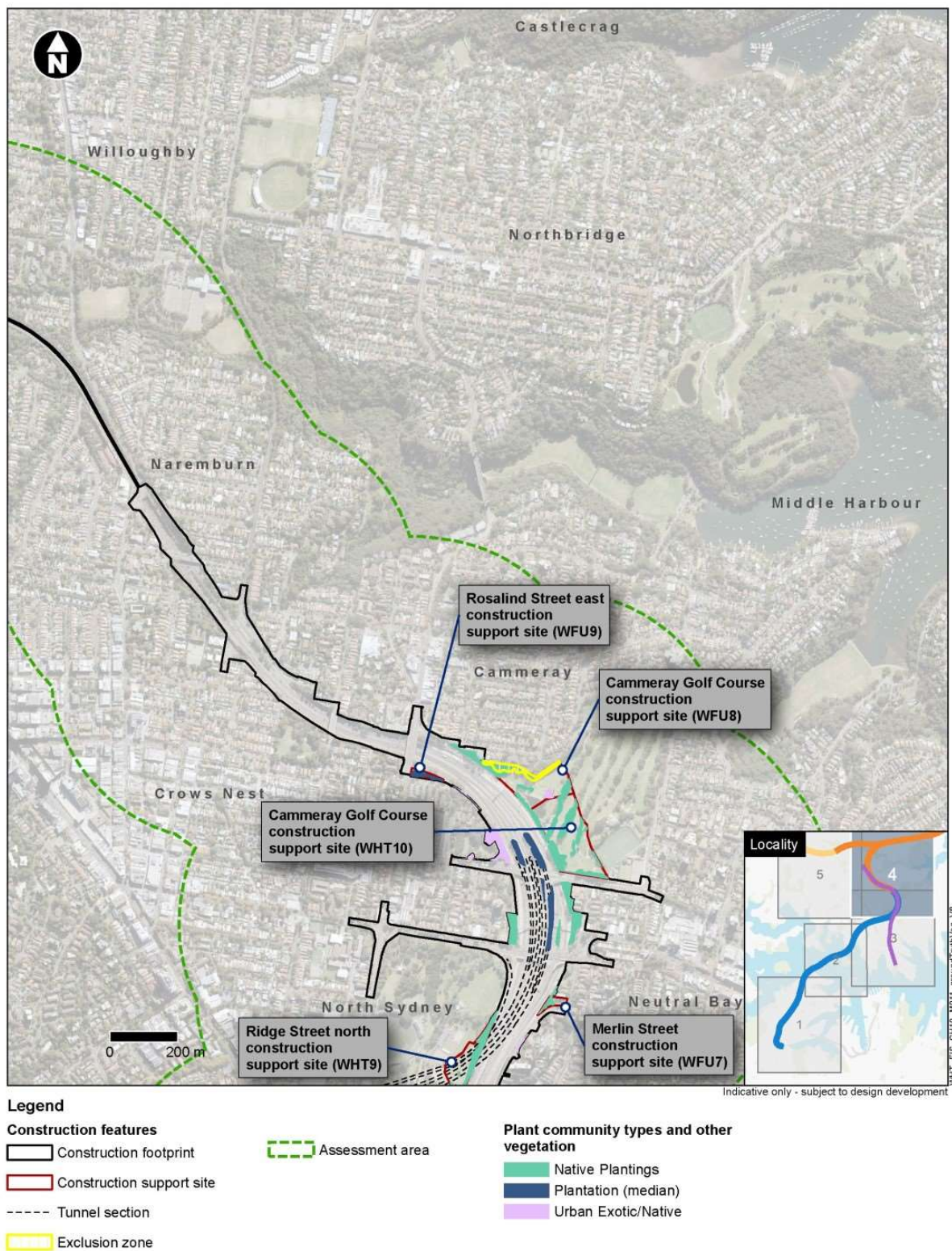
# 5 Existing Environment

The following sections summarise existing flora and fauna within and adjacent to the Project area including species, communities and habitats. The key reference documents are Chapter 19 and Appendix S (BDAR) of the EIS.

The distribution of plant community types and other vegetation within the Project area are depicted in **Figure 5-1** and **Figure 5-2**. Recorded threatened species within the Project area are detailed in **Figure 5-3** and **Figure 5-4**.

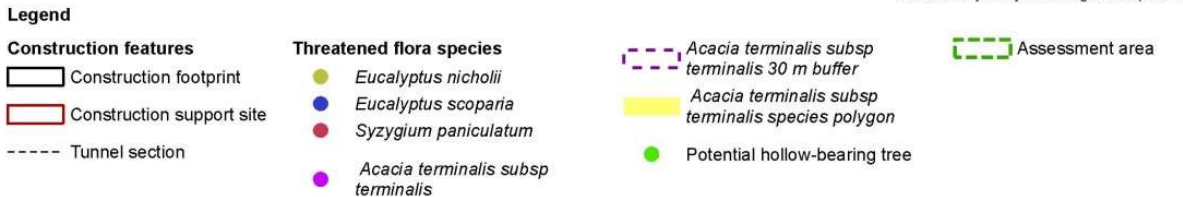
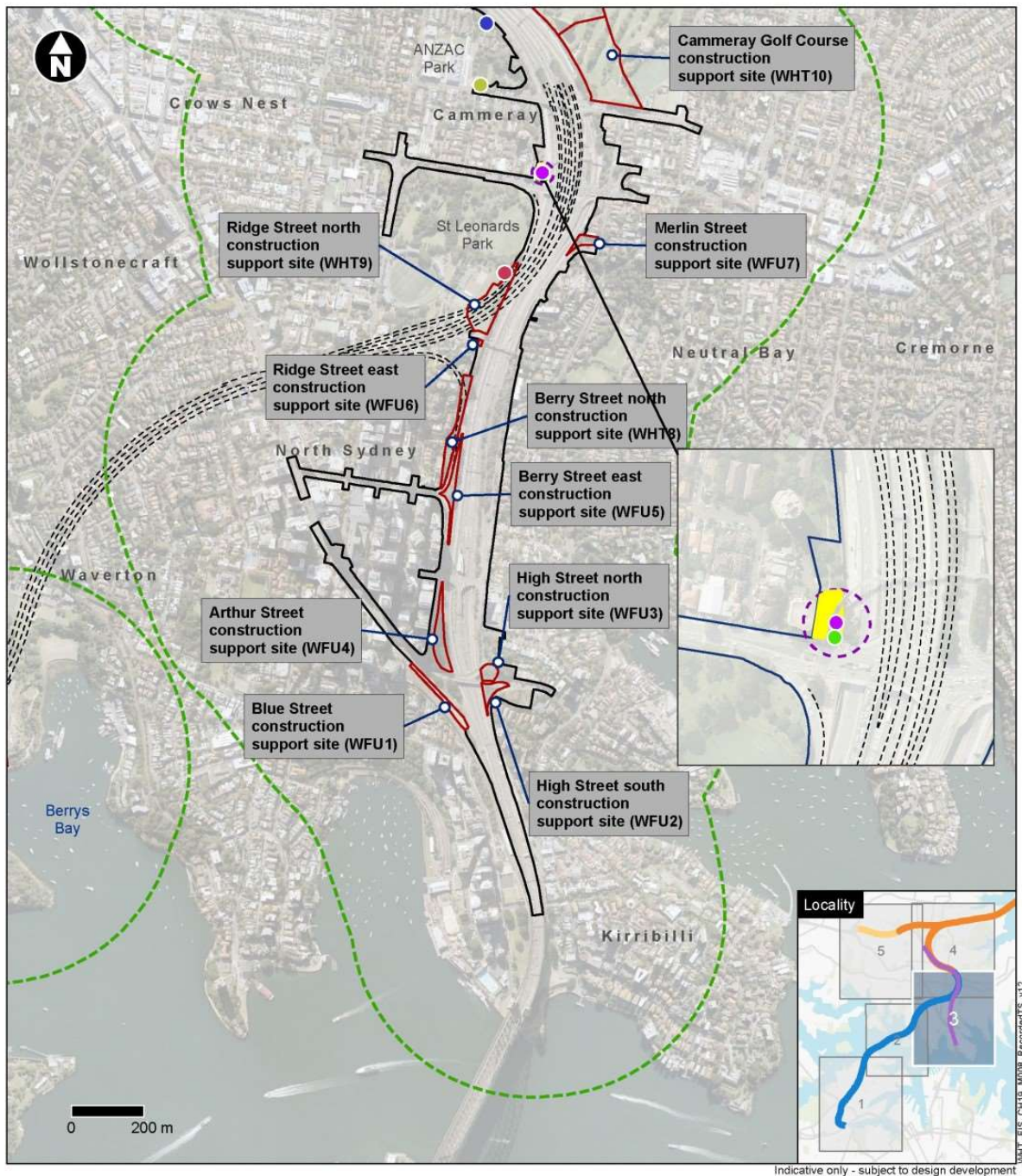






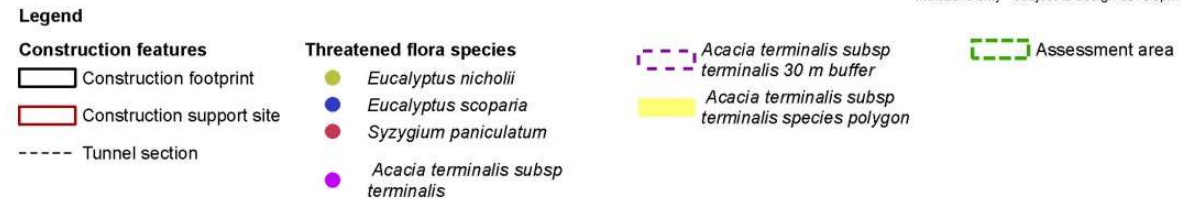
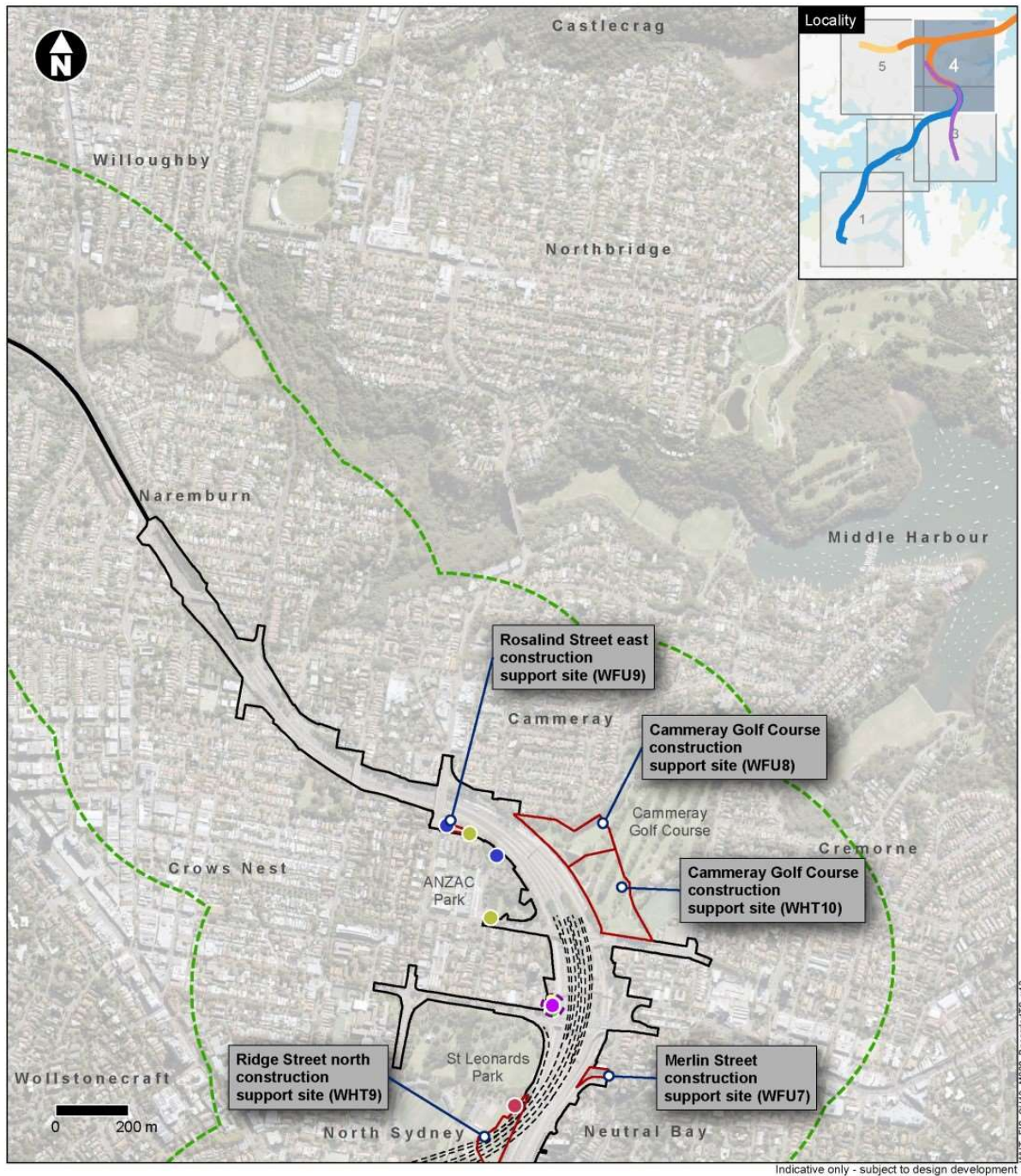
**Figure 5-2 Distribution of Plant Community Types and other vegetation (Map 2 of 2)**





**Figure 5-3 Recorded Threatened Species (Map 1 of 2)**





**Figure 5-4 Recorded Threatened Species (Map 2 of 2)**

## 5.1 Environmental aspects

### 5.1.1 Threatened ecological communities

No Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) or BC Act listed threatened ecological communities (TEC) were identified in the project area.

### 5.1.2 Threatened or otherwise significant flora species

Threatened flora species identified, or with the potential to occur within the Project area, and their conservation status, are listed in **Table 5-1**.

**Table 5-1 Threatened or otherwise significant flora species**

Common name	Scientific name	EPBC Act	BC Act	Occurrence
Magenta Lilly Pilly	<i>Syzygium paniculatum</i>	Vulnerable	Endangered	Planted specimens were recorded within the Warringah Freeway corridor just outside the construction footprint.  Unlikely to occur naturally as the construction footprint does not represent suitable habitat for the species.
Narrow-leaved Black Peppermint	<i>Eucalyptus nicholii</i>	Vulnerable	Vulnerable	Planted specimens were recorded within the Warringah Freeway corridor.  Unlikely to occur naturally as the construction footprint is outside the known naturally occurring distribution of the species.
Wallangarra White Gum	<i>Eucalyptus scoparia</i>	Vulnerable	Endangered	Planted specimens were recorded in the Warringah Freeway corridor.  Unlikely to occur naturally as the construction footprint is outside the known naturally occurring distribution of the species.
Sunshine Wattle	<i>Acacia terminalis</i> subsp. <i>terminalis</i>	Endangered	Endangered	One individual specimen in disturbed vegetation adjoining the Warringah Freeway.  There are records of the species in bushland adjoining Sydney Harbour, including near the construction footprint. However, most of the vegetation within and adjoining the construction footprint does not represent suitable habitat for the species.

The location these flora species in relation to the Project is shown on the Sensitive Area Plans included in the CEMP.

### 5.1.3 Fauna habitat

One fauna habitat type was identified by the EIS. This is listed in **Table 5-2** and shown on the Sensitive Area Maps included in the CEMP. In addition to the vegetated habitats listed below, bridges and other structures may also provide roosting habitat for threatened microbats.

**Table 5-2 Fauna habitat types**

Name	Habitat features
Vegetated habitats	<ul style="list-style-type: none"> <li>Flowering and fruiting trees and shrubs throughout the construction footprint may offer foraging, nesting and roosting habitat to bats, birds and arboreal mammals</li> <li>Landscaped areas and garden beds may offer marginal foraging habitat for birds, small mammals and reptiles</li> <li>One potential hollow-bearing tree was identified (<i>Eucalyptus saligna</i>) in Jefferson Jackson Reserve. Hollow entrances were not visible from the ground, but if present, may support common urban fauna such as Brushtail Possum (<i>Trichosurus vulpecula</i>) and Sulphur-crested Cockatoo (<i>Cacatua galerita</i>).</li> </ul>

### 5.1.4 Threatened fauna

Threatened fauna species identified as likely to occur within the Project area are listed in **Table 5-3**. While none of these species were recorded within the Project area as part of project surveys, some of these species:

- were recorded near the Project area
- have been historically recorded
- were deemed to have a moderate-high likelihood of occurring in the Project area or its surrounds.

**Table 5-3 Threatened fauna**

Common name	Scientific name	EPBC Act	BC Act	Likelihood of occurrence
Eastern Bentwing-Bat	<i>Miniopterus schreibersii oceanensis</i>	Not listed	Vulnerable	Previously recorded
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	Vulnerable	Vulnerable	Previously recorded
White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	Migratory	Vulnerable	Previously recorded
Eastern Freetail-bat	<i>Mormopterus norfolkensis</i>	Not listed	Vulnerable	High
Little Bentwing-Bat	<i>Miniopterus australis</i>	Not listed	Vulnerable	High
Powerful Owl	<i>Ninox strenua</i>	Not listed	Vulnerable	High
Southern Myotis	<i>Myotis macropus</i>	Not listed	Vulnerable	High

Common name	Scientific name	EPBC Act	BC Act	Likelihood of occurrence
Eastern Osprey	<i>Pandion cristatus</i>	Migratory	Vulnerable	Moderate

### 5.1.5 Aquatic fauna

Whilst no aquatic fauna sampling was carried out, waterways in the aquatic biodiversity study area are considered suitable for the majority of common and exotic fish species typically found in waterways in the Sydney region.

Common native fish species typically found in waterways in the Sydney region include short-finned and long-finned eels (*Anguilla australis* and *A. reinhardtii*), common jollytails (*Galaxias brevipinnis*), Australian bass (*Macquaria novemaculeata*) and a number of Gudgeon species. Exotic fish species are also widespread across the Sydney region.

The fisheries habitat classification for each of the waterways in the study area is provided in **Table 5-4**.

**Table 5-4 Aquatic fauna**

Waterway	Classification <sup>#</sup>
Willoughby Creek at Cammeray (WFU8)	Type 3 minimally sensitive key fish habitat. Class 3 minimal key fish habitat for fish passage.
Flat Rock Creek at Naremburn (WFU8)	Type 1 highly sensitive key fish habitat. Class 2 moderate key fish habitat for fish passage (upstream of Quarry Creek). Class 1 major key fish habitat for fish passage (downstream of Quarry Creek). Sensitive receiving environment.
Quarry Creek at Cammeray (WFU8)	Type 1 highly sensitive key fish habitat. Class 2 moderate key fish habitat for fish passage. Sensitive receiving environment.

<sup>#</sup>Classification in accordance with NSW DPI Fisheries Guidelines

### 5.1.6 Threatened marine species known or likely to occur in the construction footprint

The Project construction footprint does not contain any marine habitat.

### 5.1.7 Cumulative impacts

Potential cumulative impacts associated with the construction of the Project (being both Western Harbour Tunnel and Warringah Freeway Upgrade) were presented and assessed in Chapter 27 of the EIS. The assessment concluded that in all locations associated with the construction of the Project, cumulative impacts to biodiversity were considered to be negligible.



# 6 Environmental aspects and impacts

## 6.1 Construction activities

Key construction activities that could result in impacts to terrestrial and aquatic flora and fauna include:

- Clearing of native vegetation (comprising native plantings, planted medians, non-native species or weeds). The EIS identifies clearing of approximately 7.29 hectares of vegetation consisting of:
  - 2.99 hectares of native plantings (primarily associated with establishment of the Cammeray Golf Course construction support site WFU8)
  - 2.84 hectares of native plantings within the vegetated medians of Warringah Freeway
  - 1.11 hectares of urban exotic/native plantings
  - 0.35 hectares of exotic plantings.
- Works around and within watercourses (Willoughby Creek and Flat Rock Creek)
- Noise impacts
- Disturbance of soils, consequential erosion and the mobilisation of sediment
- Use of chemicals / fuels (potential for spills).

Refer also to the Aspects and Impacts Register included in Appendix A2 of the CEMP.

## 6.2 Ecological impacts arising from construction

Likely and/or potential impacts associated with construction of the Project are discussed in Chapter 19 of the EIS and include:

- Loss of threatened plant species and endangered ecological communities
- Direct and indirect impacts to fauna
- Loss of habitat
- Fragmentation of habitats and wildlife corridors
- Barrier effects on wildlife and riparian corridors (such as the erosion of genetic stock, impacts on home ranges, territorial disputes, increased competition etc)
- Spread of plant diseases
- Spread of feral animals
- Physical, chemical and biological changes to aquatic environments, wetlands etc
- Edge effects (such as weed invasion, pests and disease)
- Disturbance to aquatic and riparian habitats potentially resulting in contamination and siltation of waterways.

In the absence of appropriate management measures, there is the potential for significant impacts on threatened flora and fauna species identified in **Table 4-1** as occurring, or with the potential to occur, within the project area.

### **6.2.1 Removal of vegetation**

Construction of the Project would require some removal of vegetation, primarily at construction support sites, which comprises native plantings, non-native species or weeds. The removal of native vegetation (vegetation consistent with any plant community types or threatened ecological communities) is limited to one individual of *Acacia terminalis* subsp. *terminalis*. Additional details on biodiversity offsets are provided in Section 7.5 of this Sub-plan. Ongoing review of design and construction methods will seek to minimise the removal of vegetation and trees where practicable. This will primarily occur through the design review process as well as the pre-clearing process described in Section 7.3.

### **6.2.2 Invasion and spread of weeds, pathogens and disease**

An increase in the movement of people, vehicles, machinery, vegetation waste and soil during and following construction activities may facilitate the introduction or spread of exotic grasses and other weeds. Disturbed areas, such as those in which earthworks are to be carried out, would be particularly susceptible to weed establishment.

### **6.2.3 Removal of fauna habitat**

The removal of flowering and fruiting trees, shrubs and ground layer vegetation would result in the loss of potential foraging and sheltering habitat to a number of threatened fauna species known or considered likely to occur in the Project area. However, these impacts would be negligible since the habitat to be removed does not comprise a significant proportion of habitat available to species in the surrounding terrestrial biodiversity locality or wider bioregion.

Further to this, the limited extent of vegetated fauna habitat within the construction footprint occurs as small, isolated patches that do not maintain habitat connectivity with any large areas of native vegetation in the wider locality. Much of the vegetation which would be removed is currently subject to regular and on-going disturbance and maintenance (ie pruning and mowing).

### **6.2.4 Fauna injury and mortality**

No threatened fauna species typically at risk of fauna strike (i.e. slow-moving fauna species) have been recorded in the Project area. However, there is potential that terrestrial fauna injury or mortality would occur as a result of construction activities such as vegetation clearing, collisions with work vehicles or plant, or accidental entrapment in plant or trenches.

### **6.2.5 Noise and vibration**

Construction activities would result in localised and temporary noise and vibration impacts. However, as construction areas occur in highly urbanised areas that are subject to high levels of ambient noise, any increase in noise and vibration is not expected to have a significant impact on terrestrial fauna.

### **6.2.6 Water quality impacts**

No threatened fauna species were identified within freshwater habitat in or downstream of the construction footprint. Accordingly, there would be no removal, fragmentation or modification to freshwater ecology or associated geomorphology of these waterways as a result of the Project.

### **6.2.7 Loss of aquatic habitat and water quality impacts**

No riparian vegetation would be removed as part of the Project and no instream works would be carried out in the waterways traversed by the Project. Accordingly, there would be no direct impacts to these waterways.

# 7 Environmental mitigation and management measures

## 7.1 Flora and Fauna Management Strategies

Construction associated with the Project has the potential to impact flora and fauna within and adjacent to the construction footprint. In order to avoid, mitigate and/or minimise these potential impacts, a range of environmental requirements and control measures are identified in the EIS, RfS and other TfNSW guidance documents. Specific measures and requirements to address impacts on flora and fauna are outlined in **Table 7-1**.

## 7.2 Fauna Rescue and Release Procedure

There is potential to come across fauna within and adjacent to the construction footprint during works associated with the Project. If fauna is found during pre-clearing or construction, fauna rescue and release will occur in accordance with *Guide 9: Fauna handling* of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011). Fauna rescue will be undertaken by a suitably qualified person to reduce the risk of injury to both animal and worker. Fauna should only be handled when necessary. It is preferable to avoid fauna handling unless the life of the animal is at risk.

## 7.3 Pre-clearing/demolition inspections

The pre-clearing process provides a final check for any threatened flora or fauna species that may have moved into the area since undertaking previous surveys. This is particularly important where the season or prevailing weather conditions influence whether a species is found in an area. Pre-clearing/demolition inspections will be undertaken in accordance with *Guide 1: Pre-clearing process* of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011). A [Permit to Clear Land](#) will be prepared prior to any clearing activities or demolition of structures (refer to **Appendix A**). A Hold Point will also apply in accordance with RMS General Specification G40 prior to any clearing of vegetation. The Hold Point will ensure that a pre-clearing Ecologist inspection has been undertaken, that clearing limits have been identified on site and that final clearing plans (Appendix E) have been prepared.

## 7.4 Unexpected threatened species finds

There is potential to identify unexpected threatened flora and fauna within and adjacent to the construction footprint during works associated with the Project. In this instance, any unexpected threatened species finds will be managed in accordance with the Unexpected Threatened Species Finds Procedure (**Appendix B**).

A record of the unexpected find will be maintained by the CPB Downer JV and will include the following details:

- Date, time and location of the unexpected find
- Details regarding assessment by the Construction Environmental Manager (with advice from a suitably qualified ecologist or specialist)
- Actions undertaken before work recommenced.

Additionally, records of non-threatened fauna finds will also be maintained.



## 7.5 Biodiversity offsets

Two species credits are required for the Project, as required by MCoA E38. These credits are for the removal of one individual of *Acacia terminalis* subsp. *terminalis* located between the Falcon Street shared user bridge and the Warringah Freeway in Jeaffreson Jackson Reserve, Cammeray (refer Figure 5-3). The retirement of credits will be carried out in accordance with the offset rules of the *Biodiversity Conservation Act 2016*. The individual plant will not be cleared until evidence of the retirement of species credits (or equivalent payment to the Biodiversity Conservation Fund as per CoA E39) has been provided to the Secretary. This will be managed through the pre-clearing process as described in Section 7.3.

To compensate for the removal of vegetation during construction of the Project, vegetation will be re-established within the Project Area where feasible in accordance with Guide 3: Re-establishment of native vegetation of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011) and the Vegetation Offset Guide (Transport for NSW, 2019). Where replacement trees cannot be accommodated within the Project area, suitable locations will be identified outside the Project area for planting. Trees removed during construction will be replaced at a ratio equal to or greater than 2:1 (MCoA E184). Endemic species will be prioritised for planting where available. Refer to the Place, Design and Landscape Plan for revegetation details.

## 7.6 Weed and Pathogen Control Procedure

The construction of road projects and maintenance works has the potential to introduce and promote the spread of weeds and pathogens. The NSW *Biosecurity Act 2015* includes requirements for the control of certain weeds, which also apply to TfNSW. Weeds and potential pathogens will be managed in accordance with *Guide 2: Exclusion zones of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011) and *Guide 6: Weed management of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011).

Weeds will also be managed in accordance with the Weed Management Protocol for the Project (refer to **Appendix C**).

## 7.7 Vegetation and Bushrock Removal

Clearing of vegetation and removal of bushrock has the potential to displace, injure or kill native flora and fauna, including threatened species. Nocturnal fauna that shelter in tree hollows during the day and cryptic flora species (such as underground orchids) are at greatest risk during these activities. Should clearing of vegetation, coarse woody debris and bushrock be required, mitigation and management measures outlined in *Guide 4: Clearing of vegetation and removal of bushrock* and *Guide 5: Re-use of woody debris and bushrock* of the *Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011) will be implemented.

## 7.8 Habitat Enhancement

In line with MCoA E48, within three months of the removal of any native trees and as early as possible, CPB Downer JV will consult with local community restoration / rehabilitation groups, Landcare groups, North Sydney and Willoughby Council, DPI Fisheries and any other relevant public authorities to determine if there is an interest in the reuse of suitable timber and root balls for habitat enhancement and rehabilitation work.

If there is an interest, previously identified and marked native trees that are removed for the construction of the Project and that are greater than 25-30 centimetres in diameter and three metres in length will be salvaged and stored for a period of at least six weeks to enable collection by interested parties. All consultation and correspondence will be maintained in the projects community consultation database.

## 7.9 Tree Management

The Project will be designed to retain as many existing trees as possible. The following procedure will be implemented to ensure this occurs:

- A qualified arborist will verify the location of all trees within the project area with potential to be impacted by the project
- After the initial design review, an assessment will be made to confirm where potential impacts on trees may occur
- Where impacts are likely, further design review will be undertaken to consider alternative designs and updates made to the design where feasible
- Once design is finalised and impacts are still likely to occur, a qualified arborist will verify which/how many trees are likely to be impacted
- Where impacts are identified, alternate construction methodologies will be assessed with further input from the qualified arborist as required
- Design and construction methodologies finalised

The outcomes of this procedure will inform the final Clearing Plans (Appendix E) submitted to TfNSW for consideration prior to clearing of trees being undertaken.

## 7.10 Tree Register

A tree register will be maintained to record the fate of the trees within and adjacent to the Project area. The tree register will be reconciled at least bi-monthly throughout construction and will inform the Landscape Strategy Report at the completion of construction. The tree register will include as a minimum:

- Number of trees removed
- Tree species
- Tree status (local native/non-local native/weed)

Trees will be retained and protected where possible to minimise clearing and screen construction sites. Trimming will be preferred to tree removal where feasible and will be informed by arborist advice. Early planting works will be considered where feasible to provide a screening buffer.

## 7.11 Landscape Strategy Report

Where tree removal is still required after implementation of the procedures outlined in Section 7.9, replacement trees and plantings will be provided at a ratio of 2:1 to increase the tree canopy. To enhance the North Sydney Council's position in respect of the Sydney Green Grid and address the requirements of MCoA E184 - E187, a Landscape Strategy Report will be prepared. The replacement trees will consist of local native provenance species from the vegetation community that once occurred in the locality (rather than plant exotic or non-local native trees) where available and subject to the urban design and landscape plan.

The Landscape Strategy Report will detail the type, size, number and location of replacement trees that will be planted. The Landscape Strategy Report will be developed as part of detailed design for the project. A progressive rehabilitation program will also be included to allow for the early establishment of vegetative screening.

As detailed in the Landscape Strategy Report and consistent with MCoA E185, replacement trees will:

- a) be located on public land and prioritised within 500 metres of the Construction Boundary, that delivers increased shading to footpaths, pedestrian and cycle paths

- b) be of a species suitable to the location, having regard for local ecology and existing street trees
- c) meet the requirements for quality tree stock specified in the *AS2303:2018: Tree Stock for Landscape Use*
- d) be provided no later than six months following the commencement of operation
- e) have a minimum pot size consistent with the relevant council's plans / programs / strategies for vegetation management, street planting, or open space landscaping, or as agreed by the relevant council(s).

In addition to the above, in the case of any areas that have been disturbed by construction that are not subject to the Landscape Strategy Report, these areas will be restored to their existing condition.

**Table 7-1: Flora and fauna management and mitigation measures**

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
General						
FF01	Induction training will be provided to relevant personnel, including relevant sub- contractors, on flora and fauna requirements of this Sub-plan.	Training materials	Prior to construction	Construction Environmental Manager	Best practice	Induction records
FF02	An appropriately qualified and experienced ecologist will be appointed to assist in the implementation of this FFMP.	This plan	Prior to clearing or demolition	Project ecologist	MCoA C6 Best Practice	Letter of engagement
FF03	Clearing of vegetation, including the clearing of native vegetation and fauna habitat, will be minimised to the greatest extent practicable (e.g. through detailed design, selecting plant to avoid impact on retained trees, retaining perimeter vegetation where possible and not in conflict with other mitigation measures or works). This includes the retention of trees.	Detailed design to consider EIS and MCoA C6	Design During construction	Construction Environmental Manager	MCoA C6 REMM B2	Clearing and Grubbing Plans Tree Report Design Reports Contractor Clearing Plan ( <b>Appendix E</b> )

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
Pre-clearing / pre-demolition						
FF04	Exclusion fencing and signage will be installed to delineate the limits of clearing in accordance with <i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA, 2011).	<i>Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects</i> (RTA 2011)  Sensitive Area Plans (SAP)	Prior to construction	Foreman	REMM B5 Best practice	Hold points Pre-clearing inspection
FF05	Pre-clearing surveys will be carried out by the Project Ecologist to identify or confirm the location of: <ul style="list-style-type: none"> <li>Threatened flora and provide guidance</li> <li>Threatened fauna and provide guidance on subsequent relocation if required</li> <li>Non-threatened fauna</li> <li>Hollow bearing trees or nest bearing trees</li> <li>Any other potential habitat (eg bridges and structures)</li> <li>Trees which may be retained</li> <li>Pathogens and provide subsequent guidance on</li> </ul>	This plan	Prior to construction	Construction Environmental Manager	MCoA C6 REMM B5	Hold points Pre-clearing inspection

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
	mitigation measures to be implemented <ul style="list-style-type: none"> <li>Priority weeds present within the Project area.</li> </ul>					
Vegetation clearing and management						
FF06	A clearing and grubbing plan will be developed for any works to clear vegetation and will be submitted to TfNSW for approval before the commencement of the works.	This plan	Prior to construction During construction	Construction Environmental Manager	G40	This plan
FF07	Tree Protection Zones (TPZs) will be clearly delineated and marked around any trees to be retained during construction. This delineation is to be consistent with <i>AS 4970-2009 Protection of trees on development sites</i> .	<i>AS 4970-2009</i>	Prior to construction During construction	Foreman	Best practice	Weekly inspections
FF08	Tree removal, pruning and maintenance work will be carried out by an arborist with a minimum Australian Qualifications Framework (AQF) Level 3 qualification in arboriculture (or equivalent), in accordance with <i>AS 4373-2007 Pruning of Amenity Trees and the NSW WorkCover Code of Practice for the Amenity Tree Industry</i> (1998).	Qualified Arborist	During construction	Arborist	G40 – 2.4	Arborist reports

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
FF09	Advice on tree removal, pruning and maintenance, must be provided by an arborist that has a minimum AQF Level 5 qualification in arboriculture (or equivalent).	Qualified Arborist	Prior to construction During construction	Arborist	G40	Arborist reports
FF10	A tree management plan will be developed for any works with the potential to impact on TPZs in consultation with an arborist with a AQF Level 5 qualification in arboriculture (or equivalent).	Environmental Work Method Statement (EWMS)	Prior to construction During construction	Arborist	Best practise	Arborist reports
FF11	In the event native vegetation removal cannot be avoided, the conditions of MCoA E48 will be followed.	Detailed design	Post-construction	Construction Environmental Manager	MCoA E48	Design report
FF12	No materials are to be stockpiled or vehicles parked under the canopy line of trees identified to be retained.	EWMS Tree Management Plan	During construction	Foreman	G40	Weekly inspections
FF13	No excavation, placing of fill or construction of access tracks within the canopy line of trees identified to be retained will occur unless an ecologist or arborist completes an assessment that confirms no detrimental effect, resulting in death or long-term damage to tree health is likely to occur.	EWMS	During construction	Foreman	G40	Weekly inspections

ID	Measure/Requirement	Resources needed	When to implement	Responsibility	Reference	Evidence
	This assessment will consider the value of the tree, e.g. heritage / retention value and recommend mitigations and limits accordingly.					
FF14	Stabilise all surfaces disturbed as a result of the Project as soon as practicable following disturbance to prevent erosion and to minimise sedimentation in adjacent aquatic environments.	Erosion and Sediment Control Plans	During construction	Foreman	G40	Weekly inspections
Invasion and spread of weeds, pests, pathogens and disease						
FF15	Manage weeds within the construction footprint in accordance with the Weed Control Procedure (refer to <b>Appendix C</b> ).	Weed Control Procedure	During construction	Foreman	G40	Weekly inspections



# 8 Compliance management

## 8.1 Roles and responsibilities

The CPB Downer JV Project Team's organisational structure and overall roles and responsibilities are outlined in Section 3.3 of the CEMP. Specific responsibilities for the implementation of environmental controls are detailed in Section 7 of this FFMP.

## 8.2 Training

All employees, contractors and utility staff working on site will undergo site induction training relating to flora and fauna management issues. The induction training will address elements related to flora and fauna management including:

- Existence and requirements of this FFMP
- Relevant legislation and guidelines
- Specific species likely to be affected by the construction works and how these species can be recognised
- Any sensitive areas and/or no-go zones that apply to the project
- Mulch stockpile location and management measures
- Fauna rescue requirements
- Weed control measures
- General flora and fauna management measures
- Specific responsibilities for the protection of flora and fauna.

Further details regarding staff induction and training are outlined in Section 3.5 of the CEMP.

## 8.3 Monitoring and inspections

Visual inspections of sensitive areas and activities with the potential to impact flora and fauna will occur for the duration of the Project. Ecologist pre-clearing inspections will be undertaken in accordance with Section 7.3. Where there is a risk of impacting on protected flora or fauna during clearing or other works, an Ecologist will be present to monitor works. Where there is an identified risk of impacting on trees/tree roots, an Arborist will monitor these works.

Requirements and responsibilities in relation to monitoring and inspections are documented in Section 3.9.1 and 3.9.2 of the CEMP.

## 8.4 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan, MCoA and other relevant approvals, licences and guidelines.

Audit requirements are detailed in Section 3.9.3 of the CEMP.

## 8.5 Reporting

Reporting requirements and responsibilities are documented in Section 3.9.4 and 3.9.5 of the CEMP.

Specific reporting requirements associated with this Sub-plan include:

- Pre- and Post-clearing reports
- Arborist reports.

# 9 Review and improvement

## 9.1 Continuous improvement

Continuous improvement of this FFMP 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.

## 9.2 FFMP update and amendment

This Sub-plan will be submitted to the Planning Secretary for approval along with, or subsequent to, the submission of the CEMP but in any event, no later than one month before construction. Construction of the Project will not commence until the CEMP and all relevant CEMP Sub-plans have been approved, unless otherwise agreed by the Planning Secretary.

Subsequent to DPIE approval, the process by which this Sub-plan will be reviewed and revised is described in Section 3.13 of the CEMP. This will occur as needed.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure (refer to Section 3.11.2 of the CEMP).

# Appendix A –Clearing and Demolition Procedure

**Appendix A1** - *Guide 1: Pre-clearing process of the Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects* (RTA, 2011).

**Appendix A2** – Permit to clear land

# Guide I: Pre-clearing process

## Background

**The pre-clearing process provides a final check for any threatened flora or fauna species that may have moved into the area since undertaking previous surveys. This is particularly important where the season or prevailing weather conditions influence whether a species is found in an area.**

The pre-clearing process should be guided by information gathered during flora and fauna surveys conducted in the environmental assessment phase of the project.

Clearing associated with construction and maintenance works results in the loss of vegetation and fauna habitat. Impacts on native flora and fauna, including threatened species, can be minimised by:

- Conducting the pre-clearing process.
- Implementing staged habitat removal (see *Guide 4: Clearing of vegetation and removal of bushrock*).

'Clearing of native vegetation', 'loss of hollow-bearing trees', 'bushrock removal' and 'removal of dead wood and dead trees' are Key Threatening Processes listed under the *Threatened Species Conservation Act 1995* (NSW) (TSC Act). 'Land clearance' is listed as a Key Threatening Process under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act).

## Objective

**The objective of this guide is to provide guidance for the pre-clearing process that should be conducted before any clearing takes place to minimise the impact on native flora and fauna.**

The pre-clearing process should be implemented before clearing begins to:

- Confirm the location of biodiversity features identified during the environmental assessment process.
- Check for the presence of flora and fauna species and habitat on a site immediately before clearing begins.
- Provide input into determining appropriate exclusion zones (see *Guide 2: Exclusion zones*).
- Locate nearby habitat suitable for the release of fauna that may be encountered during the pre-clearing process or habitat removal.
- Inform planning and procedures for the staged habitat removal process (see *Guide 4: Clearing of vegetation and removal of bushrock*).
- Ensure that the location of any threatened flora species, threatened ecological communities and habitat are mapped.
- Determine any additional management measures that may need to be incorporated into the Construction Environmental Management Plan (CEMP).



**FIGURE I.1:** The pre-clearing process should provide information on the presence of fauna habitat such as this Grey-crowned Babbler (*Pomatostomus temporalis temporalis*) nest (Photo: Lester Piggott).

## Application of this guide

This guide is applicable where:

1. Threatened flora populations have been identified to occur or potentially occur in the area during the environmental assessment process.
2. Hollow-bearing trees, including standing dead trees with hollows are to be removed.
3. Substantial stands of vegetation providing potential threatened fauna habitats are to be impacted.
4. Bushrock is to be removed.
5. Potential roosting habitat for microbats (eg in bridges or culverts) is to be disturbed or removed.

### Specialist input requirements

Use qualified **ecologists** with experience in fauna handling to conduct flora and fauna searches as part of the pre-clearing process.

Use a **licensed wildlife carer** or **ecologist** to carry out any fauna handling in accordance with *Guide 9: Fauna handling*.

## Management requirements

### The pre-clearing process:

1. **Review the environmental assessment** and associated documentation for the project to identify known locations of biodiversity features such as threatened flora and fauna (and their habitat), threatened populations and communities that need to be considered during the pre-clearing process.
2. **Identify nearby habitat that would be suitable for the release of fauna** that may be encountered during the pre-clearing process or habitat removal. Consult with an **ecologist** to determine suitable habitat. In some circumstances (eg when threatened species are likely to be encountered) consultation with the Office of Environment and Heritage (OEH) may also be required. Mark the pre-determined habitat identified for fauna release on a map.

3. **The project manager and/or environment manager should develop an unexpected threatened species finds procedure** for projects and maintenance works. An unexpected threatened species finds procedure is provided on page 12. This should be part of the Construction Environmental Management Plan (CEMP), flora and fauna management sub-plan or Environmental Work Method Statement (EWMS). Follow the unexpected threatened species finds procedure if additional threatened species or communities are identified that have not been considered in the environmental assessment.
4. **The project manager and/or environment manager should incorporate biodiversity management measures identified during the pre-clearing process into the project CEMP and/or designs.**
5. The project manager and/or environment manager should engage an **ecologist** to undertake the following procedure in the weeks before clearing begins:
  - a. Confirm the locations of biodiversity features identified in the environmental assessment.
  - b. Identify any fauna that have the potential to be disturbed, injured or killed as a result of clearing activities (eg nesting birds).
  - c. Check for the presence of threatened flora and fauna species that were identified in the environmental assessment as likely to occur. This check should be:
    - Conducted by licensed **ecologists** experienced in fauna handling and the identification of local flora and fauna species.
    - If possible, undertaken during optimal weather conditions, season and time of day/night for identifying targeted flora and fauna species.





**FIGURE I.2:** Surveying for birds' nests during the pre-clearing process (Photo: Alex Cockerill).

- d. If not already available, record the details for all hollow-bearing trees, trees containing threatened fauna and threatened flora, including (where applicable):
  - GPS location.
  - Species.
  - Type of habitat feature (eg nest, bushrock).
  - Size of hollow (eg small, medium, large).
  - Type of hollows (eg branch, limb, trunk).
- e. Provide input and mark habitat features to be protected during construction. Use suitable methods (eg flagging tape) to mark:
  - All hollow-bearing trees or habitat features.
  - Any trees found to contain threatened fauna.
  - The location of any threatened flora.
- f. Confirm the location of pre-determined habitat identified for the release of any fauna encountered on site.
- g. Submit any updated maps/plans, pre-determined habitat for the release of fauna, habitat features and recommended clearing procedures to the project manager and/or environment manager (or equivalent).
6. The following procedure should be followed 24 hours before clearing:
  - a. **Licensed wildlife carers and/or ecologists** should capture and/or remove fauna that have the potential to be disturbed, injured or killed as a result of clearing activities. Relocate captured fauna into pre-determined habitat identified for fauna release (see *Guide 9: Fauna handling*).
  - b. **The project manager and/or environment manager should inform clearing contractors of any changes to the sequence of clearing if required.** Carry out staged habitat removal as outlined in *Guide 4: Clearing of vegetation and removal of bushrock* where fauna habitat features (such as hollow-bearing trees, habitat trees and bushrock) have been identified and marked.



**FIGURE I.3:** A habitat tree marked with flagging tape to indicate it will be retained during the first stage of staged habitat removal (Photo: Josie Stokes).

# Unexpected threatened species finds procedure

## Purpose

This procedure details the actions to be taken when a threatened flora or fauna species is unexpectedly encountered on site.

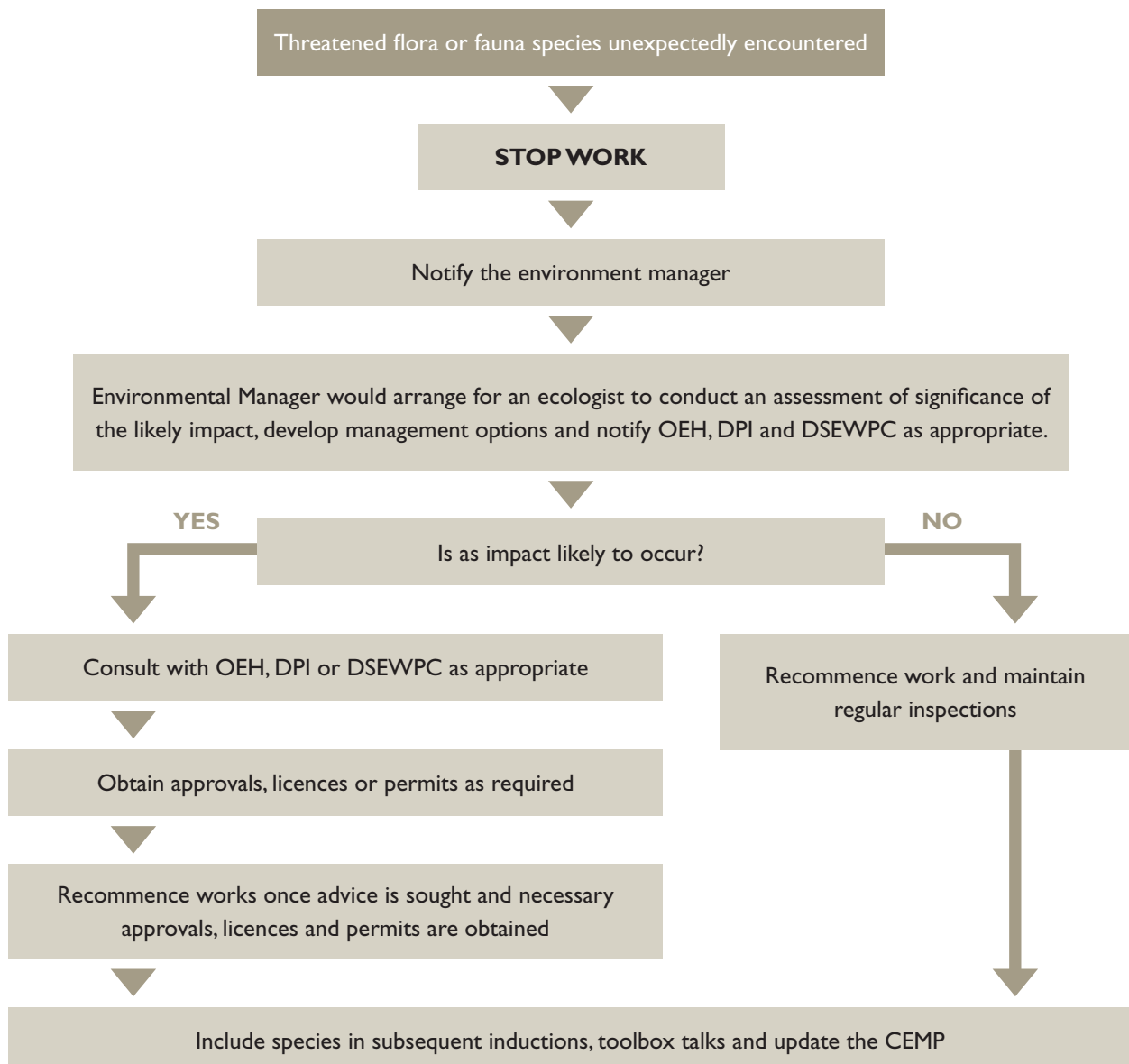
## Induction/Training

Photos and descriptions of threatened species occurring or likely to occur would be included in the Construction Environmental Management Plan (CEMP) and/or the flora and fauna management sub-plan. All personnel are to be inducted on the potential threatened species occurring on site and the unexpected threatened species finds procedure.

## Scope

This procedure is applicable to all activities that have the potential impact upon threatened flora and fauna species.

## Procedure







## Supporting documents

1. Environmental assessment and associated supporting documents (eg ecological report, conditions of approval).
2. *RTA Environmental Protection (Management Plan) QA Specification G35* (Accessed via the RTA intranet TechInfo page, Techdocs).
3. *RTA Environmental Protection (Management System) QA Specification G36* (Accessed via the RTA intranet TechInfo page, Techdocs).

# Biodiversity Guide I – Pre-clearing process

## Objective

The objective of this guide is to provide guidance for the pre-clearing process that should be conducted before any clearing takes place to minimise the impact on native flora and fauna.

## Application of this guide

This guide is applicable where:

1. Threatened flora populations have been identified to occur or potentially occur in the area during the environmental assessment process.
2. Hollow-bearing trees, including standing dead trees with hollows are to be removed.
3. Substantial stands of vegetation providing potential threatened fauna habitats are to be impacted.
4. Bushrock is to be removed.
5. Potential roosting habitat for microbats (eg in bridges or culverts) is to be disturbed or removed.

## Management requirements

- Review the environmental assessment and associated documentation for the project to identify known locations of biodiversity features.
- Consult with an **ecologist** to determine the location of suitable nearby habitat for the release of fauna that may be encountered during the pre-clearing process or habitat removal. Mark the pre-determined habitat identified for fauna release on a map.
- Develop an unexpected threatened species finds procedure.
- Incorporate biodiversity management measures identified during the pre-clearing process into the project CEMP and/or designs.
- In the weeks before clearing:
  - a. Confirm the locations of biodiversity features.
  - b. Identify fauna that have the potential to be disturbed as a result of clearing activities.
  - c. Ensure an **ecologist** checks for the presence of threatened flora and fauna species that were identified in the environmental assessment as likely to occur. Undertake these checks during optimal conditions for the target species where possible.
  - d. Record the details for all hollow-bearing trees, trees containing threatened fauna and threatened flora.
  - e. Mark habitat features to be protected during construction.
  - f. Confirm the location of pre-determined habitat identified for the release of any fauna encountered on site.
  - g. Submit and updated maps/plans, pre-determined habitat for the release of fauna, habitat features and recommended clearing procedures to the project manager and/or environment manager (or equivalent).
- Twenty-four hours before clearing:
  - a. **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.
  - b. Relocate fauna into pre-determined habitat identified for fauna release.
  - c. All fauna handling should be carried out by **licensed wildlife carers** and/or **ecologists** and in accordance with *Guide 9: fauna handling*.
  - d. Inform clearing contractors of any changes to the sequence of clearing if required.
  - e. Carry out staged habitat removal as outlined in *Guide 4: Clearing of vegetation and removal of bushrock* where fauna habitat features have been identified and marked.

# Permit to Clear Land or Vegetation

## SECTION 1 – REQUEST DETAILS

Site			Date	
Area Supervisor			Position	
Purpose of Ground Disturbance				
Total disturbance area (ha)			Date disturbance to commence	
Estimated Topsoil Depth (mm)			Date disturbance to be completed	
Estimated Topsoil volume (m³)			Machinery to be used	
Map (attached)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Comments:	
Has a risk Work Pack been completed for this task?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Comments:	
GPS Coordinates of planned area to be disturbed				

Once the above is completed please forward to Environmental Representative/Advisor for processing

<b>OFFICE USE ONLY:</b>	Permit # _____
	Status _____
	Received by Environmental Representative/Advisor: DD/MM/YY
	Submitted to Client for Approval: DD/MM/YY
	Approval Received: DD/MM/YY

## SECTION 2 – PERMIT CONDITIONS

Condition		Area Supervisor to Complete		
		Date	Initial	Comments
2.0	No clearing to be undertaken until this Permit to Clear Land or Vegetation is received, signed, completed and all permit conditions understood and in place			
2.1	Disturbance area delineated with flagging tape			
2.2	Pre Clearing Inspection Checklist completed (including Ecologist inspection)			
2.3	Exclusion areas identified and boundaries marked and clearly visible.			
2.4	Appropriate Cultural Heritage permit/s are in place where applicable (check with Client)			

2.5	Ground engaging equipment confirmed as weed free (use Tool: Plant and Equipment Cleandown Declaration).			
2.6	Operators working in the area have been shown the clearing limits by Area Supervisor. Personnel undertaking works are appropriately trained and aware of environmental risks.			
2.7	Large, woody vegetation to be stockpiled separately in approved location or used for Erosion Sediment control or fauna habitat.			
2.8	Disturbance area inspected for fauna and habitat trees and relocated, where applicable			
2.9	Bridges and other structures with potential for microbat habitat have been checked by an Ecologist prior to demolition			
2.10	Topsoil to be removed to a ____ mm depth Subsoil to be removed to a ____ mm depth			
2.11	Topsoil to be stockpiled in approved areas. Subsoil to be stockpiled separately in approved areas			
2.12	Topsoil and subsoil stockpiles are to be less than 2m high			
2.13	Topsoil stockpiles to be signposted and mapped.			
2.14	Area to be surveyed post disturbance to ensure no unauthorised disturbance.			
2.15	Post Clearing Inspection Checklist to be completed at completion of clearing			
2.16	<Insert Other Conditions as required>			

### SECTION 3 – PERMIT ISSUE (Completed by Permit Issuer)

I confirm the work area is controlled and authorise work to proceed in strict accordance with the conditions stated in this Work Permit and associated Work Pack and Site Environmental Plans.

Permit Issuer		Signature		Date & Time	
---------------	--	-----------	--	-------------	--

### SECTION 4 – PERMIT ACCEPTANCE (Completed by Permit Holder)

I confirm and accept the conditions stated in this Work Permit and associated work activity documents. I will ensure strict adherence to these conditions and all persons under my control will be advised accordingly.

Permit Holder		Signature		Date & Time	
---------------	--	-----------	--	-------------	--

**SECTION 5 – SIGN OFF****Site Environmental Representative OR Project Manager Sign Off**

Name		Signature		Date	
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**Client Representative Sign Off (if needed)**

Name		Signature		Date	
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**Area Supervisor Sign Off**

Name		Signature		Date	
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**Equipment Operators Involved in Clearing**

- have been advised of Land Disturbance Permit conditions and understand requirements/clearing boundary

Name		Signature		Date	
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Name		Signature		Date	
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Name		Signature		Date	
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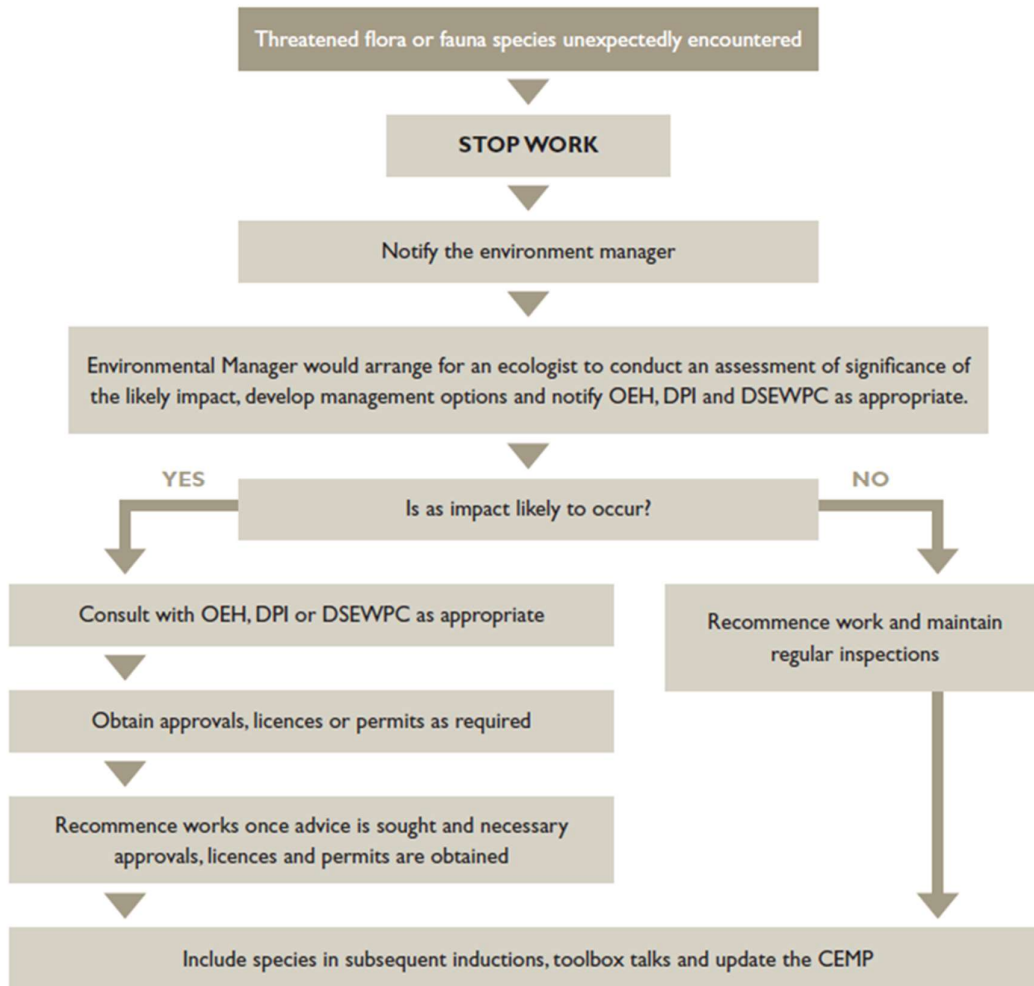
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# Appendix B - Unexpected Threatened Species Finds Procedure

In the event an unexpected threatened species is encountered during site works, the following procedure must be followed.

*Figure 1 Unexpected Threatened Species Finds Procedure Flow Chart (source Biodiversity Guidelines: Protecting and managing biodiversity on RTA projects (RTA, 2011))*

## Procedure



# Appendix C – Weed Control Procedure

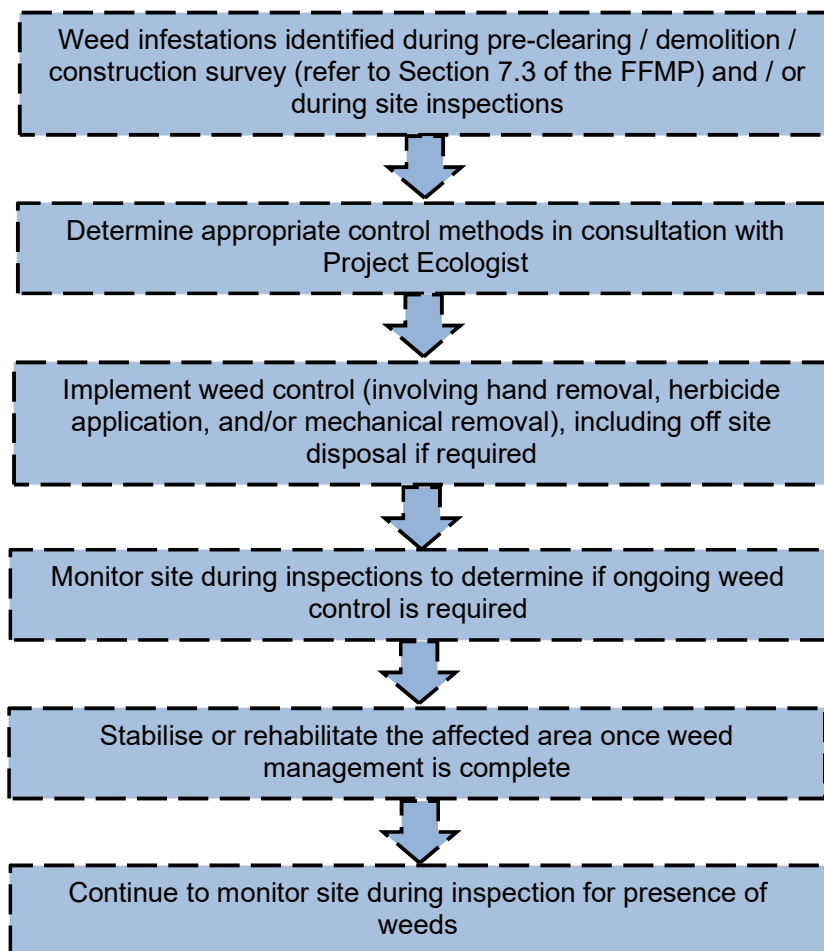
## 1 Introduction

This procedure describes the weed management and control practices to be implemented during construction.

This procedure has been prepared to meet the requirements of the Conditions of Approval and the Biodiversity Guidelines (Protecting and Managing Biodiversity on RTA Projects) and has been developed in accordance with:

- RTA Biodiversity Guidelines: Guide 6 - Weed management
- TfNSW Specification G36 Environmental Protection.

## 2 Procedure





## 3 Weed control methodology

### 3.1 Manual control

- Weeds requiring hand or mechanical removal, including contaminated topsoil, will require disposal by encapsulation (deep burying) or disposal to an approved waste management facility
- Carry out mechanical means of control (such as mowing or slashing) where feasible in proximity to waterways and aquatic environments, such as Willoughby Creek, Flat Rock Creek and Quarry Creek at WFU8
- Machinery involved in weed management activities will be thoroughly cleaned to remove any plant material or soil, prior to the commencement of construction.

### 3.2 Chemical (pesticide) control

- Public notification of pesticide use will be in accordance with TfNSW Specification G36 Annexure G36/H
- Only pesticides registered for use near water may be used near waterways and aquatic environments
- Avoid applying pesticides:
  - On hot days when plants are stressed
  - After the seed has set
  - Within 24 hours of rain or when rain is imminent
  - When winds will cause drift of herbicides into non-target areas.
- Complete a Pesticides Application Records Sheet (TfNSW Specification G36 Annexure G36/G) within 48 hours of applying pesticide and a copy submitted to Construction Environmental Manager and TfNSW representative, which includes the following information:
  - Who applied the pesticide
  - Date of pesticide application
  - Details of pesticide used (full product names)
  - Where the pesticide was applied (to what weed and in what location)
  - Amount of pesticide used (total amount use, rate of application, area covered)
  - Weather conditions during pesticide application.

### 3.3 Minimising spread and disposal of weeds

- Clean machinery, vehicles and footwear used in weed control before moving to a new location within the site
- All weed plant material and topsoil containing weed plant material will be disposed of at an offsite licensed facility as directed by the Construction Environmental Manager
- Securely cover loads of weed-contaminated material to prevent weed plant material falling or blowing off vehicles between site and the disposal location.

# Appendix D - Cammeray Golf Course Dam Dewatering Plan

# Appendix D

## Cammeray Golf Course Dam Dewatering Plan

Western Harbour Tunnel and Warringah Freeway Upgrade

SSI-8863

Stage 2 – Warringah Freeway Upgrade

November 2021

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## Document control

<b>File Name</b>	WHTBLWFU-CPBD-NWW-EO-PLN-000004
<b>Title</b>	Warringah Freeway Upgrade Flora and Fauna Management Sub-plan Appendix D –Cammeray Golf Course Dam Dewatering Plan

## Revision history

Revision	Date	Description
A	03/03/2021	Draft for tender
B	01/10/2021	Response to address TfNSW comments
0	16/11/2021	Endorsed by ER and submission to DPI&E

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## Glossary/ Abbreviations

Abbreviations	Expanded text
ESCP	Erosion and Sediment Control Plan
EWMS	Environmental Work Method Statement
MCoA	Ministers Condition of Approval
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
REMM	Revised Environmental Management Measures
TfNSW	Transport for NSW



# 1 Introduction

## 1.1 Background

The existing storage dam at Cammeray Golf Course is 45 metres by 35 metres in size, located immediately adjacent to the existing highway. The dam currently receives stormwater harvested from the surrounding catchments that is then used to irrigate a number of community parks and the golf course itself. The dam also serves as a sediment settlement pond which improves the quality of water re-entering the catchment and harbour (Further detail is provided in Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement Chapter 17).

The Cammeray Golf Course storage dam, and its proximity to the existing highway is depicted in Figure 1.



Figure 1: Cammeray Golf Course storage dam (Imagery sourced Nearmap August 2021)

## 1.2 Commitments

The storage dam at Cammeray Golf Course will be removed as part of the Project and TfNSW have committed to replacing the dam at the north western part of the Golf Course. This was originally planned to occur during operation of the project, but TfNSW have committed to completing this component prior to decommissioning of the current dam (REMM WQ8 Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions Report).

### **1.3 Purpose**

The purpose of this Cammeray Golf Course Dewatering Plan (Plan) is to provide guidance on dewatering activities for the Warringah Freeway Upgrade (WFU Project). This Plan is designed to minimise harm to any aquatic fauna that may occur within the existing storage dam at Cammeray Golf Course.

### **1.4 Objective**

The objectives of this Plan include:

- Comply with environmental requirements of the WFU Project
- Reduce the risk of invasive species impacting other waterways
- Provide a methodology for the protection of native aquatic fauna for the duration of dam dewatering activities
- Identify alternative relocation locations for further assessment, should a new dam at Cammeray Golf Course not be available within project time frames.

### **1.5 Scope**

This Plan applies to the dewatering of the stormwater harvesting storage dam at Cammeray Golf Course associated with the WFU Project (the 'dam').

### **1.6 Induction / training**

All site personnel involved in the dewatering activities will be trained and inducted in this Plan.

An Environmental Work Method Statement (EWMS) to manage and control dewatering activities in a manner that does not cause harm to the environment will be prepared.

Training will include inductions, toolbox talks, pre-starts and targeted training as required.

### **1.7 Roles and responsibilities**

The CPB Downer Joint Venture Environmental Manager is responsible for ensuring the effective implementation of this Plan and training of site personnel in the requirements of this Plan. This responsibility may be delegated to the Project Ecologist if deemed appropriate. A qualified and licensed Aquatic Ecologist will be required to plan and supervise aquatic fauna management during dewatering.

### **1.8 Review**

This Plan will be reviewed annually or as required in accordance with the continuous improvement process described in Section 9.1 of the Flora and Fauna Management Sub-Plan.

## 2 Environmental Requirements

### 2.1 Legislation and guidelines

This Plan has been developed with consideration of the following key legislation and guidelines:

- *Protection of the Environment Operations Act 1997 (POEO Act)*
- *Environmental Protection and Biodiversity Act 1999 (EPBC Act)*
- *Fisheries Management Act 1994*
- *Biodiversity Conservation Act 2016*
- *Water Management Act 2000, Water Management Amendment Act 2014, and Water Management Regulation (General) 2011*
- TfNSW Technical Guideline EMS-TG-011: Environmental Management of Construction Site Dewatering (RTA, 2011)

### 2.2 Requirements

This Plan has been prepared to address the following planning requirements.

- Response to Submissions, Revised Environmental Mitigation Measures:
  - REMM B29: A dewatering plan will be developed prior to dewatering of the stormwater harvesting dam at Cammeray Golf Course. The dewatering plan will include native aquatic fauna relocation requirements.
- Ministers Conditions of Approval (MCoA):
  - MCoA C6 (f) requires details of a dewatering plan of the stormwater harvesting storage facility / dam at Cammeray Golf Course including:
    - (i) a methodology of relocating native fauna species known to inhabit and/or use the dam;
    - (ii) the location and suitability of the proposed relocation sites; and
    - (iii) any potential impacts of relocating the fauna to the relocation sites.

## 3 Procedure

This Plan covers two potential scenarios for the relocation of aquatic fauna, the first is preferred and involves the construction of a replacement storage dam in the north western part of the Cammeray Golf Course, prior to the commencement of decommissioning of the existing dam.

A second option, requiring the translocation of native aquatic fauna to alternative, similar storage dam(s) is also provided, in the event that the replacement dam is not available as a receiving site by the time decommissioning of the current dam is required.

All dewatering works will be supervised by a suitably qualified and licensed aquatic ecologist. Measures to reduce injury and disease transmission to receiving areas will be a priority during dewatering.

### 3.1 Environmental Work Method Statement

Prior to undertaking the dewatering of Cammeray Golf Course storage dam, an EWMS will be prepared, drawing from this Plan and other relevant information from the CEMP.

EWMS incorporate appropriate mitigation measures and controls, including those identified in relevant Sub-plans. 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 simply written instructions.

### 3.2 Preparation for dewatering

The following is required, prior to commencing dewatering:

- Survey and assessment of the actual or likely aquatic species composition within the dam to be dewatered. This would be led by an Aquatic Ecologist, who would advise on the most suitable method for survey, prior to assessing receiving sites
- Assessment of receiving sites, including water quality testing, determination of current aquatic fauna species inhabiting the water body, assessment of risks to both resident and translocated aquatic fauna. All approvals to be obtained prior to dewatering commencement. The EWMS to be updated with detailed information on procedures for translocating all potential aquatic fauna, with specifics on each species/group (e.g. large fish, reptiles etc)
- Set up of measures to minimise harm to aquatic fauna (e.g. sediment fences to direct aquatic fauna to suitable locations for translocation (e.g. turtles, frogs etc that may be disturbed during dewatering and attempt to escape, potentially increasing their risk of mortality by getting onto roads etc
- Obtain and set up approximately sized mesh to cover the inlets on dewatering pumps that will prevent small aquatic fauna being injured or killed during the pumping process, mesh must still allow sediment to pass through
- License requirements - The Aquatic Ecologist to notify NSW Fisheries of the activity 48 hours prior to fish translocation (unless an agreement is in place), including locations of dewatered and receiving sites (Nearest office is Mosman 02 4982 1232, refer to regional office contacts <https://www.dpi.nsw.gov.au/contact-us/local-office>). Fisheries require permits to be carried by the licensed ecologist; who should also display a sign clearly showing licence number (if working in public areas, especially when releasing fauna to local creeks).

### 3.3 Aquatic Fauna capture

Management of aquatic fauna during dewatering will be directed by the Aquatic Ecologist. The general methods used for aquatic fauna capture will include but not be limited to:

- Check and augment measures to reduce aquatic fauna mortality during preparation works
- Trapping of native fauna. The use of floating traps to remove native turtles from the dams prior to dewatering, deployed by suitably experienced and licensed aquatic ecologist, if deemed appropriate (ie pre clearing surveys determine that turtles are likely to be present)
- Suitably qualified aquatic ecologists to enter the partially dewatered dam and search for remaining fauna
- The dewatering schedule will allow time for fish rescue, especially during the final 0.3– 0.5m water depth (to be advised by Aquatic Ecologist), and include regular checks of the hose inlet to prevent pump clogging from sediment (checking and clearing of sediment and aquatic debris from the mesh inlet to ensure proper pump function)
- Fish will be collected by hand nets during the final day of dewatering. This is most effective when the water is less than 0.3 metres deep. Larger fish will be targeted first due to the rapid decrease of dissolved oxygen concentration as the water volume decreases.
- Native animals will be transferred to aerated holding containers (fish) or where possible transferred directly to the release area (reptiles/amphibians). It is preferable that frogs captured are released at night to disadvantage predators, however if this is not feasible they should be released into dense pool/pond side vegetation. The holding tanks will be kept shaded to prevent harmful increases in temperature. Care will be taken as to not overcrowd water containers to limit the spread of diseases and predation. Frogs will be captured in aerated plastic bags (used as a glove) and kept as one per bag for release. Reptiles will be captured using gloves and placed in a plastic tub for transport.
- In the mornings proceeding a day of de-watering the attending aquatic ecologist will undertake a search of terrestrial areas surrounding the dam for fauna attempting to self-relocate including turtles and eels. Recovered fauna will be relocated to release locations.

As the water level drops, the dam wall would be partially and progressively removed and stabilised to prevent refilling. A ramp would be graded as the wall is removed to allow any fauna in the bottom sediment to escape. This ramp would be left in place for two nights, with the sediment fence surrounding the dam to prevent fauna escaping into unsuitable habitat and risking injury or death.

### 3.4 Aquatic fauna translocation

#### 3.4.1 Native fish

The following methods should be applied during translocation of native fish:

- Native fish are to be transported in aerated containers of dam water to the release location.
- The number of fish per container should be managed to avoid depletion of water oxygen levels and fish should aim to be released within 30 minutes of capture.
- Fish should not be stored in containers for long periods of time due to fluctuations in water temperatures due to differing ambient temperatures.
- Containers should be carefully transported between the dam and the receiving locations.

- Prior to releasing fish at release locations, water from release location should be added to the holding container to allow some acclimatisation. Following this, the containers should be submerged, opened and allowed to remain in the water until fish self-relocate to their new environment. Native fish should not be swiftly poured out of holding containers at the receiving site.

#### **3.4.2 Native eels**

The following methods should be applied during translocation of native eels:

- Eels should be stored separately from fish in containers of dam water.
- If large numbers of eels are captured during de-watering activities, they should be spread across several release locations to avoid increases in predation pressures at a single release location.
- Eels can be readily removed from holding containers and released at receiving locations

#### **3.4.3 Native frogs**

The following methods should be applied during translocation of native frogs:

- Frogs should be transported as individuals in aerated plastic bags between the dam and the recipient site
- Frogs will be released into dense aquatic and pond side vegetation to provide shelter against predators.
- Release will also preferably be undertaken after sunset.

#### **3.4.4 Native turtles**

The following methods should be applied during translocation of native turtles:

- Turtles should be transported in dry containers from the dam to the release location
- Turtles should be released at the water's edge at the release locations

During dewatering a number tally of aquatic/semi-aquatic fauna captured and relocated will be recorded including species identification, health of individual upon release and the name of present Aquatic Ecologist. Any deaths to native fauna during dewatering or translocation should also be recorded. The results of de-watering should be presented in a dam dewatering report following completion.

### **3.5 Methods to prevent injury to native aquatic fauna**

The Aquatic Ecologist should be present during all de-watering activities. Where large amounts of fauna are being recovered more than one ecologist may be required to ensure fauna are being correctly processed and released within appropriate time frames. A number of methods which should be applied to prevent injury to fauna during de-watering include:

- The use of gloves to limit the spread of disease.
- Working slowly and methodically through the waterway to limit trampling of aquatic fauna.
- Waders and suitable flotation devices (foam surfboards) should be used to increase manageability within the dam to efficiently recover fauna to prevent exposure or predation.
- Limit holding time in aerated containers to half an hour.



- One frog per bag to minimise disease spread and possible toxin impact of one species on another.
- Continually monitor holding containers for sign of deterioration of health of aquatic fauna.
- Shading of holding containers.
- By having a release point nearby to minimise transportation time and stress to aquatic fauna.
- The water will be released slowly and in a controlled manner to allow recovery of aquatic fauna, specifically fish, before the water level become too low.
- A mesh guard will be secured at the pump intake to limit aquatic fauna being sucked into the pump.

### 3.6 Management of pest species and pathogens

Non-native species such as Plague Minnow (*Gambusia holbrooki*) and Goldfish (*Carassius auratus*) may occupy the dam to be dewatered. These species cannot be released into waterways and will be euthanized, by the Aquatic Ecologist, who has been trained in humane methods for all aquatic non-native species.

To minimise the potential spread of pathogens, all personnel undertaking in-water work will ensure that decontamination processes are followed in accordance with relevant guidelines. Equipment that comes in contact with dam water or potentially contaminated sediments, such as boots and vehicle tyres, will be cleaned with an appropriate cleaning solution and/or disinfectant. Disposable gloves will be worn when handling aquatic flora and fauna and will be changed between water bodies.

Equipment, boots and vehicles will need to be cleaned between the dam to be dewatered and the receiving dam. Records of all animals that are euthanised, and records of cleaning procedures will be kept and made available to the Environmental Representative. Further information on basic hygiene protocols to prevent the spread of disease and weeds in NSW can be found in DPIE (2020)<sup>1</sup>.



*Gambusia holbrooki* (source DPI [website](#))

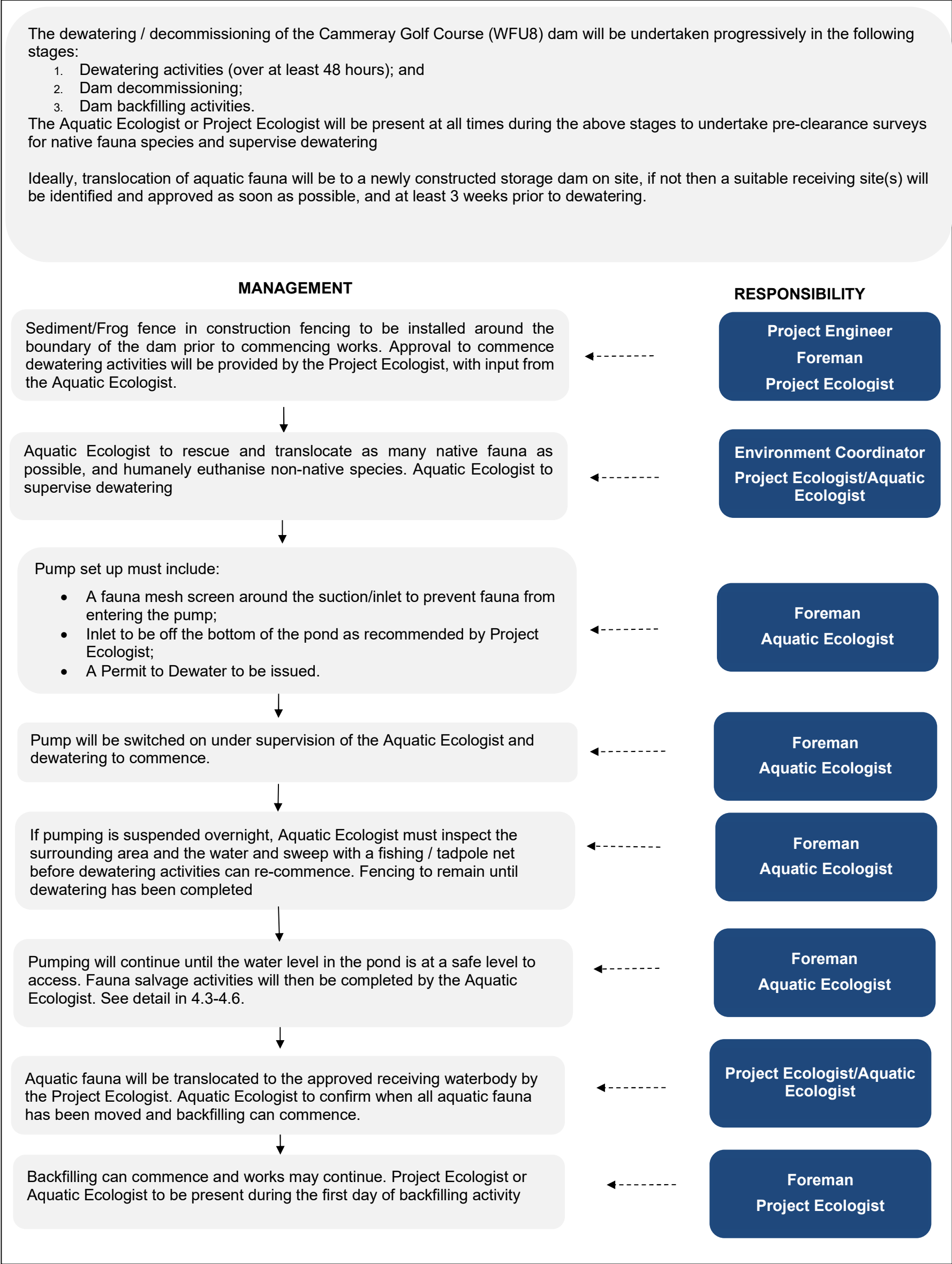


*Carassius auratus* (source DPI [website](#))

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<sup>1</sup> DPIE (2020) *Save Our Species: Hygiene Guidelines – Protocols to Protect Priority Biodiversity Areas in NSW from Phytophthora cinnamomic, Myrtle Rust, Amphibian Chytrid Fungus and Invasive Plants*. NSW Department of Planning Industry and Environment, Sydney.

3.7 Dam Dewatering Methods – Summary





### **3.8 Records**

Records of relevant data, including records of species captured and relocated during the dewatering process will be maintained including:

- Date and time of fauna capture
- Species captured
- Location of release for each species
- Date and time of release
- Details of personnel carrying out fauna capture and release and their qualifications and licenses to carry out the work
- Details of exotic fauna euthanised will also be kept

## **4 Receiving site assessment**

### **4.1 New storage dam**

If a new storage dam is built in within the Cammeray Golf Course, then native aquatic fauna may be able to be translocated to this new dam, provided that water quality and aquatic vegetation is similar to the original dam site, so that aquatic fauna can adapt. This has several advantages to finding alternative sites:

- No established aquatic fauna competition or predation
- No risk of disease transfer, since the population of aquatic fauna will be just that from the old dam

Prior to translocation of aquatic fauna, the Aquatic Ecologist should be satisfied that habitat and water quality are suitable for the species to be translocated.

### **4.2 Alternative Receiving Sites**

The following is a brief summary of a desktop assessment of potential receiving sites, however a detailed inspection of these areas will be required as part of the process of securing a receiving site. It should also be noted that no approvals from landholders for receiving of aquatic fauna into these locations have been sought or provided. This would need to be a key part of securing a suitable site and would require TfNSW assistance.

#### 4.2.1 Potential relocation site 1: Willoughby Creek – adjacent Primrose Park, Denos Lane, Cammeray



Figure 2: Willoughby Creek proximity to Cammeray Golf Course (Imagery sourced Nearmap August 2021)

Willoughby Creek is part of the Flat Rock Creek Catchment, and any translocated fauna would have access to other waterways within this catchment. Given that the aquatic fauna are coming from a closed, dam environment, to a flowing creek, there is the risk to aquatic fauna within Willoughby Creek of disease transmission, and equally there is a risk to translocated fauna in adjusting to the changed hydrological conditions that a creek would require.

The positives to relocating to this area is the proximity the Cammeray Golf Course Dam, which may mean that both suites of species have been exposed to similar environmental conditions and may have similar disease risks. This location is a possible, but other dams should be considered before this option is explored further.



#### 4.2.2 Site 2: Dam at Northbridge Golf Course – Roche Lane, Northbridge – adjacent Primrose Park, Denos Lane, Cammeray



Figure 3: Location of Northbridge Golf Course dam and proximity to Cammeray Golf Course (Imagery sourced Nearmap August 2021)

This location is within 3 km of the dam at Cammeray Golf Course and has a similar appearance. It is also a closed, dam system, rather than a creek. While aquatic fauna from this area may occasionally get into the catchment during heavy rain events, in general, it would be a closed system, similar to the Cammeray Golf Course dam. If the fauna assemblage was similar, and the project team can obtain approval, this would be a good location for translocation.

#### 4.2.3 Alternative locations

If the above locations are unsuitable, the Project Ecologist, in consultation with TfNSW will evaluate other locations that may provide suitable aquatic fauna habitat and be available as receiving sites. There are over 100 Golf Courses within the Greater Sydney region, many of which have dams or similar, potentially suitable receiving areas. A preliminary investigation suggests that the following Golf Courses may have suitable habitat. This would be subject to approval by the landholders and/or managers of these locations:

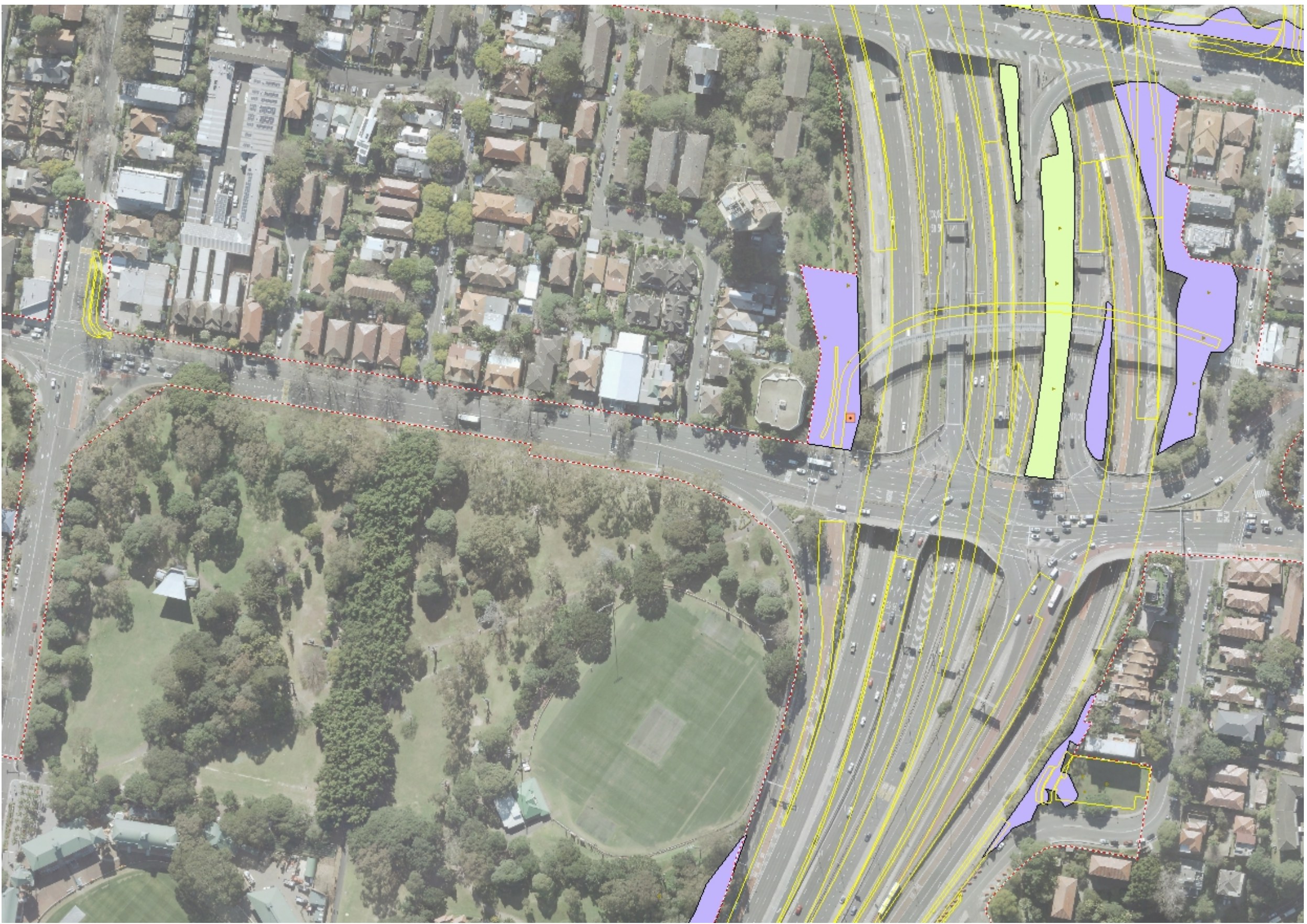
- Chatswood Golf Course (Chatswood/Lane Cove North)

- Moore Park Golf Course (Moore Park/Kensington)
- Wakehurst Golf Course (Seaforth/Balgowlah)

Further investigation of alternative dams or other waterways may be required, depending on the outcomes. A suitable receiving site must be secured prior to commencing dewatering and decommissioning of the current dam at Cammeray Golf Course.

# Appendix E – Contractor Clearing Plans





Legend

- X\_WFU\_JAJ\_M2D\_RW\_00\_DESIGN\_ROAD\_ATTACHMENT\_ULTIMATE\_dwg\_Polyline
- X\_WFU\_JAJ\_M2D\_GT\_00\_0006\_E\_SI\_CLASSIFICATION\_dwg\_Polyline
- Construction footprint
- ThreatenedFloraSpeciesNov17\_01112017
- ThreatenedFloraSpeciesMar18\_18032019
- ThreatenedFaunaSpecies12082020
- ExclusionZoneForVegetation
- PlantCommunityTypes21062020
  - Exotic Plantings
  - Native Plantings
  - PCT 1778 / BVT ME65 - Coastal Sandstone Foreshores Forest
  - Planted Median
  - Urban Exotic/Native

WFU - CPB - DRG - DWG - LOT No. - DRG No. - REV						
Ref. No.	Completion rec.	Work package	Description	Designed	Verified	Approved
Ref. No.	Comp. rec.	Package	not provided	dd/mm/yy	dd/mm/yy	dd/mm/yy
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Coordinate System: GDA 1994 MGA Zone 56 - Height Datum: AHD						
This map is a user generated static output from CPB Contractors Web GIS Viewer and is for reference only.						
Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.						
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Date Printed: 30-Sep-2021



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Dwg check by:	not provided
Des check by:	not provided
Approved by:	not provided


Warringah Freeway Upgrade Contractor Clearing Plan - Falcon Street Section

FILE No:	n/a
SHEET No:	n/a
STATUS:	verified
DRG No:	DRG No.
EDMS No:	n/a





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	ThreatenedFloraSpeciesNov17_01112017
	ThreatenedFloraSpeciesMar18_18032019
	ThreatenedFaunaSpecies12082020
	ExclusionZoneForVegetation
PlantCommunityTypes21062020	
	Exotic Plantings
	Native Plantings
	PCT 1778 / BVT ME65 - Coastal Sandstone Foreshores Forest
	Planted Median
	Urban Exotic/Native

WFU - CPB - DRG - DWG - LOT No. - DRG No. - REV						
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Approved by:	not provided

Warringah Freeway Upgrade Contractor Clearing Plan - WFU1, WFU2, WFU3 & WFU4	
FILE No:	n/a
SHEET No:	n/a
STATUS:	verified
DRG No:	DRG No.
EDMS No:	n/a





- Legend
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  - Construction footprint
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WFU - CPB - DRG - DWG - LOT No. - DRG No. - REV						
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Ref No.	Comp. rec.	Package	not provided	dd/mm/yy	dd/mm/yy	dd/mm/yy
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Dwg check by:	not provided
Des check by:	not provided
Approved by:	not provided

Warringah Freeway Upgrade Contractor Clearing Plan - WFU5	
FILE No:	n/a
SHEET No:	n/a
STATUS:	verified
DRG No:	DRG No.
EDMS No:	n/a





Legend

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- X\_WFU\_JAJ\_M2D\_GT\_00\_0006\_E\_SI\_CLASSIFICATION\_dwg\_Polyline
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WFU - CPB - DRG - DWG - LOT No. - DRG No. - REV						
Ref. No.	Completion rec.	Work package	Description	Designed	Verified	Approved
Ref No.	Comp. rec.	Package	not provided	dd/mm/yy	dd/mm/yy	dd/mm/yy
Scale 1: 1,647						
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Coordinate System: GDA 1994 MGA Zone 56 - Height Datum: AHD						
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Date Printed: 30-Sep-2021



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Des check by:	not provided
Approved by:	not provided

Warringah Freeway Upgrade Contractor Clearing Plan - WFU6 & WFU7

FILE No:	n/a
SHEET No:	n/a
STATUS:	verified
DRG No:	DRG No.
EDMS No:	n/a







# Appendix F – Records of Consultation

# **CoA A5 Consultation Report Flora and Fauna Sub-Plan**

Western Harbour Tunnel and Warringah  
Freeway Upgrade  
SSI-8863

Stage 2 – Warringah Freeway Upgrade

**Transport for New South Wales**

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# **CoA A5 Consultation Summary Report – Flora and fauna Sub-Plan**

Transport for NSW

Western Harbour Tunnel and Warringah  
Freeway Upgrade  
SSI-8863

Stage 2 – Warringah Freeway Upgrade

November 2021

Rev 0

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## Document control

<b>Title</b>	Consultation Report – Flora and fauna Sub-Plan
<b>Document No./Ref</b>	WHTBLWFU-CPBD-NWW-EO-PLN-000004

## Version control

<b>Revision</b>	<b>Date</b>	<b>Description</b>	<b>Approval</b>
A	8/11/21	Consultation undertaken on FFMP	
B	11/11/21	ER review comments	
0	16/11/21	Endorsed by ER and submission to DPI&E	

## Glossary/Abbreviations

Abbreviation	Expanded text
CEMP	Construction Environmental Management Plan
CoA	NSW Minister for Planning Conditions of Approval
CSSI	Critical State Significant Infrastructure
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
Minister, the	NSW Minister for Planning, Industry and Environment
NML	Noise Management Level
Planning Approval	The Planning Approval includes the Conditions of Approval, the EIS and the Submissions and Preferred Infrastructure Report (SSI-8863)
Proponent, the	Transport for NSW
Project, the	Western Harbour Tunnel and Warringah Freeway Upgrade
RBL	Rating Background Level
REMM	Revised Environmental Mitigation and Management Measure
RtS	Response to Submissions Report
WHTBL	Western Harbour Tunnel and Beaches Link
WHTWFU	Western Harbour Tunnel and Warringah Freeway Upgrade
WFU	Warringah Freeway Upgrade

# 1 Introduction

## 1.1 Background

The Western Harbour Tunnel and Warringah Freeway Upgrade (WHTWU) (the project) forms a core component of the broader Western Harbour Tunnel and Beaches Link (WHTBL) program of works. The project comprises two main components:

- A new crossing of Sydney Harbour involving twin tolled motorway tunnels connecting the M4-M5 Link at Rozelle and the Warringah Freeway at North Sydney (the Western Harbour Tunnel)
- Upgrade and integration works along the existing Warringah Freeway, including infrastructure required for connections to the Beaches Link and Gore Hill Freeway Connection project. Reconfiguration works as part of the Warringah Freeway Upgrade would optimise the road corridor and improve the performance of the Sydney Harbour Tunnel, the Sydney Harbour Bridge and the Western Harbour Tunnel.

Due to its importance, the WHTWU project was declared to be Critical State Significant Infrastructure (CSSI) by the Minister for Planning and Public Space on 9 November 2020.

On 21 January 2021, the Department of Planning, Industry and Environment (DPIE) approved the construction and operation of the WHTWU project (SSI 8863).

A detailed description of the project is provided in Chapter 5 of the Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (EIS).

The WHTWU project will be delivered in numerous stages:

- Stage 1 - Early and enabling works:
  - Stage 1A - Critical utility installation, relocation and protection (CUT) (the subject of this Construction Environmental Management Plan (CEMP))
  - Stage 1B - Cammeray Golf Course adjustment works (CGC)
- Stage 2 - Warringah Freeway Upgrade project:
- Stage 3 - Western Harbour Tunnel project (WHT).

Further detail on each stage is provided in the WHTWU project Staging Report.

The Flora and fauna Sub-Plan applies only to Stage 2 of the project. CPB Downer JV has been appointed by Transport for New South Wales (TfNSW) to deliver the Warringah Freeway Upgrade project.

## 1.2 Purpose of this Consultation Report

This Consultation Report has been prepared to meet the requirements of the CSSI approval, in particular Condition of Approval (CoA) A5. CoA A5 outlines the requirements for undertaking and documenting consultation undertaken during the preparation of approval documents or monitoring programs required under relevant the CoA for those documents. This Consultation Report has been prepared to consolidate the consultation undertaken during the preparation of the following document:

- CoA C4(c): Flora and fauna Sub-plan

Consultation required during the development of this document is detailed in Table 1-1.

*Table 1-1 Consultation Requirements*

CoA ID	Document	Consultation requirement
C4(c)	Flora and fauna Sub-plan	DPI Fisheries, DPIE Water, EESG and relevant Council(s)

## 1.3 CoA Compliance

This section discusses the compliance of this Consultation Report with the relevant CoA as applicable to consultation required to be undertaken during the development of the FFMP.

Table 1-2 lists the applicable CoA, where and how they have been addressed in this Consultation Report.

*Table 1-2 Compliance with applicable CoA*

CoA ID	CoA Detail	Where Addressed	How Addressed
A5	Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include:	This Consultation Report.	This consultation report identifies each of the stakeholders and agencies consulted in the preparation of this plan (Section 1.2).  Full correspondence and documentation exchanged during consultation is found the Appendix 1 to Appendix 5 inclusive.
A5	(a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;	This Consultation Report.	Full correspondence and documentation exchanged during consultation is found the Appendix 1 to Appendix 5 inclusive.  Each appendix relates to a different stakeholder and agency, thereby ensuring all evidence for each is consolidated in a single appendix. All correspondence is provided in a chronological order.

A5	(b) a log of the dates of engagement or attempted engagement with the identified party;	Section 2 of this Report.	<p>Section 2 includes, by stakeholder and agency, a log of all points of engagement completed or attempted.</p> <p>It also summarises the issues raised by each stakeholder.</p>
A5	(c) documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations;	Section 2 of this Report.	<p>Section 2 includes, by stakeholder and agency, a log of all points of engagement completed or attempted.</p>
A5	(d) outline of the issues raised by the identified party and how they have been addressed; and	Section 2 of this Report and Appendix 1 to Appendix 5 inclusive.	<p>Section 2 identifies all the issues raised during consultation. It provides in tabular format:</p> <ul style="list-style-type: none"> <li>• Issue raised;</li> <li>• Date raised;</li> <li>• How it was addressed or justification as to why it wasn't addressed;</li> </ul> <p>Section 2 then provides cross- referencing to the relevant Appendix identifying where evidence of the above is documented in full within this Report.</p> <p><i>Note: Section 2 is broken down into each Stakeholder consulted with, and each has their own table addressing the above.</i></p>
A5	(e) a description of the outstanding issues raised by the identified party and the reasons why they have not been addressed.	Section 2 of this Report and Appendix 1 to Appendix 5 inclusive.	<p>Section 2 identifies all the issues raised during consultation. It provides in tabular format:</p> <ul style="list-style-type: none"> <li>• Issue raised;</li> <li>• Date raised;</li> <li>• How it was addressed or justification as to why it wasn't addressed.</li> </ul> <p><i>Note: Section 2 is broken down into each Stakeholder consulted with, and each has their own table addressing the above.</i></p>

C4	The following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by Condition A5.	This Report	This Report has been prepared to address the consultation undertaken during the development of the FFMP.
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#### 1.4 Consultation Process

Consultation with stakeholders and agencies was undertaken using the following means:

- Formal correspondence (DPIE Portal notifications)
- Formal correspondence (standard email)
- Phone Calls.

## 2 Stakeholder and agency consultation

This Section of the Consultation Report provides detail of consultation undertaken with each stakeholder and agency in the preparation of the CEMP. In particular it contains:

A consultation log that identifies:

- Consultation dates (actual and attempted)
- Form of consultation
- Whether responses and / or comments were received
- Summary of the issues raised, including how they have been addressed

Documentary evidence of all the correspondence received and sent through the consultation phase is contained in the Appendices at the end of this Report. The Appendices and this Section are broken down by stakeholder and agency, not by issue.

### 2.1 FFMP – North Sydney Council

Consultation with North Sydney Council (NSC) commenced on 5 October 2021 and concluded 28 October 2021.

Table 2-1 below includes the details of engagement between CPB Downer JV and NSC regarding the FFMP. Table 2-2 includes a summary of the issues raised, how those were addressed and closed out. Full evidence of correspondence is in Appendix 1 of this report.

*Table 2-1 Engagement log – FFMP – North Sydney Council*

#	Date	Correspondence		From	Recipient
		Form / Type	Purpose		
1	5/10/2021	email	Provision of draft NVMP to NSC for review	H.Chemney	G.McConnell
2	14/10/2021	email	Reminder to NSC of timeframes for review comments and offer of live review / page turn of document	H.Chemney	G.McConnell
3	28/10/2021	email	Response from NSC to CPB Downer JV confirming no comments to be provided.	G.McConnell	H.Chemney

Table 2-2 below summarises the consultation comments received from NSC on the FFMP.

*Table 2-2 Summary of issues – FFMP – North Sydney Council*

Document Section, CoA or REMM	Comment Raised	Date Raised	How Addressed / Justification Why Not Addressed
N/A	N/A	N/A	N/A

## 2.2 FFMP – Willoughby Council

Consultation with Willoughby Council commenced on 5 October 2021 and concluded 27 October 2021.

Table 2-3 below includes the details of engagement between CPB Downer JV and Willoughby Council regarding the FFMP. Table 2-4 includes a summary of the issues raised, how those were addressed and closed out. Full evidence of correspondence is in Appendix 2 of this report.

*Table 2-3 Engagement log – FFMP – Willoughby Council*

#	Date	Correspondence		From	Recipient
		Form / Type	Purpose		
1	5/10/2021	email	Provision of draft FFMP to Willoughby Council for review	H.Chemney	A.Gillies, C.Binns, G.Farrelly
2	6/10/2021	email	Response from Willoughby Council confirming receipt of plans	A.Gillies	H.Chemney
3	27/10/2021	email	Comments received from Willoughby Council	A.Gillies	H.Chemney

Table 2-4 below summarises the consultation comments received from Willoughby Council on the FFMP.

*Table 2-4 Summary of issues – FFMP – Willoughby Council*

Document Section, CoA or REMM	Comment Raised	Date Raised	How Addressed / Justification Why Not Addressed
Sections 3.1, 5.1.5 and 6.1	Council has not reviewed this Sub-Plan in detail. Given the works will take place within the North Sydney LGA, there would seem to be negligible impacts on flora and fauna within the Willoughby LGA. However, it is noted that Willoughby Creek and Flat Rock Creek have been mentioned in the Sub-Plan. Although these creeks are located some distance from the existing Freeway and proposed project footprint, the project team should contact Council to discuss any requirements and appropriate environmental management measures, should direct or indirect impacts be identified in future that have not already been identified and addressed in this Sub-Plan.	27/10/2021	Additional text added to section 4 to confirm that further consultation will be undertaken with relevant parties if/where additional impacts are identified.



### 2.3 FFMP – DPI Fisheries

Consultation with DPI Fisheries commenced on 1 October 2021 and concluded 25 October 2021.

Table 2-5 below includes the details of engagement between CPB Downer JV and DPI Fisheries regarding the FFMP. Table 2-6 includes a summary of the issues raised, how those were addressed and closed out. Full evidence of correspondence is in Appendix 3 of this report.

*Table 2-5 Engagement log – FFMP – DPI Fisheries*

#	Date	Correspondence		From	Recipient
		Form / Type	Purpose		
1	1/10/2021	email	Provision of draft FFMP to DPI Fisheries for review	H.Chemney	S.Conacher, S.Carter
2	25/10/2021	email	Provision of correspondence from DPI Fisheries via DPIE Portal that they have no comments.	R.Owens	H.Chemney

Table 2-6 below summarises the consultation comments received from DPI Fisheries on the FFMP.

*Table 2-6 Summary of issues – FFMP – DPI Fisheries*

Document Section, CoA or REMM	Comment Raised	Date Raised	How Addressed / Justification Why Not Addressed
N/A	N/A	N/A	N/A

### 2.4 FFMP – DPIE Water / NRAR

Consultation with DPIE Water and NRAR commenced on 1 October 2021 and concluded 8 November 2021.

Table 2-7 below includes the details of engagement between CPB Downer JV and DPIE Water / NRAR regarding the FFMP. Table 2-8 includes a summary of the issues raised, how those were addressed and closed out. Full evidence of correspondence is in Appendix 4 of this report.

*Table 2-7 Engagement log – FFMP – DPIE Water / NRAR*

#	Date	Correspondence		From	Recipient
		Form / Type	Purpose		
1	1/10/2021	email	Provision of draft FFMP to DPIE Water for review	H.Chemney	L.Sawyer

2	7/10/2021	email	Provision of draft FFMP to NRAR for review	H.Chemney	L.Mclver
3	14/10/2021	email	Reminder emails to DPIE Water and NRAR to confirm review timeframes.	H.Chemney	L.Sawyer, L.Mclver
4	16/10/2021	email	Response from DPIE/NRAR noting that they could not commit to the nominated timeframe for review of SWMP (no response in relation to timeframes for FFMP)	L.Mclver	H.Chemney
5	8/11/2021	DPIE Portal	Response from NRAR noting that they have no comments on the FFMP	Jane Curran	R.Owens

Table 2-8 below summarises the consultation comments received from DPIE Water / NRAR on the FFMP.

*Table 2-8 Summary of issues – FFMP – DPIE Water / NRAR*

Document Section, CoA or REMM	Comment Raised	Date Raised	How Addressed / Justification Why Not Addressed
N/A	N/A	N/A	N/A

## 2.5 FFMP – EESG

Consultation with EESG commenced on 1 October 2021 and concluded 18 October 2021.

Table 2-9 below includes the details of engagement between CPB Downer JV and EESG regarding the FFMP. Table 2-10 includes a summary of the issues raised, how those were addressed and closed out. Full evidence of correspondence is in Appendix 5 of this report.

*Table 2-9 Engagement log – FFMP – EESG*

#	Date	Correspondence		From	Recipient
		Form / Type	Purpose		
1	1/10/2021	email	Provision of draft FFMP to EESG for review	H.Chemney	J.Grose, S.Harrison
2	14/10/2021	Email	Reminder email of timeframes for review	H.Chemney	J.Grose, S.Harrison
3	18/10/2021	Email	Response received from EESG	J.Grose	H.Chemney

Table 2-10 below summarises the consultation comments received from NSW EESG on the FFMP.

*Table 2-10 Summary of issues – FFMP – NSW EESG*

Document Section, CoA or REMM	Comment Raised	Date Raised	How Addressed / Justification Why Not Addressed
Section 5.1.3	Section 5.1.3 of the FFMP lists 'vegetated habitats' as fauna habitat but it is not clear if the project will impact any buildings or structures. The FFMP needs to clarify this and whether the proposed works are likely to impact the vulnerable Eastern Bentwing-Bat, Eastern Freetail-bat, Little Bentwing-Bat and Southern Myotis and their habitat (ie any vegetation to be cleared and any buildings or structures to be demolished or refurbished).	18/10/2021	The EIS determined that no breeding habitat for the Eastern Bentwing-bat or Little Bentwing-bat was identified within the project area. Roost habitat may occur within bridges to be demolished. Updates to wording in Sections 5.1.3 and 7.3 have been made to clarify need for pre-clearance inspections of structures.
Condition C6(e)	The FFMP should clarify if any of the project works have the potential to impact microbats by noise, vibration, light impacts, demolition or refurbishment of buildings/structures etc. If so, separate procedures relevant to mitigation of potential impacts on microbats need to be included. It is unclear if this is applicable to the project and the FFMP should address this.	18/10/2021	As above, only roost habitat has been identified to potentially be present within the project area. Measures to address C6(e) are described in Section 7.3 and Appendix A. Additional line item has been added to Appendix A2 to clarify.
Condition E184	EES previously sought greater certainty on the total number of trees to be removed by the project and advised in its submission on the RtS that this detail is required so as to address EMM B4 which requires among other things that "trees removed by the project will be replaced at a ratio greater	18/10/2021	The project will comply with CoA E184 as stated in Table 3-1. Text has been added to Table 3-2 against EMM B4 that the ratio will be 2:1 in accordance with CoA E184.

	<p>than 1:1". EES notes that EMM B4 is not consistent with Condition of approval E184 which requires that replacement trees and plantings must be provided at a ratio of 2:1 (see Tables 3.1 and 3.2). Table 3.1 of the FFMP indicates details regarding this will be provided in the Landscape Strategy Report. It is important that FFMP clarifies the replacement ratio so there is no confusion and a note is included in the FFMP for EMM B4 that the replacement ratio is 2:1 in accordance with condition E184.</p>		
Section 7.9	<p>The number of trees to be removed needs to be documented in order to determine the number of tree replacements. Section 7.9 of the FFMP indicates that a tree register will be maintained to record the fate of the trees within and adjacent to the project area and that the tree register will inform the Landscape Strategy Report at the completion of construction. EES recommends Section 7.9 is amended to outline that the tree register will keep the following records of the trees to be removed :</p> <ul style="list-style-type: none"> <li>• the number of trees removed</li> <li>• tree species</li> <li>• identifies whether the trees are local natives / non-local natives/ exotic/ invasive.</li> </ul>	18/10/2021	Section 7.9 updated.
Section 7.3	<p>EES recommends Section 7.3 is amended to include:</p> <ul style="list-style-type: none"> <li>• The ecologist undertaking the pre-clearing surveys will identify, map and clearly delineate all hollow bearing trees and other fauna habitat features and inspect</li> </ul>	18/10/2021	<p>The pre-clearing and clearing process is described in Appendix A. The additional controls requested by EES are also generally addressed in Appendix A. Only one potential hollow-bearing tree was identified during the EIS within the</p>

	<p>the fauna habitat (including native and exotic trees, other vegetation, hollow bearing trees, nests, dreys, hollow bearing logs, rocky habitat boulders, crevices and ledges) for the presence of threatened and non-threatened native fauna for relocation prior to clearing.</p> <ul style="list-style-type: none"> <li>• The ecologist /arborist will endeavour to individually remove, salvage and relocate sections of a tree containing a hollow or habitat prior to clearing and felling the tree to an appropriate location on the same day the hollows are removed and prior to the release of any native fauna found using the tree hollows.</li> <li>• Where hollow dependent native fauna are found using existing hollows, compensatory tree hollows should be provided prior to removing the tree hollow and prior to the release of the hollow dependent fauna unless the removed tree hollows can be relocated and installed on the same day they are removed.</li> <li>• Native fauna potentially impacted by the removal of trees and other habitat will be relocated prior to clearing to an appropriate nearby location and in a sensitive manner under the supervision of a qualified ecologist/licensed wildlife handler.</li> </ul>		<p>project area and no hollow entrances were visible from the ground. Pre-clearing surveys will be undertaken to identify any potential habitat and Ecologists/animal handlers will monitor any clearing works where potential habitat is identified. This is described in Section 8.2 and Appendix A.</p>
Section 7.4	<p>Section 7.4 notes there is potential to come across unexpected threatened flora and fauna within and adjacent to the construction footprint during the project works and that a record of the unexpected finds would be maintained by the contractor. The recorded details should include the flora or fauna threatened species found.</p> <p>It is also suggested that a record of non-threatened</p>	18/10/2021	Text in Section 7.4 updated.

	fauna species found is recorded		
Section 7.5	<p>Section 7.5 of the FFMP states “Trees removed during construction will be replaced at a ratio equal to or greater than 1:1. Endemic species will be chosen for planting where available”. This ratio needs to be amended to be consistent with Condition of approval E184 which requires that “replacement trees and plantings must be provided at a ratio of 2:1 (see Table 3.1 in the FFMP).</p> <p>It is unclear why local native provenance species from the vegetation community that once occurred in the locality would not be available for planting. The SSI should currently be propagating, and/or sourcing local native tree species so they are available for planting. The FFMP should outline this.</p>	18/10/2021	Ratio amended in Section 7.5. Section 7.5 also updated to state that endemic species will be prioritised where available. Revegetation will occur progressively throughout the construction phase and availability of endemic species cannot be guaranteed at this time for all construction stages.
Section 7.8	<p>Condition E48 requires that within 3 months of the removal of any native trees, the proponent will consult with local community restoration/rehabilitation groups, Landcare groups, relevant councils, DPI Fisheries and any relevant public authorities to determine if there is an interest in the reuse of suitable timber and root balls for habitat enhancement and rehabilitation work (see Table 3.1 in FFMP). EES suggests that the proponent consults with local community restoration/rehabilitation groups etc prior to removing the trees to allow these groups time to identify projects where this habitat</p>	18/10/2021	Wording updated to state this will be done as early as possible in order to provide the greatest time for these groups to consider reuse options.

	can be used and to organise its collection.		
Section 7.10	Section 7.10 states “a Landscape Strategy Report will be prepared which details the type, size, number and location of replacement trees and demonstrates how any replacement plantings are consistent with the requirements of MCoA E184 - E187”. It is recommended Section 7.10 also outlines that the Landscape Strategy Report will also be prepared in accordance with EMM B4 and that the replacement trees will consist of local native provenance species from the vegetation community that once occurred in the locality (rather than plant exotic or non-local native trees) and to ensure that local native provenance species are available for planting that the proponent is currently propagating and/or sourcing local native tree species.	18/10/2021	Section 7.10 updated
Table 7.1 MMFF01	Mitigation measure MMFF01 indicates training of relevant personnel on flora and fauna requirements will be implemented prior to construction. It is recommended the training of relevant personnel on flora and fauna requirements is implemented prior to any clearing or demolition of human built structures.	18/10/2021	Agreed. The timing for this measure is prior to construction, however project inductions will be a requirement for all staff prior to undertaking any works on site (including clearing or demolition).
Table 7.1 MMFF01	Mitigation measure MMFF01 indicates an appropriately qualified and experienced ecologist will be appointed to assist in the implementation of this FFMP and this will be implemented prior to construction. It is recommended the ecologist is appointed prior to any	18/10/2021	This comment relates to FF02. An ecologist will need to be appointed prior to any clearing or demolition due to the need for pre-clearance inspections in accordance with the requirements of the FFMP. Timing has been updated in the table.

	clearing or demolition of human built structures		
Table 7.1 MMFF05	Mitigation measure MMFF05 should be amended to also specify that the pre-clearing surveys by the project ecologist are to identify the location of any non-threatened fauna (i.e. not only threatened species).	18/10/2021	FF05 updated.
Appendix D	EES recommends details are included on the location of the proposed replacement storage dam in the north western part of the golf course including the distance between the existing dam and the replacement dam. It is suggested Figure 1 in the DDP is amended to show the proposed location of the onsite replacement dam. Depending on the distance between the existing and proposed new dam on the golf course, the native fauna found in the existing dam and the weather conditions at the time of dewatering (i.e. if the weather is hot and dry) the first option is likely to also require translocation of native aquatic fauna to the replacement dam. It is recommended the first option in Section 3 of the DDP is amended to outline this.	18/10/2021	<p>The DDP provides details for the translocation of fauna in two different scenarios, the first option being direct translocation of fauna into the replacement dam (in the case that it is constructed) or to an alternate location if the replacement dam is not yet completed. Both scenarios require an ecologist to advise that the receiving environment is appropriate for the species and environmental conditions at the time. Therefore the methods described for fauna capture and translocation apply to both scenarios. This is identified in the introduction to Section 3 of the DDP and the following subsections apply to both scenarios.</p> <p>Construction of the replacement dam is outside the scope of works for CPB Downer JV and therefore the exact location of the dam is not known, however all measures stipulated in the plan will apply to all scenarios as discussed above.</p>
Appendix D	The second option indicates there is the potential that a replacement dam at the golf course may not be available by the time decommissioning of the current dam is required. Section 4.2 of the DDP notes a desktop assessment of other potential receiving sites has been undertaken but a	18/10/2021	Note.



	<p>detailed inspection of these areas will be required as part of the process of securing a receiving site. It also notes that “no approvals from landholders for receiving of aquatic fauna into these locations have been sought or provided”.</p>		
Appendix D	<p>If the first option of providing a replacement dam at the golf course is not possible prior to dewatering the existing dam it is important that inspections of alternative receiving sites are undertaken by a suitably qualified aquatic ecologist and that TfNSW obtains the necessary approval/agreement from land landholders to receive aquatic fauna at these locations. EES agrees with Section 4.2.3 of the DDP that a suitable receiving site must be secured prior to commencing dewatering and decommissioning of the current dam at Cammeray Golf Course.</p>	18/10/2021	Note.

# Appendix 1 North Sydney Council consultation records

## McKenzie, Jacqueline

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**From:** Chemney, Howard  
**Sent:** Thursday, 28 October 2021 2:36 PM  
**To:** McKenzie, Jacqueline  
**Subject:** FW: Flora and Fauna CEMP

FYI – will put in file

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**From:** Gavin McConnell <Gavin.McConnell@northsydney.nsw.gov.au>  
**Sent:** Thursday, 28 October 2021 12:21 PM  
**To:** Chemney, Howard <Howard.Chemney@pcplr.com.au>  
**Subject:** Flora and Fauna CEMP

**CAUTION:** This email originated from outside of the Organisation.

Howard,  
Please note that NSC has no comments to make re the Flora and Fauna CEMP.

Regards  
Gavin

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\*\*\*\*\*

## McKenzie, Jacqueline

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**From:** Chemney, Howard <Howard.Chemney@pcplr.com.au>  
**Sent:** Thursday, 14 October 2021 1:28 PM  
**To:** Gavin McConnell  
**Cc:** Rob Owens; Jacqueline McKenzie  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan consultation

[EXTERNAL] This email originated from outside of the Organisation.

Hi Gavin,

Just following up on the below.

Please let me know if Council have any queries during this review stage or require a live review / page turn on any of the documents submitted.

This is also a reminder that all comments must be received back by Tuesday 26<sup>th</sup> October.

Thanks

Howard  
0410 542 009

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**From:** Chemney, Howard  
**Sent:** Tuesday, 5 October 2021 5:04 PM  
**To:** Gavin McConnell <Gavin.McConnell@northsydney.nsw.gov.au>  
**Cc:** Rob Owens <Rob.Owens@transport.nsw.gov.au>; Jacqueline McKenzie <jacqueline.mckenzie@dswjv.com.au>  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan consultation

Hi Gavin,

Further to the below emails and apologies for not sending these last Friday as indicated - please find attached both the CEMP (Construction Environmental Management Plan) and the ASEMP (Ancillary Site Establishment Management Plan) for the Warringah Freeway Upgrade for Councils review.

In addition, please note the CEMP has a number of sub-plans relevant to this stage of the works identified as follows:

- Traffic, Transport & Access Management Sub-plan
- Noise & Vibration Management Sub-plan
- Flora & Fauna Management Sub-plan
- Air Quality and Odour Management Sub-plan
- Soil and Surface Water Management Sub-plan
- Heritage Management Sub-plan (which includes both indigenous and non-indigenous heritage)

I will send these on in separate emails / via drop box given size limitations.

As indicated below, the consultation period for all these plans is for 3 weeks and therefore all comments must now be received back by Tuesday 26<sup>th</sup> October. Comments received after this date may not be addressed in time and will be considered during future revisions. We are also happy to assist you in your review of the

document by undertaking a live review / page turn to discuss issues directly. Please contact me should you wish to take up this offer.

Many thanks

Howard

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**From:** Chemney, Howard

**Sent:** Tuesday, 28 September 2021 5:53 AM

**To:** Gavin McConnell <[Gavin.McConnell@northsydney.nsw.gov.au](mailto:Gavin.McConnell@northsydney.nsw.gov.au)>

**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>

**Subject:** Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan consultation

Hi Gavin,

Further to the below – it is also a requirement of Condition A17 of the Infrastructure Approval SSI 8863 that we consult with Council on the Ancillary Site Establishment Management Plan (ASEMP). This plan outlines the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facilities / construction support sites. A snippet of this condition is reproduced below:

#### **SITE ESTABLISHMENT WORK**

##### **Ancillary Site Establishment Management Plan**

**A17** Before establishment of any construction ancillary facility (excluding minor construction ancillary facilities determined by the **ER** to have minimal environmental impact and those established under **Condition A19**), the Proponent must prepare an **Ancillary Site Establishment Management Plan** which outlines the environmental management practices and procedures to be implemented for the establishment of the construction ancillary facilities. The **Ancillary Site Establishment Management Plan** must be prepared in consultation with the relevant council and government agencies. The Plan must be submitted to the Planning Secretary for approval one month before the establishment of any construction ancillary facilities. The **Ancillary Site Establishment Management Plan** must detail the management of the construction ancillary facilities and include:

- (a) a description of activities to be undertaken during establishment of the construction ancillary facility (including scheduling and duration of work to be undertaken at the site);
- (b) figures illustrating the proposed operational site layout and the location of the closest sensitive land user(s);
- (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 prior to the commencement of site establishment work;
- (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
- (e) a program for monitoring the performance outcomes, including a program for construction noise monitoring.

Nothing in this condition prevents the Proponent from preparing individual **Ancillary Site Establishment Management Plans** for each construction ancillary facility.

We will be sending over the ASEMP for consultation with Council this Friday 1<sup>st</sup> October.

As with the CEMP sub-plans, the consultation period is for 3 weeks and therefore all comments must be received back by Friday 22<sup>nd</sup> October. Comments received after this date may not be addressed in time and will be considered during future revisions. We are also happy to assist you in your review of the document by undertaking a live review / page turn to discuss issues directly. Please contact me should you wish to take up this offer.

Please note that TfNSW will also be issuing this plan formally for consultation via the DPIE Portal.

Thanks

## Howard Chemney

Environment & Sustainability Manager

### Warringah Freeway Upgrade

M 0410 542 009

E [Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)

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**From:** Chemney, Howard

**Sent:** Monday, 27 September 2021 6:20 PM

**To:** Gavin McConnell <[Gavin.McConnell@northsydney.nsw.gov.au](mailto:Gavin.McConnell@northsydney.nsw.gov.au)>

**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>

**Subject:** Warringah Freeway Upgrade - Construction Environmental Management Plan consultation

Hi Gavin,

This email is to advise you that CPB Downer JV will be sending over a number of sub-plans to the Warringah Freeway Upgrade Construction Environmental Management Plan (CEMP) for consultation with Council this Friday 1<sup>st</sup> October.

Our requirement to consult with Council on these plans is contained in Condition C4 of the Infrastructure Approval SSI 8863 as snipped below and included in the attachment.

**C4** The following **CEMP Sub-plans** must be prepared in consultation with the relevant government agencies identified for each **CEMP Sub-plan**. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant **CEMP Sub-plan**, including copies of all correspondence from those agencies as required by **Condition A5**.

	Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan
(a)	Traffic, transport and access	Relevant council(s)
(b)	Noise and vibration	NSW Health, relevant council(s)
(c)	Flora and Fauna	DPI Fisheries, DPIE Water, EESG, and relevant council(s)
(d)	Air quality and odour	NSW Health, and relevant council(s)

(e)	Soil and surface water	DPIE Water, EESG, EPA, Sydney Water (if Sydney Water's assets are affected) and relevant council(s)
(f)	Groundwater	DPIE Water, EESG, EPA, Sydney Water (where it is proposed to discharge groundwater into Sydney Water's assets) and relevant council(s)
(g)	Maritime Heritage	Heritage NSW and relevant council(s)
(h)	Non-Aboriginal Heritage	Heritage NSW and relevant council(s)
(i)	Aboriginal Cultural Heritage	Heritage NSW
(j)	Dredging and Disposal Management Plan	EPA, DPI Fisheries, Port Authority of NSW (including Harbour Master)

Specifically we are required to consult with Council on the following project relevant sub-plans:

- Traffic, Transport & Access Management Sub-plan
- Noise & Vibration Management Sub-plan
- Flora & Fauna Management Sub-plan
- Air Quality and Odour Management Sub-plan

- Soil and Surface Water Management Sub-plan
- Heritage Management Sub-plan (which includes both indigenous and non-indigenous heritage)

The consultation period is for 3 weeks and therefore all comments must be received back by Friday 22nd October. Comments received after this date may not be addressed in time and will be considered during future revisions.

To assist you in your review of the documents we are happy to undertake a live review / page turn to discuss issues directly. Please contact me should you wish to take up this offer.

Please note that TfNSW will also be issuing these plans formally for consultation via the DPIE Portal.

Thanks

## Howard Chemney

Environment & Sustainability Manager

**Warringah Freeway Upgrade**

M 0410 542 009

E [Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)

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## **Appendix 2 Willoughby Council consultation records**



27 October 2021

Howard Chemney  
CPB Downer Joint Venture  
[Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)  
Warringah Freeway Upgrade project

Dear Sir,

**RE: WARRINGAH FREEWAY UPGRADE – ANCILLARY SITE ESTABLISHMENT PLAN (ASEMP)  
AND CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP) SUB-PLANS –  
COMMENTS FROM WILLOUGHBY CITY COUNCIL**

Infrastructure Approval (Application no. SSI 8863) for the Western Harbour Tunnel (WHT) and Warringah Freeway Upgrade (WFU) project was granted by the Minister for Planning and Public Spaces on 21 January 2021. The WHT/WFU project is being constructed in three stages:

**Stage 1 – Early and Enabling Works:**

- **Stage 1A** – Critical utility installation, relocation and protection
- **Stage 1B** – Cammeray Golf Course adjustment works

**Stage 2 – Warringah Freeway Upgrade project**

- **Stage 2A** – Warringah Freeway Upgrade early works
- **Stage 2B** – Warringah Freeway Upgrade main works

**Stage 3 – Western Harbour Tunnel project**

Council understands that the CPB Downer Joint Venture has been selected by the NSW Government to deliver Stage 2 – the WFU project.

As part of the conditions of the Infrastructure Approval, the CPB Downer Joint Venture is required to consult with Council on a range of plans related to the WFU project. Accordingly, draft versions of the following documents were sent to Willoughby City Council (Council) via email on 5 October 2021 requesting comment:

1. **Ancillary Site Establishment Plan (ASEMP)**
2. **Construction Environmental Management Plan (CEMP) Sub-Plans:**
  1. Traffic, Transport & Access Management Sub-Plan
  2. Noise & Vibration Management Sub-Plan
  3. Flora & Fauna Management Sub-Plan
  4. Air Quality and Odour Management Sub-Plan
  5. Soil and Surface Water Management Sub-Plan
  6. Heritage Management Sub-Plan



Given the WFU project footprint and proposed construction works are located almost completely within the North Sydney Council local government area (LGA), the impacts on Willoughby City Council are likely to be minimal. However, Council has reviewed most of the Plans and provides the following comments to ensure that environmental, traffic and transport and other impacts are satisfactorily managed.

## 1. Ancillary Site Establishment Management Plan (ASEMP):

Reference no. **WHTBLWFU-CPBD-NWW-EV-PLN-000001-B**

Dated 1 October 2021

Given the size of the ASEMP and relatively short time in which to provide a response, Council staff have not had the opportunity to review this Plan in detail. However, following a recent meeting with the CPB Downer Joint Venture project team where the ASEMP was discussed, Council is able to provide the following general comments.

The ASEMP relates to the Warringah Freeway Upgrade (WFU) project and has been prepared in accordance with the Minister's Conditions of Approval (MCoA) for the Western Harbour Tunnel and Warringah Freeway Upgrade project.

The ASEMP has been prepared to address the requirements of MCoA, the Western Harbour Tunnel and Warringah Freeway Upgrade Environmental Impact Statement (dated January 2020) (the EIS), the Western Harbour Tunnel and Warringah Freeway Upgrade Response to Submissions Report (dated September 2020) (the RtS) and applicable guidance and legislation.

This ASEMP applies to the WFU component of the project, the key features of which include the following:

- Upgrade and reconfiguration of the Warringah Freeway from immediately north of the Sydney Harbour Bridge through to Willoughby Road at Naremburn.
- Upgrades to interchanges at Falcon Street in Cammeray and High Street in North Sydney.
- New and upgraded pedestrian and cyclist infrastructure.
- New, modified and relocated road and shared user bridges across the Warringah Freeway
- Connection of the Warringah Freeway to the portals for the Western Harbour Tunnel mainline tunnels and the Beaches Link tunnels, which will consist of a combination of trough and cut and cover structures.
- Upgrades to existing roads around the Warringah Freeway to integrate the Project with the surrounding road network.
- Upgrades and modifications to bus infrastructure, including relocation of the existing bus layover along the Warringah Freeway, and improvements to the geometry and connectivity of the existing southbound bus lane.



- Other operational infrastructure, including surface drainage and utility infrastructure, signage, tolling, lighting, CCTV and other traffic management systems.

The ASEMP outlines the environmental management practices and procedures to be implemented for the establishment of construction ancillary facilities and must be submitted to the Planning Secretary for approval one month before the installation of any ancillary facilities (excluding minor construction ancillary facilities).

As per Figure 1-2 (Overview of the construction support sites) on page 16 of the ASEMP, none of the construction support sites for the WFU project are located within the Willoughby LGA. There is proposed to be a site WHT11 Waltham Street in Artarmon however it is presumed that this will only be used as part of the later Stage 3 WHT works.

Given these facts, Council has no comments on the ASEMP at this stage. It seems comprehensive and thorough in its detail and proposed environmental management measures. Council requests that the project team consult with Council in future as required and as detailed in Section 7.6 (Community Engagement) on page 77 of the ASEMP.

## 2. Construction Environmental Management (CEMP) Sub-Plans:

### 2.1 Traffic, Transport & Access Management Sub-Plan (TTAMP)

*Reference no. WHTBLWFU-CPBD-NWW-TF-PLN-000003-B*

*Dated 1 October 2021*

Given the size of the TTAMP and relatively short time in which to provide a response, Council staff have not had the opportunity to review this Plan in detail. However, following a recent meeting with the CPB Downer Joint Venture (CCPBJV) project team on 13 October 2021, where the TTAMP was discussed, Council is able to provide the following general comments.

At this meeting, the CPBDJV project team outlined the broad scope of the TTAMP and its road network and road network management approach. The minutes for this meeting previously provided to Council by CPBDJV reflect the discussion, selected areas of concern for Council and operational arrangements for liaison with Council. It is noted that the TTAMP appears to provide mechanisms for these concerns to be managed.

It is understood that the main area of works for the WFU project will be located south of Brook St i.e. within North Sydney LGA. Minimal or no construction activity is planned beyond Brook St, outside of any advanced warning signs and incidence response measures.

Nevertheless, construction works are likely to have impacts in terms of flow-on construction traffic effects and delays to existing traffic flows within the vicinity of the project. As such, Council wants to ensure that such impacts are minimised and adequately managed.



Council would like the TTAMP to provide assurance that it addresses and minimises the impacts from the construction of the WFU project in relation to the Willoughby LGA in at least the following key areas of concern:

- Safety for all road users, access to the Willoughby LGA, congestion minimisation, no or minimal movement of construction traffic in Willoughby LGA and no construction worker parking.
- The flexibility for Council to raise issues and for these to be resolved in an acceptable manner, which may include, and not limited to, changes to the TTAMP, site specific management plans, infrastructure, technology, operational and communication measures
- To seek and receive accurate and timely advice in response to community concerns.

In addition, the following advice is provided on specific matters related to the TTAMP:

#### Road network management and operation in Willoughby City Council

- Please note that road network management and operation in Willoughby City Council is managed through a broad and comprehensive permit system including: Road Opening permits, Crane/Heavy Plant and Road Occupancy permits and Work Zone permits. The provision of permits is mandatory when work is to be undertaken on Council's road network. There is a fee and conditions applicable for all permits. Council requests that the CPBDJV project team contact the Traffic and Transport Team should any such permits be required.

#### Heavy vehicle movements

- The surge in heavy vehicle movements associated with the construction of the WFU project increases the risks of delays, queues, congestion, noise, and air pollution, particularly during weekday morning and afternoon peak periods and potential for incidents on Willoughby Council's local road network. It is critical that the current operation, use and performance of the routes used for all sites are effectively investigated and all safety hazards identified so that the hazards are mitigated to always maximise safety for all road users.
- Haulage Routes (North) on page 66 of the TTAMP does not indicate the route taken in Miller Street as it approaches the Warringah Freeway. It is Council's preference that all heavy vehicles turn right and use the Warringah Freeway to head southerly and not use Strathallen Avenue. Strathallen Avenue is a narrow State Road with both significant horizontal and vertical alignment changes that would lead to safety and amenity (noise) issues for residents if heavy vehicles use this route.

#### Bicyclist and pedestrian safety and amenity

- The need to maximise the safety and amenity of bicyclist and pedestrians during construction is recognised in the TTAMP. The approach adopted is outlined in Section 4.6 and Section 5.7. The information provided does not address the impact when traffic changes impact on bicycle

routes such as the proposed arrangements at the bicycle link connecting Warringah Freeway with Amherst Street.

- There is significant concern with the management of bicyclists (and pedestrians) along the Warringah Freeway, west of the Brook Street on-ramp; and at the Brook Street on-ramp. The plans provided in the TTAMP i.e. WFU-JAJ-DRG-TW-00-(1106, 1107, 1206, 1216, 1306, 1316, 1406, 1506, 2006 and 2106) indicate the retention of the two-way bicycle link along the Freeway and crossing of the Brook Street on-ramp to/from Amherst St and Warringah Freeway under multiple traffic changes.
- The safety of bicyclists under this arrangement is of significant concern. These vulnerable road users will need to negotiate a road environment with construction infrastructure, changing road and traffic management environments and high speed traffic movements. Council is requesting that the CPBDJV project team review the management approach and designs to maximise safety for bicyclists at this location including considering options such as provision of infrastructure to grade separate motor vehicle and bicyclists; and the temporary closure and rerouting to eliminate this conflict point.

#### Future consultation on traffic and transport matters

- As per Section 6.2.1 of the TTAMP, it is understood that a Traffic and Transport Liaison Group (TTLG) will be created by the project team and is proposed to meet monthly to discuss construction staging, community concerns associated with traffic changes, impacts on road, path and public transport users and operators. Furthermore, a Traffic Control Group (TCG) is also described in Section 6.2.2 however these will be weekly meetings.
- Council has previously confirmed that a representative from Council's Traffic and Transport Team will be able to attend the more infrequent TTLG meetings as required. Council requests that the CPBDJV project team contact the Traffic and Transport Team to confirm attendance and agendas for these future meetings.

## **2.2 Noise & Vibration Management Sub-Plan:**

*Reference no. WHTBLWFU-CPBD-NWW-NV-PLN-000005-B*

*Dated 1 October 2021*

Council has reviewed the Noise and Vibration Management Sub-Plan and the Noise and Vibration Monitoring Program and finds them satisfactory. The following additional comments are provided.

It is highly likely that Council will receive complaints from the community in regards to construction noise. The MCoA are quite extensive and cover community consultation, out of hours work and monitoring. Complaints should be directed to the Community Complaints Mediator and the Environmental Protection Authority (EPA).



### **2.3 Flora & Fauna Management Sub-Plan:**

*Reference no. WHTBLWFU-CPBD-NWW-EO-PLN-000004*

*Dated 1 October 2021*

Council has not reviewed this Sub-Plan in detail. Given the works will take place within the North Sydney LGA, there would seem to be negligible impacts on flora and fauna within the Willoughby LGA. However, it is noted that Willoughby Creek and Flat Rock Creek have been mentioned in the Sub-Plan. Although these creeks are located some distance from the existing Freeway and proposed project footprint, the project team should contact Council to discuss any requirements and appropriate environmental management measures, should direct or indirect impacts be identified in future that have not already been identified and addressed in this Sub-Plan.

### **2.4 Air Quality and Odour Management Sub-Plan:**

*Reference no. WHTBLWFU-CPBD-NWW-AH-PLN-000008-B*

*Dated 1 October 2021*

Council has reviewed this Sub-Plan and finds it satisfactory. Air quality impacts are a particular area of concern for both Council and the community, both from the works themselves and construction traffic to, from and within the project footprint. Given the works will take place within the North Sydney LGA, there would seem to be only minor, peripheral impacts in terms of air quality and odour within the Willoughby LGA. Council strongly encourages the project team to ensure that air quality monitoring procedures are thorough and transparent to assuage community concerns both within Willoughby and North Sydney LGAs.

### **2.5 Soil and Surface Water Management Sub-Plan:**

*Reference no. WHTBLWFU-CPBD-NWW-WA-PLN-000006*

*Dated 1 October 2021*

Council has reviewed the Soil and Surface Water Management Sub-Plan and makes the following comments.

The MCoA refer to a Section A1 or A2 Site Audit Statement accompanied by an Environmental Management Plan (EMP). No mention is made in regard to consultation with the EPA or councils on the suitability of the EMP if there are ongoing maintenance requirements in terms of encapsulated/remaining contaminated material or monitoring/pretreatment prior to discharge of groundwater back into the aquifer. Whilst the Site Auditor will be responsible for ensuring the suitability of any EMP, bodies responsible for the management of the land or the receiving waters impacted by the EMP should be consulted with to ensure the plan is practicable and reasonable, plus there could be ongoing costs. Whilst the MCoA cannot be modified, a written undertaking could be made by the certified Contaminated Land Consultant to conduct consultation with the land





owners/managers and relevant councils regarding the suitability of any proposed EMP before it is submitted to the Site Auditor for assessment and a Site Audit Statement is issued.

## 2.6 Heritage Management Sub-Plan:

Reference no. **WHTBLWFU-CPBD-NWW-HE-PLN-000007**

Dated 1 October 2021

Council has reviewed the Heritage Management Sub-Plan and makes the following comments.

From a review of Willoughby Local Environmental Plan 2012 (LEP) heritage mapping and:

- Figure 5-1 (AHIMS site in the vicinity of the project area)
- Figure 5-2 (Location of non-Aboriginal heritage items and potential heritage items within the project area Map 1 of 2)
- Figure 5-3 (Location of non-Aboriginal heritage items and potential heritage items within the project area Map 2 of)

of the Heritage Sub-Plan, it is noted that the southwest border of the Naremburn Central Township heritage conservation area is located next to the existing Warringah Freeway. Several local heritage items are also located in the vicinity of Willoughby Rd and its intersection with the Freeway.

According to section 5.2 of the Heritage Sub-Plan (pg. 20):

*Of those heritage items identified within the study area, 134 items would either have no impact or a negligible impact from the Project due to either the low impact activities proposed or the distances between these items and the project construction works. Impacts on these 134 items would be limited to temporary noise, vibration and/or visual impacts during construction, and managed through the implementation of minimum working distances for vibration intensive construction activities and other standard construction management measures.*

It is unclear why the two heritage conservation areas in the North Sydney Council LGA (Camberay Conservation Area and Holtermann Estate A Conservation Area, Crows Nest) have been listed in Table 5-1 (Non-Aboriginal heritage items within the project area) of the Heritage Sub-Plan, but the aforementioned Naremburn Central Township heritage conservation area has not.

It is also unclear from the various documents what exactly is planned in the vicinity of this area, but presumably it would be various roadworks that create noise and vibration. As such, Council believes there may be indirect impacts on the Naremburn Central Township heritage conservation area, similar to those listed for the two North Sydney heritage conservation areas, namely:

- *Temporary and permanent visual impacts due to the removal of heritage fabric and the construction of permanent operational infrastructure within and adjacent to the heritage boundary.*
- *Temporary vibration impacts due to construction activities within and adjacent to the heritage boundary.*

As such, Council requests further clarification on what, if any, measures are proposed to safeguard properties located within the Naremburn Central Township heritage conservation area, as well as the several local heritage items located in the vicinity of Willoughby Rd and the Freeway.

In this regard, Council notes the requirements of Conditions E79, E80 and E81 of the Infrastructure Approval and the proposed environmental mitigation and management measures as detailed in section 7.7 (Vibration monitoring and acoustic treatment of heritage items) of the Heritage Sub-Plan.

There are no Aboriginal (AHIMS) heritage items located within vicinity of the project area and thus Council would agree that there would be no impacts on the AHIMS items mapped in the Willoughby LGA for this stage of the broader WHT and WFU project. Such impacts would be related to the future Beaches Link and Gore Hill Freeway Connection project.

## Conclusion:

Thank you for your giving Council the opportunity to provide comment on these Plans. Please contact Andrew Gillies, Strategic Transport Planner on **9777 7655** or [Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au) if you wish to discuss these matters further.

Yours sincerely,



**Ian Arnott**  
**PLANNING MANAGER**

## McKenzie, Jacqueline

---

**From:** Chemney, Howard <Howard.Chemney@pcplr.com.au>  
**Sent:** Tuesday, 26 October 2021 5:57 PM  
**To:** Gillies, Andrew; Farrelly, Gordon  
**Cc:** Rob Owens; Jacqueline McKenzie; Binns, Chris; Barragan, German; Wood, Darren  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Traffic, Transport and Access Management Sub-plan review

[EXTERNAL] This email originated from outside of the Organisation.

Hi Andrew,

All good – just checked your message – thanks for letting me know.

Howard

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**From:** Gillies, Andrew <Andrew.Gillies@Willoughby.nsw.gov.au>  
**Sent:** Tuesday, 26 October 2021 5:55 PM  
**To:** Chemney, Howard <Howard.Chemney@pcplr.com.au>; Farrelly, Gordon <Gordon.Farrelly@Willoughby.nsw.gov.au>  
**Cc:** Rob Owens <Rob.Owens@transport.nsw.gov.au>; Jacqueline McKenzie <jacqueline.mckenzie@dswjv.com.au>; Binns, Chris <Chris.Binns@Willoughby.nsw.gov.au>; Barragan, German <German.Barragan@Willoughby.nsw.gov.au>; Wood, Darren <Darren.Wood@Willoughby.nsw.gov.au>  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Traffic, Transport and Access Management Sub-plan review

**CAUTION:** This email originated from outside of the Organisation.

Hi Howard,

I left a voicemail for you just earlier this afternoon saying this, but yes I am just finalising the letter of response with our comments and can send through tomorrow.

Thanks,

Andrew

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**From:** Chemney, Howard <[Howard.Chemney@pcplr.com.au](mailto:Howard.Chemney@pcplr.com.au)>  
**Sent:** Tuesday, 26 October 2021 5:53 PM  
**To:** Gillies, Andrew <[Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)>; Farrelly, Gordon <[Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)>  
**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>; Binns, Chris <[Chris.Binns@Willoughby.nsw.gov.au](mailto:Chris.Binns@Willoughby.nsw.gov.au)>; Barragan, German <[German.Barragan@Willoughby.nsw.gov.au](mailto:German.Barragan@Willoughby.nsw.gov.au)>; Wood, Darren <[Darren.Wood@Willoughby.nsw.gov.au](mailto:Darren.Wood@Willoughby.nsw.gov.au)>  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Traffic, Transport and Access Management Sub-plan review

Hi Andrew,

Noting your email below from yesterday - can you please send through any review comments Council has on the ASEM and CEMP Sub-plans (snippet of original correspondence sent below) to me no later than tomorrow please.

Please advise ASAP if there are any issues.

Thanks

Howard



Hi Chris, Andrew and Gordon,

This email is to advise you that CPB Downer JV are required to consult with Willoughby Council on the Ancillary Site Establishment Management Plan (ASEMP) and Construction Environment Management Plan (CEMP) detailed in conditions A17 and C4 of the Infrastructure Approval SSI 8863 for the Warringah Freeway Upgrade (see attachment).

With regards to the CEMP sub-plans we are required to consult with Council on the following sub-plans:

- Traffic, Transport & Access Management Sub-plan
- Noise & Vibration Management Sub-plan
- Flora & Fauna Management Sub-plan
- Air Quality and Odour Management Sub-plan
- Soil and Surface Water Management Sub-plan
- Heritage Management Sub-plan (which includes both indigenous and non-indigenous heritage)

Please find attached the Ancillary Site Establishment Management Plan (ASEMP) for your review with the other sub-plans to follow in a separate email. The Traffic, Transport and Access Management Sub-plan is large.

Please note the consultation period for all plans is for 3 weeks and therefore all comments must be received back by Tuesday 26th October. Comments received after this date may not result in future revisions.

To assist you in your review of the documents we are happy to undertake a live review / page turn to discuss issues directly. Please contact me should you wish to take up this offer.

Please note that TINSW will also be issuing these plans formally for consultation via the DPIE Portal.

Thanks

**Howard Chemney**



Hi Chris, Andrew and Gordon,

As indicated in the email below, please find attached the following sub-plans for your review:

- Noise & Vibration Management Sub-plan
- Flora & Fauna Management Sub-plan
- Air Quality and Odour Management Sub-plan
- Soil and Surface Water Management Sub-plan
- Heritage Management Sub-plan (which includes both indigenous and non-indigenous heritage)

The Traffic, Transport and Access Management Sub-plan will be sent via dropbox due to its size.

Thanks

**Howard Chemney**

Environment & Sustainability Manager  
Warringah Freeway Upgrade

**From:** Gillies, Andrew <[Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)>

**Sent:** Monday, 25 October 2021 10:52 AM

**To:** Chemney, Howard <[Howard.Chemney@pcplr.com.au](mailto:Howard.Chemney@pcplr.com.au)>; Farrelly, Gordon <[Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)>  
**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>;  
Binns, Chris <[Chris.Binns@Willoughby.nsw.gov.au](mailto:Chris.Binns@Willoughby.nsw.gov.au)>; Barragan, German <[German.Barragan@Willoughby.nsw.gov.au](mailto:German.Barragan@Willoughby.nsw.gov.au)>;  
Wood, Darren <[Darren.Wood@Willoughby.nsw.gov.au](mailto:Darren.Wood@Willoughby.nsw.gov.au)>  
**Subject:** Re: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Traffic, Transport and Access Management Sub-plan review

**CAUTION:** This email originated from outside of the Organisation.

Hi Howard,

Just confirming that we will provide a response by tomorrow via email.

Thanks,

Andrew

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**From:** Chemney, Howard <[Howard.Chemney@pcplr.com.au](mailto:Howard.Chemney@pcplr.com.au)>  
**Sent:** Monday, 25 October 2021 8:44 AM  
**To:** Gillies, Andrew <[Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)>; Farrelly, Gordon <[Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)>  
**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>;  
Binns, Chris <[Chris.Binns@Willoughby.nsw.gov.au](mailto:Chris.Binns@Willoughby.nsw.gov.au)>; Barragan, German <[German.Barragan@Willoughby.nsw.gov.au](mailto:German.Barragan@Willoughby.nsw.gov.au)>;  
Wood, Darren <[Darren.Wood@Willoughby.nsw.gov.au](mailto:Darren.Wood@Willoughby.nsw.gov.au)>  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Traffic, Transport and Access Management Sub-plan review

Hi Andrew and Gordon,

Just a note to remind you that all comments are due back tomorrow Tuesday 26<sup>th</sup> October.

Can you please confirm whether Council will be providing any comments, and if so, that they will be received by tomorrow.

Many thanks

Howard

0410 542 009

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**From:** Gillies, Andrew <[Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)>  
**Sent:** Wednesday, 6 October 2021 2:25 PM  
**To:** Farrelly, Gordon <[Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)>; Chemney, Howard <[Howard.Chemney@pcplr.com.au](mailto:Howard.Chemney@pcplr.com.au)>  
**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>;  
Binns, Chris <[Chris.Binns@Willoughby.nsw.gov.au](mailto:Chris.Binns@Willoughby.nsw.gov.au)>; Barragan, German <[German.Barragan@Willoughby.nsw.gov.au](mailto:German.Barragan@Willoughby.nsw.gov.au)>;  
Wood, Darren <[Darren.Wood@Willoughby.nsw.gov.au](mailto:Darren.Wood@Willoughby.nsw.gov.au)>  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Traffic, Transport and Access Management Sub-plan review

**CAUTION:** This email originated from outside of the Organisation.

Hi all,

**Howard**, thank you for sending through. As Gordon said, in future please send any documents like this to Council's generic email address so they are registered by our Information Management team.

There are a lot of documents to review and this will require co-ordination with various officers within Council, so please give us some time to respond.

Regarding this formal notification through DPIE's Planning Portal, can you explain how this will actually be done? Is this an email that will come through from the Portal? If so, what email address will it send to? I am not familiar with notification under the Portal and how it works.

**Gordon**, I downloaded the Traffic, Transport and Access Management Sub-Plan (174MB PDF document) from DropBox earlier today. I have put it in ECM. It has the Doc Set ID: **6388115**.

Andrew

**Andrew Gillies** - Strategic Transport Planner  
**WILLOUGHBY CITY COUNCIL**  
PO Box 57 Chatswood NSW 2057



P +61 2 9777 7655 | M

E [Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)

[willoughby.nsw.gov.au](http://willoughby.nsw.gov.au) | [visitchatswood.com.au](http://visitchatswood.com.au) | [theconcourse.com.au](http://theconcourse.com.au)



---

**From:** Farrelly, Gordon <[Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)>

**Sent:** Wednesday, 6 October 2021 10:38 AM

**To:** Chemney, Howard <[Howard.Chemney@pcplr.com.au](mailto:Howard.Chemney@pcplr.com.au)>

**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>;

Binns, Chris <[Chris.Binns@Willoughby.nsw.gov.au](mailto:Chris.Binns@Willoughby.nsw.gov.au)>; Gillies, Andrew <[Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)>;

Barragan, German <[German.Barragan@Willoughby.nsw.gov.au](mailto:German.Barragan@Willoughby.nsw.gov.au)>; Wood, Darren

<[Darren.Wood@Willoughby.nsw.gov.au](mailto:Darren.Wood@Willoughby.nsw.gov.au)>

**Subject:** Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Traffic, Transport and Access Management Sub-plan review

Hi Howard

Thanks, I am having problems opening the T&T sub-plan downloaded from Dropbox. I am working with our Information Management Team to resolve this issue, if it cannot be resolved I will come back to you.

I gratefully accept your offer of a live review / page turn outline the structure and content of this sub-plan and to discuss issues directly, please invite myself and German Barragan to this session. We will confirm with internal partners if others wish to attend this session.

Please send all future correspondence to Council's email address as well via [email@Willoughby.nsw.gov.au](mailto:email@Willoughby.nsw.gov.au)

Thanks

Gordon

**Gordon Farrelly** - *Traffic & Transport Team Leader*

**WILLOUGHBY CITY COUNCIL**

PO Box 57 Chatswood NSW 2057

P +61 2 9777 7705 | M +61409907678

E [Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)



---

**From:** Chemney, Howard [<mailto:Howard.Chemney@pcplr.com.au>]

**Sent:** Tuesday, 5 October 2021 5:51 PM

**To:** Binns, Chris <[Chris.Binns@Willoughby.nsw.gov.au](mailto:Chris.Binns@Willoughby.nsw.gov.au)>; Gillies, Andrew <[Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)>; Farrelly, Gordon <[Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)>

**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>

**Subject:** (DWS Doc No 211006904) RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Construction Environmental Management Plan sub-plans

Hi Chris, Andrew and Gordon,

Please find attached a link to the Traffic, Transport and Access Management Sub-plan for your review.

[https://www.dropbox.com/s/z21dlw2f6vrafsI/WHTBLWFU-CPBD-NWW-TF-PLN-000003-B\\_TTAMP.pdf?dl=0](https://www.dropbox.com/s/z21dlw2f6vrafsI/WHTBLWFU-CPBD-NWW-TF-PLN-000003-B_TTAMP.pdf?dl=0)

Thanks

**Howard Chemney**

Environment & Sustainability Manager

**Warringah Freeway Upgrade**

**M** 0410 542 009

**E** [Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)

---

**From:** Chemney, Howard

**Sent:** Tuesday, 5 October 2021 5:47 PM

**To:** Chris Binns <[Chris.Binns@Willoughby.nsw.gov.au](mailto:Chris.Binns@Willoughby.nsw.gov.au)>; Andrew Gillies <[Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)>; [Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)  
**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; Jacqueline McKenzie <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Construction Environmental Management Plan sub-plans

Hi Chris, Andrew and Gordon,

As indicated in the email below, please find attached the following sub-plans for your review:

- Noise & Vibration Management Sub-plan
- Flora & Fauna Management Sub-plan
- Air Quality and Odour Management Sub-plan
- Soil and Surface Water Management Sub-plan
- Heritage Management Sub-plan (which includes both indigenous and non-indigenous heritage)

The Traffic, Transport and Access Management Sub-plan will be sent via dropbox due to its size.

Thanks

## Howard Chemney

Environment & Sustainability Manager  
**Warringah Freeway Upgrade**  
M 0410 542 009  
E [Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)

---

**From:** Chemney, Howard <[Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)>  
**Sent:** Tuesday, 5 October 2021 5:44 PM  
**To:** 'Chris Binns' <[Chris.Binns@Willoughby.nsw.gov.au](mailto:Chris.Binns@Willoughby.nsw.gov.au)>; 'Andrew Gillies' <[Andrew.Gillies@Willoughby.nsw.gov.au](mailto:Andrew.Gillies@Willoughby.nsw.gov.au)>; 'Gordon.Farrelly@Willoughby.nsw.gov.au' <[Gordon.Farrelly@Willoughby.nsw.gov.au](mailto:Gordon.Farrelly@Willoughby.nsw.gov.au)>  
**Cc:** 'Rob Owens' <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; 'Jacqueline McKenzie' <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>  
**Subject:** Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Construction Environmental Management Plan sub-plans

Hi Chris, Andrew and Gordon,

This email is to advise you that CPB Downer JV are required to consult with Willoughby Council on the Ancillary Site Establishment Management Plan (ASEMP) and Construction Environmental Management Plan (CEMP) sub-plans as detailed in conditions A17 and C4 of the Infrastructure Approval SSI 8863 for the Warringah Freeway Upgrade (see attachment).

With regards to the CEMP sub-plans we are required to consult with Council on the following sub-plans:

- Traffic, Transport & Access Management Sub-plan
- Noise & Vibration Management Sub-plan
- Flora & Fauna Management Sub-plan

- Air Quality and Odour Management Sub-plan
- Soil and Surface Water Management Sub-plan
- Heritage Management Sub-plan (which includes both indigenous and non-indigenous heritage)

Please find attached the Ancillary Site Establishment Management Plan (ASEMP) for your review with the other sub-plans to follow in a separate email. The Traffic, Transport and Access Management Sub-plan will be sent via dropbox due to its size.

Please note the consultation period for all plans is for 3 weeks and therefore all comments must be received back by Tuesday 26th October. Comments received after this date may not be addressed in time and will be considered during future revisions.

To assist you in your review of the documents we are happy to undertake a live review / page turn to discuss issues directly. Please contact me should you wish to take up this offer.

Please note that TfNSW will also be issuing these plans formally for consultation via the DPIE Portal.

Thanks

## Howard Chemney

Environment & Sustainability Manager

**Warringah Freeway Upgrade**

M 0410 542 009

E [Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)

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## Appendix 3 DPI Fisheries consultation records



## McKenzie, Jacqueline

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**From:** no-reply@majorprojects.planning.nsw.gov.au  
**Sent:** Saturday, 16 October 2021 4:24 PM  
**To:** Rob Owens  
**Subject:** Western Harbour Tunnel & Warringah Freeway Upgrade WFU Flora and Fauna Management Plan - Response from DPI Fisheries

**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.

DPI Fisheries has responded to your request for advice in relation to the Western Harbour Tunnel & Warringah Freeway Upgrade WFU Flora and Fauna Management Plan. The response is below and/or attached. Record of this consultation has been automatically saved to the portal.

When you are ready, login to your profile to submit the final document to the Department.

### Public Authority Response

DPI Fisheries acknowledges the following statement in the Flora & Fauna Management Plan "No riparian vegetation would be removed as part of the project and no instream works would be carried out in the waterways traversed by the Project. Accordingly, there would be no direct impacts to these waterways."

DPI Fisheries has no comments to make on the plan.

To sign in to your account click [here](#) or visit the [Major Projects Website](#).  
Please do not reply to this email.

Kind regards

The Department of Planning, Industry and Environment



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PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

## Jacqueline McKenzie

**From:** Chemney, Howard <Howard.Chemney@pcplr.com.au>  
**Sent:** Friday, 1 October 2021 11:31 AM  
**To:** sarah.conacher@dpi.nsw.gov.au; scott.carter@dpi.nsw.gov.au  
**Cc:** Rob Owens; Jacqueline McKenzie  
**Subject:** RE: Warringah Freeway Upgrade - Construction Environmental Management Plan consultation - DPI Fisheries  
**Attachments:** WHTBLWFU-CPBD-NWW-EO-PLN-000004-B\_FFMP.pdf

[EXTERNAL] This email originated from outside of the Organisation.

Hi Sarah and Scott,

Further to the below correspondence, please find attached the following plan for your consultation:

- Flora & Fauna Management Plan

The consultation period is for 3 weeks and therefore we request all comments must be received back by Friday 22nd October.

Please give me a call if you need any clarification.

Thanks

Howard

0410 542 009

---

**From:** Chemney, Howard  
**Sent:** Monday, 27 September 2021 6:54 PM  
**To:** sarah.conacher@dpi.nsw.gov.au; scott.carter@dpi.nsw.gov.au  
**Subject:** Warringah Freeway Upgrade - Construction Environmental Management Plan consultation - DPI Fisheries

Hi Sarah and Scott,

This email is to advise you that CPB Downer JV will be sending over a number of sub-plans to the Warringah Freeway Upgrade Construction Environmental Management Plan (CEMP) for consultation with DPI Fisheries this Friday 1st October.

Our requirement to consult with DPI Fisheries on these plans is contained in Condition C4 of the Infrastructure Approval SSI 8863 as snipped below and included in the attachment.

**C4** The following **CEMP Sub-plans** must be prepared in consultation with the relevant government agencies identified for each **CEMP Sub-plan**. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant **CEMP Sub-plan**, including copies of all correspondence from those agencies as required by **Condition A5**.

	Required CEMP Sub-plan	Relevant government agencies to be consulted for each CEMP Sub-plan
(a)	Traffic, transport and access	Relevant council(s)
(b)	Noise and vibration	NSW Health, relevant council(s)
(c)	Flora and Fauna	DPI Fisheries, DPIE Water, EESG, and relevant council(s)
(d)	Air quality and odour	NSW Health, and relevant council(s)

(e)	Soil and surface water	DPIE Water, EESG, EPA, Sydney Water (if Sydney Water's assets are affected) and relevant council(s)
(f)	Groundwater	DPIE Water, EESG, EPA, Sydney Water (where it is proposed to discharge groundwater into Sydney Water's assets) and relevant council(s)
(g)	Maritime Heritage	Heritage NSW and relevant council(s)
(h)	Non-Aboriginal Heritage	Heritage NSW and relevant council(s)
(i)	Aboriginal Cultural Heritage	Heritage NSW
(j)	Dredging and Disposal Management Plan	EPA, DPI Fisheries, Port Authority of NSW (including Harbour Master)

Specifically we are required to consult with DPI Fisheries on the following project relevant sub-plans:

- Flora & Fauna Management Sub-plan

The consultation period is for 3 weeks and therefore all comments must be received back by Friday 22nd October. Comments received after this date may not be addressed in time and will be considered during future revisions.

To assist you in your review of the documents we are happy to undertake a live review / page turn to discuss issues directly. Please contact me should you wish to take up this offer.

Please note that TfNSW will also be issuing these plans formally for consultation via the DPIE Portal.

Thanks

## Howard Chemney

Environment & Sustainability Manager

### Warringah Freeway Upgrade

M 0410 542 009

E [Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)

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## **Appendix 4 DPIE Water / NRAR consultation records**

8 November 2021

Attention: Rob Owens

Uploaded to the Major Projects Portal

Dear Rob,

**Re: Western Harbour Tunnel & Warringah Freeway Upgrade (SSI-8863-PA-80) Flora and Fauna Management Plan (PAE-29573269)**

Thank you for giving Natural Resources Access Regulator (NRAR) the opportunity to review Western Harbour Tunnel & Warringah Freeway Upgrade (SSI-8863-PA-80) Flora and Fauna Management Plan (PAE-29573269).

NRAR has no comments on the provided plan.

Should you have any further queries in relation to this submission please do not hesitate to contact the Natural Resources Access Regulator's Service Support Team at [nrar.servicedesk@dpie.nsw.gov.au](mailto:nrar.servicedesk@dpie.nsw.gov.au).

Yours Sincerely



**Jane Curran**  
**A/Manager Licensing & Approvals**  
**Water Regulatory Operations**  
**Natural Resources Access Regulator**



## Jacqueline McKenzie

---

**From:** Chemney, Howard <Howard.Chemney@pcplr.com.au>  
**Sent:** Monday, 25 October 2021 7:03 PM  
**To:** Luke Mclver; NRAR Service Desk Mailbox  
**Cc:** Rob Owens; Jacqueline McKenzie  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Relevant CEMP sub-plan consultation

[EXTERNAL] This email originated from outside of the Organisation.

Hi Luke,

Noting your comments below - can you advise if NRAR will be providing any comment on the Ancillary Site Establishment Management Plan (ASEMP) and Flora and Fauna Management Sub-plan (FFMP) ? If so can you provide the name and contact details of the persons reviewing.

Also can you advise a date for receiving any comments on the SWMP ?

Thanks

Howard

---

**From:** Luke Mclver <luke.mciver@dpie.nsw.gov.au>  
**Sent:** Friday, 15 October 2021 2:24 PM  
**To:** Chemney, Howard <Howard.Chemney@pcplr.com.au>; NRAR Service Desk Mailbox <nrar.servicedesk@dpie.nsw.gov.au>  
**Cc:** Rob Owens <Rob.Owens@transport.nsw.gov.au>; jacqueline.mckenzie@dswjv.com.au  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Relevant CEMP sub-plan consultation

**CAUTION:** This email originated from outside of the Organisation.

Hi Howard,

I have received the documentation however I note that I am part of the DPIE cluster and am only responsible for the groundwater component on referral from NRAR. I can see these appear in the portal and NRAR has received them. I will pass on the below to the appropriate person in NRAR for the other docs.

With our current workload of SSDs/ SSIs I cannot commit to the 28<sup>th</sup> for our response but the SWMP has been allocated for review and will be reviewed over the coming 2-3 weeks.

Regards,

Luke

**Luke Mclver**  
**Hydrogeologist – Groundwater Management and Science**

Groundwater Management & Science  
Department of Planning, Industry and Environment  
**M** 0434 370 048 | **E** [luke.mciver@dpie.nsw.gov.au](mailto:luke.mciver@dpie.nsw.gov.au)

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Environment**

*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:** Chemney, Howard <[Howard.Chemney@pcplr.com.au](mailto:Howard.Chemney@pcplr.com.au)>  
**Sent:** Thursday, 14 October 2021 1:35 PM  
**To:** Luke McIver <[luke.mciver@dpie.nsw.gov.au](mailto:luke.mciver@dpie.nsw.gov.au)>; NRAR Service Desk Mailbox <[nrar.servicedesk@dpie.nsw.gov.au](mailto:nrar.servicedesk@dpie.nsw.gov.au)>  
**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; [jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Relevant CEMP sub-plan consultation

Hi Luke,

Just following up on the below.

Please let me know if you / NRAR have any queries during this review stage or require a live review / page turn on any of the documents submitted.

This is also a reminder that all comments must be received back by Thursday 28th October.

Thanks

Howard  
0410 542 009

---

**From:** Chemney, Howard  
**Sent:** Thursday, 7 October 2021 1:15 PM  
**To:** 'luke.mciver@dpie.nsw.gov.au' <[luke.mciver@dpie.nsw.gov.au](mailto:luke.mciver@dpie.nsw.gov.au)>; 'nrar.servicedesk@dpie.nsw.gov.au' <[nrar.servicedesk@dpie.nsw.gov.au](mailto:nrar.servicedesk@dpie.nsw.gov.au)>  
**Cc:** 'Rob Owens' <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; 'jacqueline.mckenzie@dswjv.com.au' <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>  
**Subject:** Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Relevant CEMP sub-plan consultation

Hi Luke,

This email is to advise you that CPB Downer JV have been advised of the need to consult with NRAR (in your capacity to receiving post approval requests on behalf of DPIE Water – see last attachment email) on the Ancillary Site Establishment Management Plan (ASEMP) and Soil and Water / Flora & Fauna sub-plans as detailed in conditions A17 and C4 of the Infrastructure Approval SSI 8863 for the Warringah Freeway Upgrade (see first attachment).

This email therefore contains the following documents for review:

- Ancillary Site Establishment Management Plan

- Soil and Surface Water Management Sub-plan (also containing Surface Water Monitoring Program required by condition C11(c)).
- Flora & Fauna Management Sub-plan

Please note the consultation period for all plans is for 3 weeks and therefore all comments must be received back by Thursday 28th October. Comments received after this date may not be addressed in time and will be considered during future revisions.

To assist you in your review of the documents we are happy to undertake a live review / page turn to discuss issues directly. Please contact me should you wish to take up this offer.

Please note that TfNSW will also be issuing these plans formally for consultation via the DPIE Portal.

Thanks

## Howard Chemney

Environment & Sustainability Manager

**Warringah Freeway Upgrade**

M 0410 542 009

E [Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)

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# Appendix 5 EESG consultation records



Our ref: DOC21/871192

Senders ref: SSI-8863

Mr Howard Chemney  
CPB Contractors

Dear Mr Chemney

**Subject: EES comments on draft Flora Fauna Management Plan for the Warringah Freeway Upgrade – SSI-8863**

Thank you for your email of 1 October 2021 requesting advice on the draft Flora Fauna Management Plan (FFMP) for this critical State significant infrastructure project.

The Environment, Energy and Science Group (EES) has reviewed the draft FFMP and provides its recommendations and comments at Attachment A.

If you have any queries regarding this matter, please do not hesitate to contact Janne Grose, Senior Conservation Planning Officer on 02 8837 6017 or at [janne.grose@environment.nsw.gov.au](mailto:janne.grose@environment.nsw.gov.au)

Yours sincerely

A handwritten signature in black ink that reads 'S. Harrison'.

18/10/21

Susan Harrison  
**Senior Team Leader Planning  
Greater Sydney Branch  
Environment, Energy and Science**

**CC:** Carl Dumpleton - DPIE

**Subject: EES comments on draft Flora Fauna Management Plan for the Warringah Freeway Upgrade**

The Environment, Energy and Science Group (EES) notes this Flora and Fauna Management Sub Plan (FFMP) forms part of the Construction Environmental Management Plan (CEMP) for the Warringah Freeway Upgrade (the Project) and has been prepared in accordance with the Minister's Conditions of Approval (MCoA) for the Western Harbour Tunnel and Warringah Freeway Upgrade project – SSI-8863.

EES has reviewed the draft FFMP - October 2021 and provides the following comments and recommended amendments.

**Threatened Fauna**

Section 5.1.4 of the FFMP notes none on the threatened fauna species identified as likely to occur within the project area were recorded as part of project surveys, but some of these species:

- were recorded near the project area
- have been historically recorded
- were deemed to have a moderate-high likelihood of occurring in the project area or its surrounds. (page 26).

Table 5.3 indicates this includes the vulnerable Eastern Bentwing-Bat, Eastern Freetail-bat, Little Bentwing-Bat and Southern Myotis.

Section 5.1.3 of the FFMP lists 'vegetated habitats' as fauna habitat but it is not clear if the project will impact any buildings or structures. The FFMP needs to clarify this and whether the proposed works are likely to impact the vulnerable Eastern Bentwing-Bat, Eastern Freetail-bat, Little Bentwing-Bat and Southern Myotis and their habitat (ie any vegetation to be cleared and any buildings or structures to be demolished or refurbished).

Condition C6(e) in Table 3.1 indicates the FFMP must include pre-clearing / demolition inspections for native fauna and refers to Section 7.3 of the FFMP.

The FFMP should clarify if any of the project works have the potential to impact microbats by noise, vibration, light impacts, demolition or refurbishment of buildings/structures etc. If so, separate procedures relevant to mitigation of potential impacts on microbats need to be included. It is unclear if this is applicable to the project and the FFMP should address this.

**Tree Removal, Replacement Planting and Rehabilitation**

EES previously sought greater certainty on the total number of trees to be removed by the project and advised in its submission on the RtS that this detail is required so as to address EMM B4 which requires among other things that "trees removed by the project will be replaced at a ratio greater than 1:1". EES notes that EMM B4 is not consistent with Condition of approval E184 which requires that replacement trees and plantings must be provided at a ratio of 2:1 (see Tables 3.1 and 3.2). Table 3.1 of the FFMP indicates details regarding this will be provided in the Landscape Strategy Report. It is important that FFMP clarifies the replacement ratio so there is no confusion and a note is included in the FFMP for EMM B4 that the replacement ratio is 2:1 in accordance with condition E184.

The number of trees to be removed needs to be documented in order to determine the number of tree replacements. Section 7.9 of the FFMP indicates that a tree register will be maintained to record the fate of the trees within and adjacent to the project area and that the tree register will inform the Landscape Strategy Report at the completion of construction. EES recommends Section 7.9 is amended to outline that the tree register will keep the following records of the trees to be removed :

- the number of trees removed
- tree species
- identifies whether the trees are local natives / non-local natives/ exotic/ invasive.



### 7.3 Pre-clearing/demolition inspections

EMM B11 in Table 3.2 of the FFMP indicates pre-clearing surveys will be carried out in accordance with the relevant guideline as detailed in Section 7.3 and management measure FFMP04 (page 16). Table 5.2 in the FFMP indicates one potential hollow-bearing tree was identified (*Eucalyptus saligna*) in Jefferson Jackson Reserve but it does not identify how many hollows may be impacted.

EES recommends Section 7.3 is amended to include:

- The ecologist undertaking the pre-clearing surveys will identify, map and clearly delineate all hollow bearing trees and other fauna habitat features and inspect the fauna habitat (including native and exotic trees, other vegetation, hollow bearing trees, nests, dreys, hollow bearing logs, rocky habitat boulders, crevices and ledges) for the presence of threatened and non-threatened native fauna for relocation prior to clearing.
- The ecologist/arborist will endeavour to individually remove, salvage and relocate sections of a tree containing a hollow or habitat prior to clearing and felling the tree to an appropriate location on the same day the hollows are removed and prior to the release of any native fauna found using the tree hollows.
- Where hollow dependent native fauna are found using existing hollows, compensatory tree hollows should be provided prior to removing the tree hollow and prior to the release of the hollow dependent fauna unless the removed tree hollows can be relocated and installed on the same day they are removed.
- Native fauna potentially impacted by the removal of trees and other habitat will be relocated prior to clearing to an appropriate nearby location and in a sensitive manner under the supervision of a qualified ecologist/licensed wildlife handler.

### 7.4 Unexpected threatened species

Section 7.4 notes there is potential to come across unexpected threatened flora and fauna within and adjacent to the construction footprint during the project works and that a record of the unexpected finds would be maintained by the contractor. The recorded details should include the flora or fauna threatened species found.

It is also suggested that a record of non-threatened fauna species found is recorded

### 7.5 Biodiversity offsets

Section 7.5 of the FFMP states “Trees removed during construction will be replaced at a ratio equal to or greater than 1:1. Endemic species will be chosen for planting where available”. This ratio needs to be amended to be consistent with Condition of approval E184 which requires that “replacement trees and plantings must be provided at a ratio of 2:1 (see Table 3.1 in the FFMP).

It is unclear why local native provenance species from the vegetation community that once occurred in the locality would not be available for planting. The SSI should currently be propagating, and/or sourcing local native tree species so they are available for planting. The FFMP should outline this.

### 7.8 Habitat Enhancement

Condition E48 requires that within 3 months of the removal of any native trees, the proponent will consult with local community restoration/rehabilitation groups, Landcare groups, relevant councils, DPI Fisheries and any relevant public authorities to determine if there is an interest in the reuse of suitable timber and root balls for habitat enhancement and rehabilitation work (see Table 3.1 in FFMP). EES suggests that the proponent consults with local community restoration/rehabilitation groups etc prior to removing the trees to allow these groups time to identify projects where this habitat can be used and to organise its collection.

### 7.9 Tree Register

Section 7.9 of the FFMP indicates that a tree register will be maintained to record the fate of the trees within and adjacent to the project area and that the tree register will inform the Landscape

Strategy Report at the completion of construction. EES recommends the tree register keeps the following records of the trees to be removed:

- number of trees removed
- tree species
- whether the trees are local natives/non-local natives/ exotic/ invasive etc.

### 7.10 Landscape Strategy Report

Section 7.10 states “a Landscape Strategy Report will be prepared which details the type, size, number and location of replacement trees and demonstrates how any replacement plantings are consistent with the requirements of MCoA E184 - E187”. It is recommended Section 7.10 also outlines that the Landscape Strategy Report will also be prepared in accordance with EMM B4 and that the replacement trees will consist of local native provenance species from the vegetation community that once occurred in the locality (rather than plant exotic or non-local native trees) and to ensure that local native provenance species are available for planting that the proponent is currently propagating and/or sourcing local native tree species.

### Table 7.1 Flora and Fauna management and mitigation measures

Mitigation measure MMFF01 indicates training of relevant personnel on flora and fauna requirements will be implemented prior to construction. It is recommended the training of relevant personnel on flora and fauna requirements is implemented prior to any clearing or demolition of human built structures.

Mitigation measure MMFF01 indicates an appropriately qualified and experienced ecologist will be appointed to assist in the implementation of this FFMP and this will be implemented prior to construction. It is recommended the ecologist is appointed prior to any clearing or demolition of human built structures

Mitigation measure MMFF05 should be amended to also specify that the pre-clearing surveys by the project ecologist are to identify the location of any non-threatened fauna (i.e. not only threatened species).

### Appendix D - Cammeray Golf Course Dam Dewatering Plan

Condition C6(f) requires the FFMP to include details of a dewatering plan of the dam at Cammeray Golf Course (see in Table 3.1) and Appendix D of the FFMP includes the Dam Dewatering Plan (DDP).

Figure 1 in the DDP shows the location of the existing dam at the golf course. Section 3 of the DDP states: “

*“This Plan covers two potential scenarios for the relocation of aquatic fauna, the first is preferred and involves the construction of a replacement storage dam in the north western part of the Cammeray Golf Course, prior to the commencement of decommissioning of the existing dam.*

*A second option, requiring the translocation of native aquatic fauna to alternative, similar storage dam(s) is also provided, in the event that the replacement dam is not available as a receiving site by the time decommissioning of the current dam is required”*

EES recommends details are included on the location of the proposed replacement storage dam in the north western part of the golf course including the distance between the existing dam and the replacement dam. It is suggested Figure 1 in the DDP is amended to show the proposed location of the onsite replacement dam. Depending on the distance between the existing and proposed new dam on the golf course, the native fauna found in the existing dam and the weather conditions at the time of dewatering (i.e. if the weather is hot and dry) the first option is likely to also require translocation of native aquatic fauna to the replacement dam. It is recommended the first option in Section 3 of the DDP is amended to outline this.

The second option indicates there is the potential that a replacement dam at the golf course may not be available by the time decommissioning of the current dam is required. Section 4.2 of the DDP notes a desktop assessment of other potential receiving sites has been undertaken but a detailed inspection of these areas will be required as part of the process of securing a receiving site. It also notes that “no approvals from landholders for receiving of aquatic fauna into these locations have been sought or provided”.

If the first option of providing a replacement dam at the golf course is not possible prior to dewatering the existing dam it is important that inspections of alternative receiving sites are undertaken by a suitably qualified aquatic ecologist and that TfNSW obtains the necessary approval/agreement from land landholders to receive aquatic fauna at these locations. EES agrees with Section 4.2.3 of the DDP that a suitable receiving site must be secured prior to commencing dewatering and decommissioning of the current dam at Cammeray Golf Course.

End of Submission

## Jacqueline McKenzie

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**From:** Chemney, Howard <Howard.Chemney@pcplr.com.au>  
**Sent:** Monday, 25 October 2021 7:03 PM  
**To:** Luke Mclver; NRAR Service Desk Mailbox  
**Cc:** Rob Owens; Jacqueline McKenzie  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Relevant CEMP sub-plan consultation

[EXTERNAL] This email originated from outside of the Organisation.

Hi Luke,

Noting your comments below - can you advise if NRAR will be providing any comment on the Ancillary Site Establishment Management Plan (ASEMP) and Flora and Fauna Management Sub-plan (FFMP) ? If so can you provide the name and contact details of the persons reviewing.

Also can you advise a date for receiving any comments on the SWMP ?

Thanks

Howard

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**From:** Luke Mclver <luke.mciver@dpie.nsw.gov.au>  
**Sent:** Friday, 15 October 2021 2:24 PM  
**To:** Chemney, Howard <Howard.Chemney@pcplr.com.au>; NRAR Service Desk Mailbox <nrar.servicedesk@dpie.nsw.gov.au>  
**Cc:** Rob Owens <Rob.Owens@transport.nsw.gov.au>; jacqueline.mckenzie@dswjv.com.au  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Relevant CEMP sub-plan consultation

**CAUTION:** This email originated from outside of the Organisation.

Hi Howard,

I have received the documentation however I note that I am part of the DPIE cluster and am only responsible for the groundwater component on referral from NRAR. I can see these appear in the portal and NRAR has received them. I will pass on the below to the appropriate person in NRAR for the other docs.

With our current workload of SSDs/ SSIs I cannot commit to the 28<sup>th</sup> for our response but the SWMP has been allocated for review and will be reviewed over the coming 2-3 weeks.

Regards,

Luke

**Luke Mclver**  
**Hydrogeologist – Groundwater Management and Science**

Groundwater Management & Science  
Department of Planning, Industry and Environment  
**M** 0434 370 048 | **E** [luke.mciver@dpie.nsw.gov.au](mailto:luke.mciver@dpie.nsw.gov.au)

**Our Vision:** Together, we create thriving environments, communities and economies.



**Planning,  
Industry &  
Environment**

*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.*

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**From:** Chemney, Howard <[Howard.Chemney@pcplr.com.au](mailto:Howard.Chemney@pcplr.com.au)>  
**Sent:** Thursday, 14 October 2021 1:35 PM  
**To:** Luke McIver <[luke.mciver@dpie.nsw.gov.au](mailto:luke.mciver@dpie.nsw.gov.au)>; NRAR Service Desk Mailbox <[nrar.servicedesk@dpie.nsw.gov.au](mailto:nrar.servicedesk@dpie.nsw.gov.au)>  
**Cc:** Rob Owens <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; [jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)  
**Subject:** RE: Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Relevant CEMP sub-plan consultation

Hi Luke,

Just following up on the below.

Please let me know if you / NRAR have any queries during this review stage or require a live review / page turn on any of the documents submitted.

This is also a reminder that all comments must be received back by Thursday 28th October.

Thanks

Howard  
0410 542 009

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**From:** Chemney, Howard  
**Sent:** Thursday, 7 October 2021 1:15 PM  
**To:** 'luke.mciver@dpie.nsw.gov.au' <[luke.mciver@dpie.nsw.gov.au](mailto:luke.mciver@dpie.nsw.gov.au)>; 'nrar.servicedesk@dpie.nsw.gov.au' <[nrar.servicedesk@dpie.nsw.gov.au](mailto:nrar.servicedesk@dpie.nsw.gov.au)>  
**Cc:** 'Rob Owens' <[Rob.Owens@transport.nsw.gov.au](mailto:Rob.Owens@transport.nsw.gov.au)>; 'jacqueline.mckenzie@dswjv.com.au' <[jacqueline.mckenzie@dswjv.com.au](mailto:jacqueline.mckenzie@dswjv.com.au)>  
**Subject:** Warringah Freeway Upgrade - Ancillary Site Establishment Management Plan (ASEMP) / Relevant CEMP sub-plan consultation

Hi Luke,

This email is to advise you that CPB Downer JV have been advised of the need to consult with NRAR (in your capacity to receiving post approval requests on behalf of DPIE Water – see last attachment email) on the Ancillary Site Establishment Management Plan (ASEMP) and Soil and Water / Flora & Fauna sub-plans as detailed in conditions A17 and C4 of the Infrastructure Approval SSI 8863 for the Warringah Freeway Upgrade (see first attachment).

This email therefore contains the following documents for review:

- Ancillary Site Establishment Management Plan

- Soil and Surface Water Management Sub-plan (also containing Surface Water Monitoring Program required by condition C11(c)).
- Flora & Fauna Management Sub-plan

Please note the consultation period for all plans is for 3 weeks and therefore all comments must be received back by Thursday 28th October. Comments received after this date may not be addressed in time and will be considered during future revisions.

To assist you in your review of the documents we are happy to undertake a live review / page turn to discuss issues directly. Please contact me should you wish to take up this offer.

Please note that TfNSW will also be issuing these plans formally for consultation via the DPIE Portal.

Thanks

## Howard Chemney

Environment & Sustainability Manager

**Warringah Freeway Upgrade**

M 0410 542 009

E [Howard.Chemney@cpbcon.com.au](mailto:Howard.Chemney@cpbcon.com.au)

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