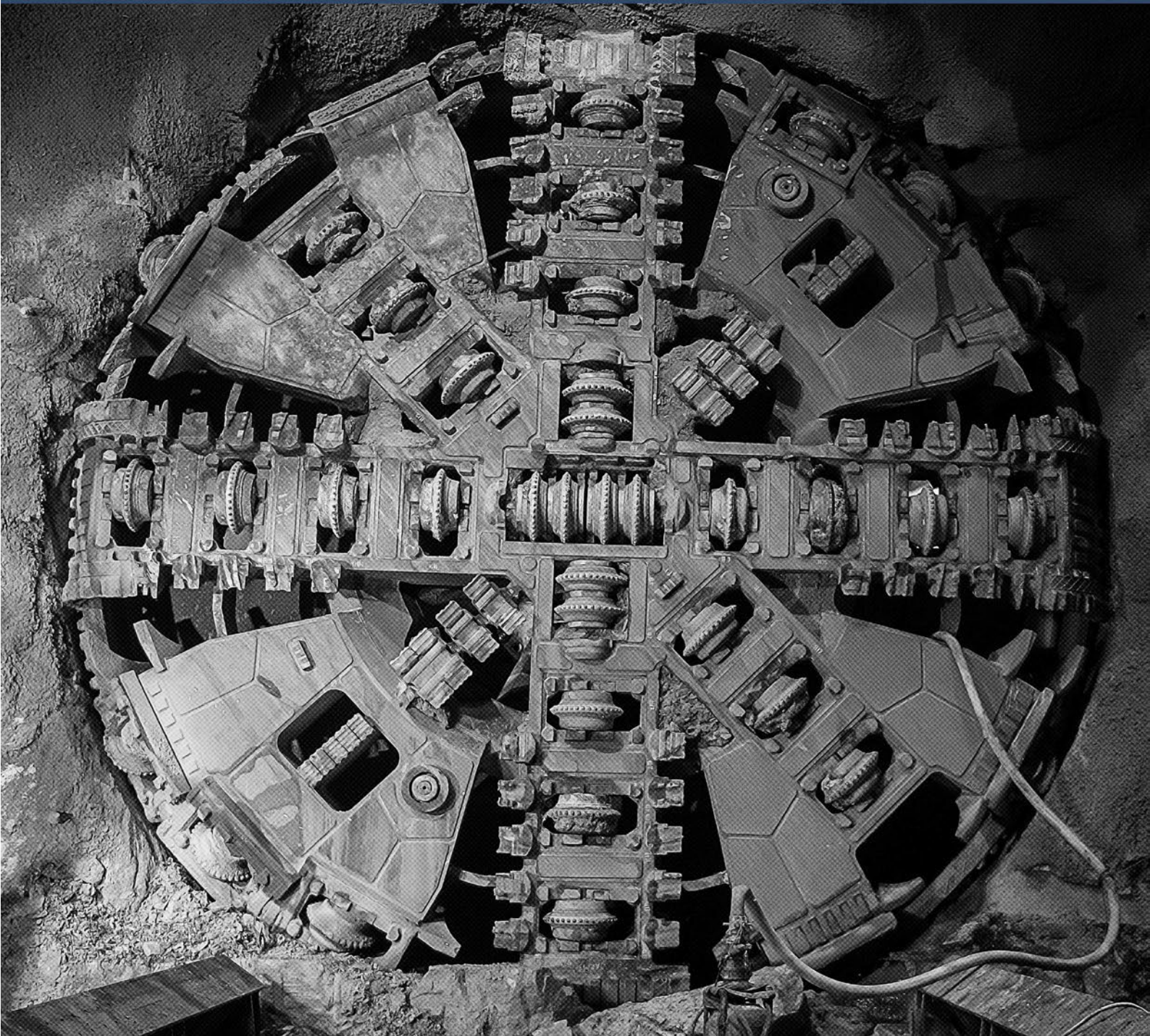


# Flora and Fauna Management

## Sub-Plan





# **Sydney Metro West Eastern Tunnelling Package Flora and Fauna Management Sub- Plan**

**March 2023**

Prepared for the John Holland CPB Ghella Joint Venture

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## FLORA AND FAUNA MANAGEMENT SUB-PLAN

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### Document approval

Rev	Date	Prepared by	Reviewed by	Comments	Approved by
A	22/11/2022			Draft for consultation Sydney Metro & ER review	
B	27/01/2023			Draft for SM review and ER endorsement	
0	23/03/2023			ER Endorsement	
Signature:					

Draft issues of this document shall be identified as Revision A, B, C, etc. Upon initial issue for use this shall be changed to a number commencing at Revision 0, with subsequent revision numbers following sequentially (e.g. 1, 2, etc).

This Sub-plan was previously issued to Sydney Metro as SMWSTETP-JCG-1NL-EN-PLN-000001 (Revision A). The document number of this Sub-plan has been updated to SMWSTETP-JCG-SWD-SW000-EM-PLN-002016 to comply with both the Sydney Metro ECM schema and the JCG file numbering convention (FNC). Previous comments against SMWSTETP-JCG-1NL-EN-PLN-000001 have been addressed in this version of the Sub-plan.



## Compliance

Table 1: Compliance matrix

ID	Requirement <sup>1</sup>	Reference
C1	Construction Environmental Management Plans (CEMPs) and CEMP Sub-plans must be prepared in accordance with the Construction Environmental Management Framework (CEMF) included in the documents listed in Condition A1 to detail how the performance outcomes, commitments and mitigation measures specified in the documents listed in Condition A1 will be implemented and achieved during construction.	This Sub-plan Section 1.1 Table 9 Table 14 Table 15 Table 16
C5	Of the CEMP Sub-plans required under Condition C1, the following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of issues raised by a government agency during consultation must be included in the relevant CEMP Sub-plan, including copies of all correspondence from those government agencies as required by Condition A6. Where a government agency (ies) request(s) is not included, the Proponent must provide the Planning Secretary / ER (whichever is applicable) justification as to why: (a) Noise and vibration: Place Management NSW (in respect of The Bays) and Relevant Council(s) (b) Flora and fauna: DPE Environment and Heritage Group, DPI Fisheries, and Relevant Council(s) (c) Heritage (Non-Aboriginal and Aboriginal): Heritage NSW, Place Management NSW (in respect of The Bays) and Relevant Council(s) (d) Spoil: Relevant council(s) (e) Soil and water: DPE Water and Relevant Council(s)	Section 1.4
C6	The CEMP Sub-plans must state how:	Table 16
	(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;	
	(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;	Section 7.8
	(c) the relevant conditions of this approval will be complied with; and	This table Table 14
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART principles	Section 7
C7	With the exception of any CEMP Sub-plans expressly nominated by the Planning Secretary to be endorsed by the ER, all CEMP Sub-plans must be submitted to the Planning Secretary for approval.	Section 1.4
C8	The CEMP Sub-plans not requiring the Planning Secretary's approval must obtain the endorsement of the ER as being in accordance with the conditions of approval and all relevant undertakings made in the documents listed in Condition A1. Any of these CEMP Sub-plans must be submitted to the ER with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 1.4
C9	Any of the CEMP Sub-plans to be approved by the Planning Secretary must be submitted to the Planning Secretary with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before construction or where construction is phased no later than one (1) month before the commencement of that phase.	Section 1.4



ID	Requirement <sup>1</sup>	Reference
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable), unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of the CSSI is phased, construction of a phase must not commence until the CEMP and CEMP Sub-plans for that phase have been approved by the Planning Secretary or endorsed by the ER upon nomination by the Planning Secretary (whichever is applicable).	Section 1.4
C11	In addition to the relevant requirements of the CEMP, the Flora and Fauna CEMP Sub-plan must address procedures to avoid, minimise, mitigate and manage impacts on native fauna prior to clearing of vegetation and demolition of potential microbat roost structures. The Flora and fauna CEMP Sub-plan must include, but not be limited to:	Section 7.1 Section 7.4 Appendix A
	(a) preclearance surveys for vegetation and potential microbat roost structures that require demolition;  (b) Unexpected Microbat Find Procedure that: (i) includes protocols in the event microbats are identified; (ii) notification to the NSW Environment and Heritage Group in the event microbats and/or roosting sites are identified; and (iii) details for undertaking and mitigating vegetation clearance.	Section 7.4

1. Other relevant compliance obligations are detailed in Part B of this Sub-plan (Element 4).



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## Definitions

Table 2: Definitions

Acronym	Definition
AA	Acoustic Advisor
BC Act	<i>Biodiversity Conservation Act 2016</i>
CEMP	Construction Environmental Management Plan
DPE	Department of Planning and Environment
DPI	Department of Primary Industries
EEC	Endangered Ecological Community
ECM	Environmental Control Map
EIS	Environmental Impact Statement
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment.
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.
EHG	Environment and Heritage Group (part of DPE)
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
ETP Works	Eastern Tunnelling Package Works
ER	Environmental Representative
E&SMS	Environment and Sustainability Management System
FFMP	Flora and Fauna Management Sub-plan
FM Act	<i>Fisheries Management Act 1994</i>
IC	Independent Certifier
JCG	John Holland CPB Ghella Joint Venture
OOHW	Out-of-hours work
PCT	Plant Community Type
POEO Act	Protection of the Environment Operations Act 1997
Project, the	Eastern Tunnelling Package
REMM	Revised Environmental Mitigation Measure
SM	Sydney Metro
SSI	State Significant Infrastructure
STP	Slurry Treatment Plant



Acronym	Definition
TBM	Tunnel Boring Machine
WONS	Weeds of National Significance
WTP	Water Treatment Plant



## Part A: Overview

### 1. Introduction

#### 1.1. Purpose

This Flora and Fauna Management Sub-plan (FFMP or Sub-plan) is applicable to the construction of the Sydney Metro West - Eastern Tunnelling Package (ETP Works or the Project). This Sub-plan describes how John Holland CPB Ghella Joint Venture (JCG) will minimise and manage the construction flora and fauna impacts of the Project.

This Sub-Plan has been prepared to address the requirements of the:

- State Significant Infrastructure (SSI) 19238057 Infrastructure Approval (dated 24 August 2022) and relevant conditions of the Sydney Metro West Concept Schedule 2 of SSI 10038 Infrastructure Approval (dated 11 March 2021) (Infrastructure Approvals)
- Environment Protection Licence (EPL)
- Sydney Metro West – Stage 2 – Phasing Report
- AS/NZS ISO 14001:2016 Environmental Management Systems – Requirements with guidance for use
- Sydney Metro Construction Environmental Management Framework Version 4.1 (CEMF)
- Environmental Impact Statement (EIS) and the Submissions Report, including the Revised Environmental Mitigation Measures (REMMs)
- Contractual requirements including the ETP Deed and General and Particular Specifications
- Applicable legislation.

#### 1.2. Objectives, targets and key performance indicators

The objectives, targets and key performance indicators for flora and fauna management are detailed in Table 3.

Table 3: Objectives, targets and key performance indicators

Objectives	Targets	Key Performance Indicators
Minimise impacts on flora and fauna	Protect retained and adjacent vegetation and trees All fauna species encountered during construction are handled humanely in accordance with industry standards	Number of incidents involving unauthorised impacts to retained trees or vegetation Number of animals injured and requiring rescue during construction
Design waterway modifications and crossings to incorporate best practice principles	The Project does not involve any modifications to waterways or water crossings	N/A
Retain and enhance existing flora and fauna habitat wherever possible	No unauthorised impacts to retained trees or vegetation	Number of incidents involving unauthorised impacts to retained trees or vegetation
Appropriately manage the spread of weeds and plant pathogens	<ul style="list-style-type: none"> <li>▪ No increase in distribution of weeds currently existing within the construction footprint</li> <li>▪ No new weeds introduced to the construction footprint</li> <li>▪ No transfer of plant diseases or pathogens to, or from, the construction footprint</li> </ul>	<ul style="list-style-type: none"> <li>▪ Extent of weeds within the construction footprint</li> <li>▪ Number of new weed species established in the construction footprint</li> <li>▪ Number of incidents of plant diseases or pathogens establishing in the construction footprint</li> </ul>

#### 1.3. Context and interface with other plans

To achieve the intended environmental performance outcomes of the Project, JCG have established an Environment and Sustainability Management System (E&SMS) in accordance with the requirements of ISO 14001:2016. Guided by the Environment and Sustainability Policy, the E&SMS consists of a Construction Environmental Management Plan (CEMP), issue-specific procedures, Sub-plans and



monitoring programs as illustrated in Figure 1. Implementation of the E&SMS is achieved through tools, checklists and forms as detailed in the CEMP.

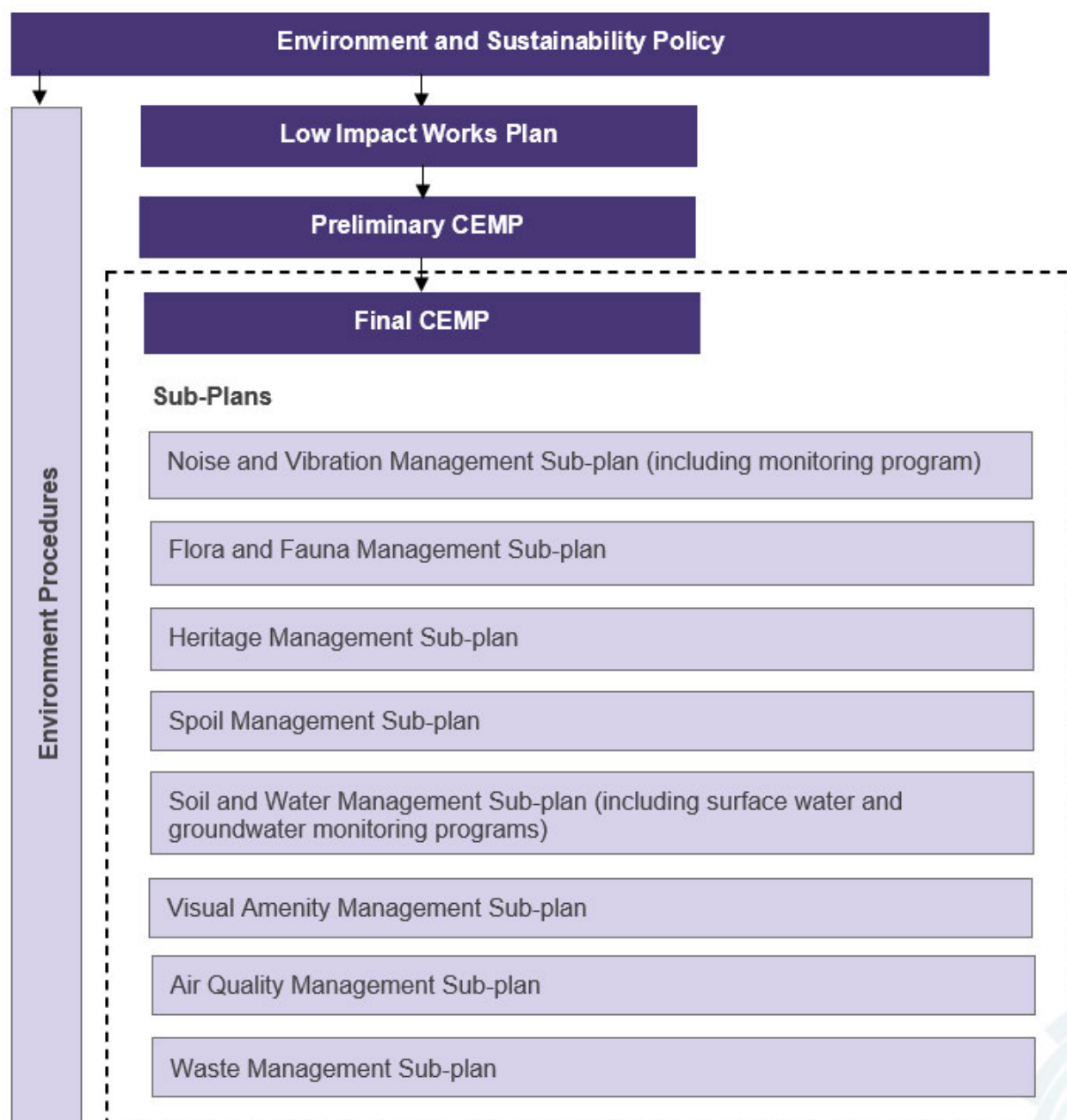


Figure 1: CEMP Framework

#### 1.4. Consultation and approval

Reflecting the requirements of Conditions A6 and C5, this Sub-plan will be prepared in consultation with the Department of Planning and Environment (DPE) Environment and Heritage Group, DPI Fisheries, City of Sydney Council and Inner West Council. A detailed consultation report, including matters raised by stakeholders and JCG responses, will be provided in Appendix B.

As nominated in the Phasing Report, this Sub-plan does not require the Planning Secretary's approval will be endorsed by the ER as being in accordance with the conditions of approval and all relevant undertakings made in the EIS and Submissions Report. The CEMP, Sub-plans and monitoring programs will be submitted to the ER no later than one month before the relevant construction phase.



Construction will not commence until the CEMPs, Sub-plans and monitoring programs have been approved by the Planning Secretary or endorsed by the ER (whichever is applicable). The CEMPs, Sub-plans and monitoring programs, as approved by the Planning Secretary or endorsed by the ER (whichever is applicable), including any minor amendments approved by the ER, will be implemented for the duration of the Project. In accordance with the Sydney Metro Phasing Report, construction of a phase will not commence until the CEMP and CEMP Sub-plans for that phase have been approved by the Planning Secretary or endorsed by the ER upon nomination by the Planning Secretary (whichever is applicable).

### 1.5. Sub-plan structure

Table 4: Plan structure

Part	Details
Part A: Overview	<ul style="list-style-type: none"> <li>▪ Project overview</li> <li>▪ Legal and other requirements</li> <li>▪ People and collaboration</li> <li>▪ Existing environment</li> <li>▪ Environmental aspects and impacts</li> <li>▪ Environmental control measures</li> <li>▪ Compliance management</li> <li>▪ Review and improvement</li> </ul>
Part B: Implementation Systems and Tools	This section summarises the systems and tools that will be implemented to achieve compliance with the Infrastructure Approval, REMMs and CEMF.
Part C: Annexure	Further documents and information that support this Sub-plan include: <ul style="list-style-type: none"> <li>▪ Appendix A Environmental Procedures</li> <li>▪ Appendix B Consultation Report</li> <li>▪ Appendix C Project ecologist CV (Sub-plan author)</li> <li>▪ Appendix D Environmental Representative Endorsement</li> </ul>



## 2. Project overview

### 2.1. Background

Sydney Metro West is a new 24-kilometre metro line that will connect Greater Parramatta with the Sydney CBD via stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

The planning process for Sydney Metro West was assessed as a staged infrastructure application under section 5.20 of the *Environment Planning and Assessment Act 1979* (EP&A Act).

Stage 1 of the development, the Sydney Metro West Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (SSI-10038 Schedule 2), was approved on 11 March 2021 and includes:

- Construction of new passenger rail infrastructure between Westmead and The Bays, including:
  - Tunnels, stations (including surrounding areas) and associated rail facilities
  - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure, including stations and surrounding areas
- Ancillary development.

Stage 2 of the planning approval process, the ETP Works, includes all major civil construction work including station excavation (Pyrmont Station and Hunter Street Station (Sydney CBD) and tunnelling between The Bays and Sydney CBD (Figure 2).

It is noted that the existing Sydney Metro West precast facility at Eastern Creek will be utilised in the delivery of the ETP Works. The facility, which was assessed by Sydney Metro in a Review of Environmental Factors (REF) and approved on 11 March 2021, is outside of the scope of the FFMP.

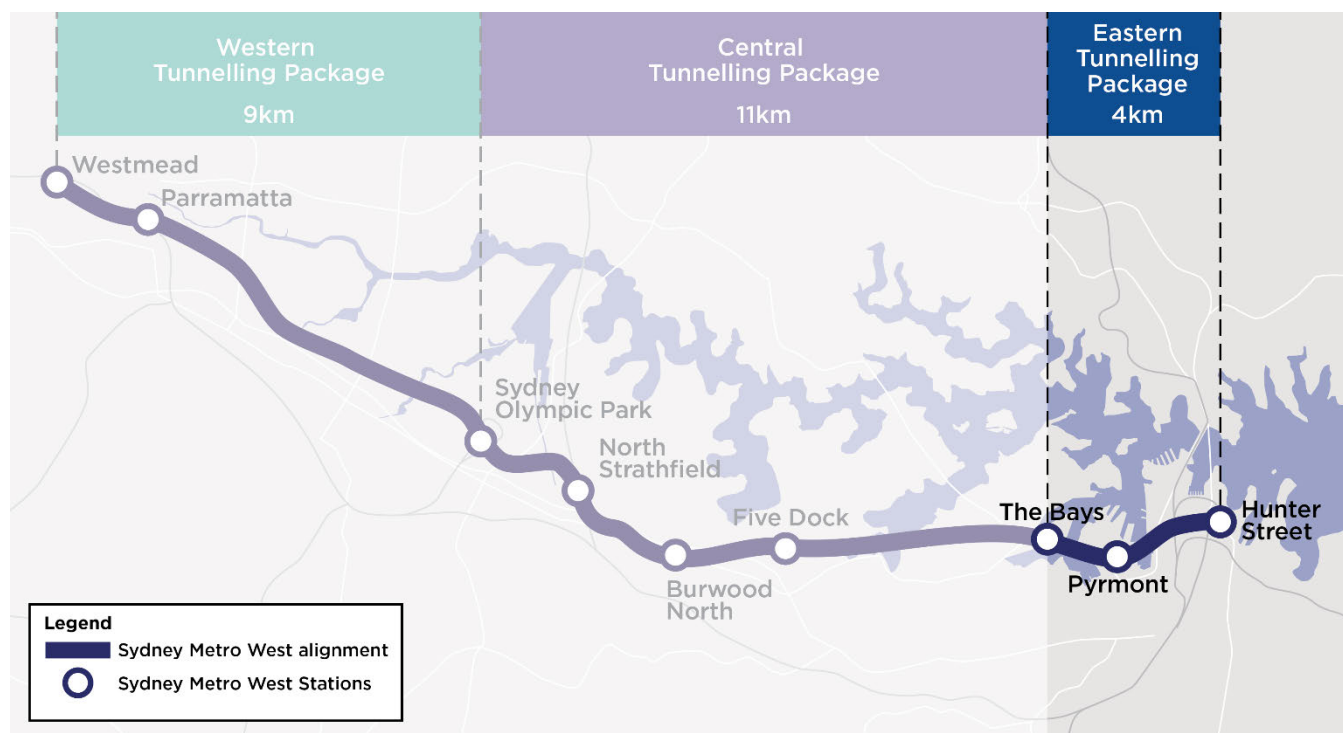


Figure 2: Overview of the Sydney Metro West between The Bays and Sydney CBD (Source: EIS)

### 2.2. Project scope

The ETP Works (construction) involves the delivery of:

- Enabling works such as demolition, utility supply to construction sites, utility adjustments and modifications to the existing transport network
- Mined crossover cavern construction



- 4.2 km of TBM tunnel excavation, 650m of mined tunnels and 7 cross passage excavation, from The Bays to Sydney CBD
- Excavation for two new underground metro stations at Pyrmont and Hunter Street
- Construction of a turnback, crossover tunnels and caverns at the eastern end of the tunnel section
- A concrete segment facility for use during construction located at Eastern Creek (outside of the scope of this Sub-plan).

### 2.3. Project phasing

Reflecting the outcomes of a detailed environmental risk assessment, the ETP Works will be delivered through a phased approach. This approach, detailed in the Phasing Report, includes Low Impact Works as defined under the SSI 19238057 Infrastructure Approval and the activity-based phases for construction (Table 5). Additional details on the phasing of construction activities at each worksite is provided in Table 6.

Table 5: Overview of ETP Works phasing

Phase	Description	Indicative timing	Environmental documentation	Consultation and approvals
Low Impact Works	Activities defined as Low Impact Works under SSI 19238057 Infrastructure Approval, including survey work, investigations, utility relocations, installation of environmental controls and initial demolition works	Project award to May 2023	<ul style="list-style-type: none"> <li>▪ Low Impact Works Plan</li> <li>▪ Low Impact Works DNVIS</li> </ul>	<ul style="list-style-type: none"> <li>▪ ER endorsement</li> </ul>
Preliminary Works	Including works within the existing Hunter Street East acoustic shed, and critical enabling works which are required to be conducted outside of standard hours	March to May 2023	<ul style="list-style-type: none"> <li>▪ Preliminary CEMP</li> <li>▪ Environmental Procedures</li> <li>▪ Hunter Street East acoustic shed works DNVIS</li> <li>▪ Project-wide Out of Hours Works DNVIS</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stakeholder consultation (refer to Section 1.4)</li> <li>▪ ER endorsement</li> </ul>
Tunnelling, Excavation and Associated Works (addressed in this Sub-plan)	Including the Preliminary Works (not completed prior to approval of the final CEMP), demolition of existing industrial premises, site establishment, piling and shaft excavation, tunnelling, and decommissioning	May 2023 onward	<ul style="list-style-type: none"> <li>▪ CEMP</li> <li>▪ Sub-plans</li> <li>▪ Environmental Procedures</li> <li>▪ DNVISs (TBA)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stakeholder consultation</li> <li>▪ ER endorsement</li> <li>▪ DPE approval (as determined by the Phasing Report)</li> </ul>



Table 6: Overview of ETP Works by worksite and work phase

Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
Project wide design survey and investigations	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Survey control, instrumentation and monitoring including installation of benchmarks and installation of optical survey targets</li> <li>Geotechnical drilling (locations to be confirmed in Environmental Control Maps)</li> </ul>	<ul style="list-style-type: none"> <li>Survey control, instrumentation and monitoring including installation of extensometers and piezometers (outside of standard construction hours)</li> <li>Geotechnical drilling (OOHW)</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
The Bays	<ul style="list-style-type: none"> <li>Existing Central Tunnelling Package (CTP) Worksite</li> <li>Existing shaft (30 metres in depth)</li> <li>Existing high voltage construction power supply conduits</li> <li>Existing temporary buildings</li> </ul>	<ul style="list-style-type: none"> <li>Installation of environmental controls</li> <li>Use of existing offices and amenities for start-up</li> <li>Secure site</li> <li>Establishment of pedestrian bridge over site access road</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of additional temporary offices amenities and car parking</li> <li>Establish high voltage power supply and water supply from existing Central Tunnelling Package substation (including trenching)</li> <li>Nozzle enlargements and TBM launch stub tunnels</li> <li>TBM assembly, launch and tunnelling support works from an existing shaft</li> <li>Cross passage construction</li> <li>Segment storage, temporary Water Treatment Plant (WTP) and Slurry Treatment Plant (STP)</li> <li>Principal spoil handling facility for ETP Works</li> </ul>
Pymont West	<ul style="list-style-type: none"> <li>Existing buildings:               <ul style="list-style-type: none"> <li>26-32 Pymont Bridge Road, Pymont (five stories including two basement levels)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Establish portable amenities</li> <li>Initial demolition works including:               <ul style="list-style-type: none"> <li>Hazmat investigation and structural investigation</li> <li>Establishment of site security and hoardings</li> <li>Establishment of truck access</li> <li>Demolition work (soft strip only)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Utility adjustment works, including:               <ul style="list-style-type: none"> <li>Appropriately 20m of trenching in the northern footpath of Pymont Bridge Road (day shift)</li> <li>Approximately 50m of trenching in Paternoster Row (day shift)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Establish site including new construction access driveways, site hoardings, instrumentation and monitoring</li> <li>Utility works, including establishment of temporary construction services, investigation and protection of existing assets, and</li> </ul>



Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
		<ul style="list-style-type: none"> <li>Five archaeological test trenches and, if triggered, salvage excavations</li> <li>Detailed Site Investigation</li> <li>Prepare archival recordings (subject to access)</li> </ul>	<ul style="list-style-type: none"> <li>Removal of overhead cabling from the northern footpath of Pymont Bridge Road (one OOHV shift)</li> <li>Adjustment of property utility connections</li> <li>Detailed Site Investigation</li> </ul>	decommissioning of redundant assets (including trenching) <ul style="list-style-type: none"> <li>Demolition of existing buildings</li> <li>Archaeological monitoring during basement slab removal and investigations (if required)</li> <li>Establishment and use of temporary offices and amenities</li> <li>Excavation of temporary shaft within the station shaft footprint</li> <li>Installation of acoustic shed with gantry crane and steel bridging deck for excavation of station shaft, pedestrian and service adits and spoil handling for cross over cavern</li> <li>Permanent concrete lining of cavern and adit connections</li> <li>Installation of acoustic shed will support material handling outside standard hours of work</li> </ul>
Pymont East	<ul style="list-style-type: none"> <li>Existing buildings               <ul style="list-style-type: none"> <li>37-69 Union St, Pymont (four stories with no basement)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Establish portable amenities</li> <li>Initial demolition works including:               <ul style="list-style-type: none"> <li>Hazmat investigation and structural investigation</li> <li>Establishment of site security and hoardings</li> <li>Establishment of truck access</li> <li>Demolition work (soft strip only)</li> </ul> </li> <li>Detailed Site Investigation</li> <li>Street tree removal</li> </ul>	<ul style="list-style-type: none"> <li>Detailed Site Investigation</li> <li>Adjustment of property utility connections</li> </ul>	<ul style="list-style-type: none"> <li>Establish site including new construction access driveways, site hoardings, instrumentation and monitoring</li> <li>Decommissioning of existing electricity kiosk</li> <li>Utility works, including establishment of temporary construction services, investigation and protection of existing assets, and decommissioning of redundant assets (including trenching)</li> <li>Establishment of high voltage power supply (including trenching)</li> </ul>



Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
				<ul style="list-style-type: none"> <li>Demolition of existing buildings</li> <li>Contamination management based on DSI</li> <li>Establishment and use of temporary offices and amenities</li> <li>Excavation of temporary shaft within the station shaft footprint</li> <li>Installation of acoustic shed with gantry crane and steel bridging deck for excavation of station shaft and cavern</li> <li>Permanent concrete lining of station cavern and nozzle enlargements</li> <li>Installation of acoustic shed will support material handling outside standard hours of work</li> </ul>
Hunter Street West	<ul style="list-style-type: none"> <li>Existing buildings               <ul style="list-style-type: none"> <li>7-13 Hunter St, Sydney (9 Hunter St) (21 stories including one basement level)</li> <li>5 Hunter St, Sydney (304-408 George St, Sydney) (16 stories, including two basement levels)</li> <li>298-302 George St, Sydney (16 stories, including one basement level)</li> <li>312 George St, Sydney (one story with no basement)</li> <li>314-318 George St, Sydney (nine stories, including one basement level)</li> <li>Heritage building at 296 George St directly (adjacent to Hunter Street West site)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Establish portable amenities</li> <li>Archaeological investigations of DeMestre Place (if access dates allow)</li> <li>Initial demolition works including:               <ul style="list-style-type: none"> <li>Hazmat investigation and structural investigation</li> <li>Establishment of site security and hoardings</li> <li>Establishment of truck access</li> <li>Demolition work (soft strip only)</li> </ul> </li> <li>Demolition soft strip</li> <li>Prepare archival recordings (subject to access)</li> </ul>	<ul style="list-style-type: none"> <li>Establish construction access driveways at the Hunter Street East site and the Hunter Street West site</li> <li>Utility investigation potholes</li> <li>Adjustment of property utility connections</li> </ul>	<ul style="list-style-type: none"> <li>Protection, adjustment and decommissioning of utility services (including trenching)</li> <li>Temporary services investigation and installation at DeMestre Place</li> <li>Relocate street lighting pole to allow site access</li> <li>Establish site including new construction access driveways, site hoardings, instrumentation and monitoring</li> <li>Demolition of existing buildings</li> <li>Archaeological monitoring during basement slab removal and investigations (if required)</li> <li>Establishment and use of temporary offices and amenities</li> <li>Excavation of station access shaft</li> </ul>



Worksite	Site condition at handover to JCG	Low Impact Works	Preliminary Works	Final CEMP
Hunter Street East	<ul style="list-style-type: none"> <li>Site hoarding</li> <li>Existing acoustic shed, spoil handling facilities and truck access</li> <li>Existing excavation within acoustic shed (approximately 5 metres below road level)</li> <li>Existing temporary WTP and high voltage power supply</li> <li>Existing temporary office and amenities</li> <li>Existing buildings:               <ul style="list-style-type: none"> <li>28-34 O'Connell St, Sydney (19 stories, including three basement levels)</li> <li>44-48 Hunter St, Sydney (16 stories, including one basement level)</li> <li>37 Bligh St, Sydney (16 stories, including one basement level)</li> <li>33 Bligh St, Sydney (steel shed, appropriately 20m in height)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Use of existing offices and amenities</li> <li>Maintenance of existing temporary WTP</li> <li>Internal temporary fit-out within the existing Hunter St East acoustic shed:               <ul style="list-style-type: none"> <li>Reticulate high voltage power supply ready for decline excavation</li> <li>Site adjustments within the acoustic shed to facilitate the high voltage construction power reconfiguration</li> <li>Establish (including assembly) road header, dust scrubber, shotcrete and bolting equipment</li> <li>Site establishment within existing offices and amenities</li> </ul> </li> <li>Initial demolition works including:               <ul style="list-style-type: none"> <li>Hazmat investigation and structural investigation</li> <li>Establishment of site security and hoardings</li> <li>Establishment of truck access</li> <li>Demolition work (soft strip only)</li> </ul> </li> <li>Street tree trimming/removal</li> <li>Prepare archival recordings (subject to access)</li> </ul>	<ul style="list-style-type: none"> <li>Preliminary excavation within the existing acoustic shed (works to be conducted 24 hours each day and 7 days each week)               <ul style="list-style-type: none"> <li>Temporary declines using a road header</li> <li>Ventilation-duct bores</li> <li>Ventilation adits using a Brock excavator</li> <li>Approximately 50 truck movements per day (conducted in accordance with a Construction Traffic Management Plan)</li> <li>Use of existing WTP (subject to the inclusion of alternative discharge criteria in the EPL)</li> </ul> </li> <li>Load-out of excavated spoil</li> <li>Utility investigation potholes</li> <li>Adjustment of property utility connections</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade of high voltage power supply (including trenching)</li> <li>Excavation of station cavern, nozzle enlargements and turnbacks from within an existing acoustic shed</li> <li>Establish site including new construction access driveways, site hoardings, instrumentation and monitoring</li> <li>Tree trimming and removal</li> <li>Demolition of existing high-rise buildings and excavation of stage 1 of station access shaft</li> <li>Archaeological monitoring during basement slab removal and investigations (if required)</li> <li>Backfill of temporary decline prior to decommissioning</li> <li>Demolition of existing acoustic shed and amenities and excavation of stage 2 of station access shaft</li> <li>Concrete lining of station cavern and turnbacks</li> <li>TBM disassembly and retrieval</li> </ul>
Eastern Creek	<ul style="list-style-type: none"> <li>Existing temporary precast facility</li> </ul>	<ul style="list-style-type: none"> <li>N/A (site is not within the scope of SSI 19238057)</li> </ul>	<ul style="list-style-type: none"> <li>N/A (site is not within the scope of SSI 19238057)</li> </ul>	<ul style="list-style-type: none"> <li>N/A (site is not within the scope of SSI 19238057)</li> </ul>



### 3. Legal and other requirements

#### 3.1. Legislation

This Sub-plan has been prepared in accordance with the:

- NSW Environmental Planning and Assessment Act 1979 (EP&A Act)
- NSW Protection of the Environment Operations Act 1997 (POEO Act)
- NSW National Parks and Wildlife Act 1974
- NSW Biodiversity Conservation Act 2016 (BC Act)
- NSW Biosecurity Act 2015
- NSW Pesticides Act 1999
- NSW Fisheries Management Act 1994 (FM Act)
- Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Additional details on legislative requirements are provided in Section 3.3 of the CEMP.

#### 3.2. Guidelines

The main guidelines, specifications and policy documents of relevance to this Sub-plan include:

- Australian Standard AS 4373 Pruning of Amenity Trees
- Australian Standard AS 4970 Protection of Trees
- New South Wales Weed Control Handbook (DPI 2018)
- Managing Urban Stormwater: Soils and Construction, Volume 1 (Landcom 2004) and Volume 2 (Department of Environment and Climate Change 2008) (the “Blue Book”)
- EPA Resource Recovery Order 2014 – Raw Mulch;
- EPA Resource Recovery Exemption 2014 – Raw Mulch
- Best Practice Management Guidelines for *Phytophthora cinnamomi* within the Sydney Metropolitan Catchment Management Authority Area (Botanic Gardens Trust 2008)
- Microbat Management Guidelines: A guide for undertaking works in culverts, bridges and other structures (TfNSW, 2021).

#### 3.3. Other environmental requirements

Other environmental requirements relevant to managing flora and fauna include the conditions of the Infrastructure Approvals and the REMMs outlined in the Submissions Report (refer to Element 4: Project Specific Requirements).



## 4. People and collaboration

### 4.1. Our team

The roles and responsibilities of key JCG personnel with respect to flora and fauna management are detailed in Table 7.

Table 7: Key roles, authority and responsibility

Element	Description
<b>Project Director</b>	
<b>Role</b>	<ul style="list-style-type: none"> <li>Manage the delivery of the Project in accordance with the ETP Deed</li> </ul>
<b>Authority</b>	<ul style="list-style-type: none"> <li>Hold the authority to direct personnel or subcontractors to carry out actions to avoid or minimise unintended environmental impacts</li> <li>Act as the Contractor's Representative</li> </ul>
<b>Responsibility</b>	<ul style="list-style-type: none"> <li>Accountable for the environmental and sustainability performance of the Project</li> <li>Allocate sufficient resources to achieve environmental and approvals compliance</li> </ul>
<b>Minimum Skill Level</b>	<ul style="list-style-type: none"> <li>Tertiary qualification in Engineering or other associated disciplines</li> <li>Relevant experience on similar projects and significant project delivery experience</li> </ul>
<b>Project Interface</b>	<ul style="list-style-type: none"> <li>Lead the JCG Senior Leadership Team and interface with Sydney Metro team</li> </ul>
<b>Environment, Approvals and Sustainability Director</b>	
<b>Role</b>	<ul style="list-style-type: none"> <li>Manage the delivery of environment and sustainability requirements</li> </ul>
<b>Authority</b>	<ul style="list-style-type: none"> <li>Authority to produce any correspondence and documentation necessary for approvals, and environmental and sustainability management</li> <li>Authority to take all reasonable steps to achieve environmental compliance</li> </ul>
<b>Responsibility</b>	<ul style="list-style-type: none"> <li>Accountable for flora and fauna management</li> <li>Lead the creation of a consultative and proactive culture that ensures environmental compliance and 'No Harm' as a driver of work behaviour</li> <li>Lead and manage the development and implementation of a risk-based EMS</li> <li>Ensure environmental and sustainability participation at Value Engineering Workshops</li> <li>Provide specialist flora and fauna advice to the Project Director and other functional managers to facilitate design and construction</li> <li>Oversee the preparation of environmental assessments on design changes and obtain any necessary planning approvals</li> <li>Oversee the reporting, investigation and response to environmental incidents or complaints</li> <li>Liaise with Sydney Metro and external stakeholders on performance and continual improvement</li> <li>Review and release of Hold Points under this Sub-plan (refer to Table 10)</li> </ul>
<b>Minimum Skill Level</b>	<ul style="list-style-type: none"> <li>Tertiary qualification in Environmental Engineering, Science, Sustainability or other associated discipline</li> <li>Recent relevant experience in environmental management on a similar project</li> <li>Minimum of 15 years' environmental management experience and 5 years' sustainability management</li> </ul>
<b>Project Interface</b>	<ul style="list-style-type: none"> <li>Member of the JCG Senior Leadership Team and interface with Sydney Metro West Environment and Sustainability team</li> </ul>
<b>Environment Manager</b>	
<b>Role</b>	<ul style="list-style-type: none"> <li>Manage day-to-day environmental compliance, including flora and fauna management</li> </ul>
<b>Authority</b>	<ul style="list-style-type: none"> <li>Authority to stop works where a Hold Point has not been adequately released</li> </ul>
<b>Responsibility</b>	<ul style="list-style-type: none"> <li>Assist the Environment, Approvals and Sustainability Director in the creation of a consultative and proactive culture</li> <li>Manage the implementation of the CEMP, including flora and fauna management</li> </ul>



Element	Description
	<ul style="list-style-type: none"> <li>▪ Deliver the environmental induction and training program</li> <li>▪ Undertake environmental site monitoring and inspections</li> <li>▪ Facilitate site inspections with Sydney Metro, the ER and the Acoustic Advisor (AA)</li> <li>▪ Report and assist in incident management</li> </ul>
<b>Minimum Skill Level</b>	<ul style="list-style-type: none"> <li>▪ Tertiary qualification in Environmental Engineering, Science, Sustainability or other associated disciplines</li> <li>▪ Minimum of 8 years' relevant experience</li> </ul>
<b>Project Interface</b>	<ul style="list-style-type: none"> <li>▪ Attend environment, sustainability, design and construction meetings</li> </ul>
<b>Environmental Advisor</b>	
<b>Role</b>	<ul style="list-style-type: none"> <li>▪ Support day-to-day environmental compliance, including flora and fauna management</li> </ul>
<b>Authority</b>	<ul style="list-style-type: none"> <li>▪ Authority to stop works where a Hold Point has not been adequately released</li> </ul>
<b>Responsibility</b>	<ul style="list-style-type: none"> <li>▪ Assist the Environment Manager in the creation of a consultative and proactive culture</li> <li>▪ Support the implementation of the CEMP, including flora and fauna management</li> <li>▪ Deliver the environmental induction and training program</li> <li>▪ Undertake environmental site monitoring and inspections</li> <li>▪ Facilitate site inspections with Sydney Metro, the ER and the Acoustic Advisor (AA)</li> <li>▪ Report and assist in incident management</li> </ul>
<b>Minimum Skill Level</b>	<ul style="list-style-type: none"> <li>▪ Tertiary qualification in Environmental Engineering, Science, Sustainability or other associated disciplines</li> <li>▪ Minimum of 2 years' relevant experience</li> </ul>
<b>Project Interface</b>	<ul style="list-style-type: none"> <li>▪ Attend environment, sustainability, design and construction meetings</li> </ul>
<b>Site Supervisor</b>	
<b>Role</b>	<ul style="list-style-type: none"> <li>▪ Assist the Construction Director in implementing the requirements of this Sub-plan</li> </ul>
<b>Authority</b>	<ul style="list-style-type: none"> <li>▪ Authority to stop works where a Hold Point has not been adequately released</li> </ul>
<b>Responsibility</b>	<ul style="list-style-type: none"> <li>▪ Support the implementation of the CEMP, including implementation of flora and fauna controls and procedures</li> <li>▪ Deliver the environmental inductions where required</li> <li>▪ Undertake environmental inspections</li> <li>▪ Report and assist in incident management</li> </ul>
<b>Minimum Skill Level</b>	<ul style="list-style-type: none"> <li>▪ Qualification in relevant trade</li> <li>▪ Minimum of 5 years' relevant experience</li> </ul>
<b>Project Interface</b>	<ul style="list-style-type: none"> <li>▪ Attend construction meetings</li> </ul>

#### 4.2. Qualified Ecologist

The JCG team will be supported by a qualified ecologist who will provide the following ecological services during construction:

- Assess consistency of ecological impacts of design changes to those considered and approved in the EIS
- Complete pre-clearing inspections of trees and vegetation at least 14 days prior to the clearing of vegetation
- Mark habitat features, including trees containing hollows or nests
- Check on the physical demarcation of the limit of clearing
- Identify and survey features that could provide roosts for microbats including abandoned buildings, culverts and other under-road structures
- Prepare and implement a Microbat Management Plan if microbats, or evidence of their occurrence, are detected within the construction sites
- Prepare the Pre-Clearing and Grubbing Report



- Review and release of Hold Points under this Sub-plan (refer to Table 10)
- Supervise the felling of habitat trees, at least 24 hours after the clearance of non-marked vegetation, and rescue and relocate any fauna remaining in the tree in accordance with the Fauna Handling Procedure (Appendix A)
- Prepare a post clearance report.

#### **4.3. Project Arborist**

The JCG team will be supported by a suitably qualified project arborist (AQF Level 5 qualification in Arboriculture) who will provide the following services during construction:

- Undertake a detailed survey of street trees that would be pruned or have the potential to be impacted as part of the construction of the Project
- Provide advice on measures to minimise damage to street trees prior to construction works commencing, in accordance with AS 4970-2009 - Protection of Trees on Development Sites.

#### **4.4. Collaboration with Sydney Metro, the ER and the AA**

The Environment, Approvals and Sustainability team will openly communicate and consult with Sydney Metro, the ER and the AA. This will include:

- Working collaboratively to ensure appropriate strategies are identified and implemented
- Holding regular meetings with the Sydney Metro Environment Team to provide updates on the construction process and receive any feedback
- Facilitating regular inspections with Sydney Metro, the ER and the AA
- Recording and responding appropriately to environmental complaints and enquiries and reporting them to Sydney Metro and other stakeholders including the ER, the AA and the EPA in a timely manner
- Providing comprehensive information to manage incidents including details on preventative actions to avoid re-occurrence.



## 5. Existing environment

The following sections summarise existing flora and fauna within and adjacent to the Project including species, communities and habitats. The key reference document is the Sydney Metro West EIS Chapter 18 – Biodiversity.

The Project will be located within a highly urbanised area that does not possess large expanses of intact native vegetation with high biodiversity value. As most of the Project will be underground or in pre-existing developed areas, direct impacts to terrestrial biodiversity have been largely avoided and/or minimised.

Given the existing environment, Sydney Metro prepared a BDAR waiver (Sydney Metro, 2021). The DPE determined on 24 June 2021 that the proposal is not likely to have any significant impact on biodiversity values in accordance with section 7.9(2) of the *Biodiversity Conservation Act 2016* (BC Act) and that application of the Biodiversity Offset Scheme is not required.

### 5.1. Tunnel alignment

The tunnel alignment will be located within a highly modified landscape where fauna habitat has been largely cleared. The tunnel alignment will be located underground, where no vegetation is present. There are no groundwater dependent ecosystems located within 500 metres of the tunnel alignment.

The construction sites will be located entirely within the Sydney Metro catchment (Port Jackson). The construction sites are surrounded by White Bay, Elizabeth Macarthur Bay, Rozelle Bay, Jones Bay, Johnstons Bay, Blackwattle Bay, Tumbalong Bay, Cockle Bay, Darling Harbour and Pyrmont Bay. However, there are no rivers, streams and estuaries present within the construction sites.

### 5.2. The Bays tunnel launch and support site

The Bays Station construction site was established under the Sydney Metro West Concept and Stage 1 Infrastructure Approval and all vegetation was cleared prior to the commencement of the ETP Works.

As a result, there will be no naturally occurring native vegetation present within The Bays tunnel launch and support site. As no foraging, roosting or breeding habitat is present, no threatened fauna species are anticipated to be present. The Bays tunnel launch and support site is not classified as important habitat for migratory species.

### 5.3. Pyrmont Station construction sites

#### 5.3.1. Native vegetation and vegetation integrity

There is some native vegetation that has been planted within the Pyrmont Station construction sites (Figure 3). This vegetation is not classified as a Plant Community Type (PCT) nor is it associated with any Threatened Ecological Communities. The vegetation is best described as miscellaneous ecosystems, specifically as 'highly disturbed areas with no or limited native vegetation'. The landscape plantings within the Pyrmont Station construction sites are dominated by exotic species.

Native species located within or adjacent to the construction sites include:

- *Syzygium austral* (Brush Cherry)
- *Melaleuca citrina* (Crimson Bottlebrush)
- *Corymbia maculata* (Spotted gum).

Exotic species located within or adjacent to the construction sites include:

- *Populus alba* var. *pyramidalis* (Silver-leaf Poplar)
- *Robinia pseudoacacia* (Black locust)
- *Platanus x acerifolia* (London Plane).





Figure 3: Vegetation to be removed within and adjacent to the Pymont Station construction sites (Source, EIS Figure 18-1)

### 5.3.2. Threatened flora species

It is considered unlikely that any threatened flora is present within 1.5 kilometres of the Pymont Station construction sites.

### 5.3.3. Threatened fauna species

While there is no physical connectivity associated with the construction sites, flying animals such as birds and bats may use the airspace to move between habitats, and planted non-native vegetation has the potential to be used as a foraging or perching resource. There may be threatened birds and bats present within 1.5 kilometres of the Pymont Station construction sites as shown in Table 8. The Grey-headed Flying Fox, Powerful Owl and Little Lorikeet were assessed as having a potential likelihood of occurring within the construction sites and foraging in or around planted native trees.

Table 8: Threatened species and likelihood of occurrence within 1.5 kilometres of the Pymont Station and Hunter Street Station (Sydney CBD) construction sites

Scientific Name	Common name	Likelihood of occurrence
<b>Birds</b>		
<i>Artamus cyanopterus</i>	Dusky Woodswallow	Low
<i>Haliaeetus leucogaster</i>	White-bellied Sea Eagle	Low
<i>Ninox strenua</i>	Powerful Owl	Low
<i>Ptilinopus superbus</i>	Superb Fruit-Dove	Low
<i>Glossopsitta pusilla</i>	Little lorikeet	Moderate
<b>Mammals</b>		
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	Low



Scientific Name	Common name	Likelihood of occurrence
<i>Myotis macropus</i>	Southern Myotis	Low
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Moderate

While human-made structures may provide habitat for threatened species, particularly microbats, the likelihood of occurrence within the Pyrmont Station construction sites is considered to be low. The human-made structures to be removed by the Project at the Pyrmont Station construction sites are not old or derelict, and as such are unlikely to offer suitable roosting habitat for threatened microbats.

Some threatened bat and bird species may use the planted native vegetation at the Pyrmont Station construction sites. However, this is unlikely given the small size of the trees, the noise disturbance from the road and the isolation from other habitat patches. The presence of better-quality foraging habitat available surrounding the Pyrmont Station construction sites makes visitation of the planted native vegetation on the construction sites unlikely.

#### 5.4. Hunter Street Station (Sydney CBD) construction sites

There is no native vegetation within the Hunter Street Station (Sydney CBD) construction sites (Figure 4). Exotic species located within or adjacent to the construction sites include:

- *Celtis australis* (European Nettle Tree)
- *Platanus x acorifolia* (London Plane)
- *Populus alba* var. *pyramidalis* (Silver leaf Poplar).



Figure 4: Vegetation to be removed within and adjacent to the Hunter Street Station construction sites (Sydney CBD) (Source, EIS Figure 18-2)

##### 5.4.1. Threatened flora species

It is considered unlikely that any threatened flora is present within 1.5 kilometres of the Hunter Street Station (Sydney CBD) construction sites.



#### 5.4.2. Threatened fauna species

There may be threatened birds and bats present within 1.5 kilometres of the Hunter Street Station (Sydney CBD) construction sites, as shown in Table 8. The Grey-headed Flying Fox, Powerful Owl and Little Lorikeet were assessed as having a potential likelihood of occurring within the construction sites and foraging in or around planted native trees.

Similar to the Pyrmont Station constructions sites, while human-made structures to be removed may provide habitat for threatened species, particularly microbats, the likelihood of occurrence within the construction sites is considered to be low.

Some threatened bat and bird species may use the planted native vegetation on the Hunter Street Station (Sydney CBD) construction sites. It is unlikely, however, given the small size of the trees, the noise disturbance from the road, the isolation from other habitat patches, and the presence of better-quality foraging habitat available.



## 6. Environmental aspects and impacts

### 6.1. Construction activities

Key aspects of the Project that could result in adverse flora and fauna impacts include:

- Removal of trees and vegetation to enable utility works, access to nominated worksites, installation of hoarding and construction of the approved project (excavation, tunnelling and support activities)
- Demolition of existing buildings
- Movement of vehicles and equipment such as mobile cranes, excavators, concrete pumps, piling rigs, etc.

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

### 6.2. Impacts

Vegetation clearing has been largely avoided through the design of the Project, with tree removals avoided where practicable. There are no groundwater dependent ecosystems located within 500 metres of the tunnel alignment and no vegetation will be impacted during tunnelling. As such, no biodiversity impacts are anticipated.

The Bays tunnel launch and support site will be located within the footprint of the approved The Bays station construction site, as such there would be no further direct impacts to biodiversity at The Bays station construction site.

#### 6.2.1. Removal of trees and vegetation

Construction of the Project would require some removal of vegetation, primarily at the Pyrmont Station and Hunter Street Station (Sydney CBD) construction sites.

Vegetation within or surrounding the Pyrmont Station construction sites to be removed would include:

- Up to seven planted native trees, comprising
  - Five *Syzygium austral* (Brush Cherry)
  - One *Melaleuca citrina* (Crimson Bottlebrush)
  - One *Corymbia maculata* (Spotted gum)
- Up to five exotic trees, comprising:
  - One *Populus alba* var. *pyramidalis* (Silver-leaf Poplar)
  - One *Robinia pseudoacacia* (Black locust)
  - Three *Platanus x acerifolia* (London Plane)
- Up to 250 square metres of exotic vegetation.

Vegetation within or surrounding the Hunter Street Station (Sydney CBD) construction sites to be removed would include:

- Up to four exotic trees would be removed, comprising:
  - Up to one *Celtis australis* (European Nettle Tree)
  - Up to two *Platanus x acerifolia* (London Plane)
  - Up to one *Populus alba* var. *pyramidalis* (Silver leaf Poplar).

Potential tree trimming may also be required to establish hoardings along Hunter Street within the Hunter Street Station (Sydney CBD) construction sites. However, all trees adjacent the Hunter Street Station (Sydney CBD) construction sites are exotic species and, other than those trees listed above, all remaining trees would be retained along Hunter Street, O'Connell Street and George Street.

#### 6.2.2. Threatened flora species

As none of the trees that would be cleared are considered threatened flora species, and other threatened flora species are unlikely to be located within the Pyrmont Station or Hunter Street Station (Sydney CBD) construction sites, no threatened flora species impacts are anticipated as a result of the Project.

#### 6.2.3. Threatened fauna species



The Project is located within a highly modified landscape where fauna habitats have been largely cleared. While there is no physical connectivity associated with the construction sites, flying animals such as birds and bats may use the airspace to move between habitats, and planted non-native vegetation has the potential to be used as a foraging or perching resource.

Considering the extent of higher quality foraging resources in the locality, the removal of 12 planted trees within the Pymont Station, and up to four exotic trees at the Hunter Street Station (Sydney CBD) construction sites, is unlikely to significantly impact threatened fauna species that may use the trees for foraging, including the Grey-headed Flying Fox, Powerful Owl and Little Lorikeet.

While human-made structures to be removed may provide habitat for threatened species, particularly microbats, the likelihood of occurrence within the Pymont Station or Hunter Street Station (Sydney CBD) construction sites is considered to be low. As a result, the human-made structures are not anticipated to offer suitable roosting habitat for threatened microbats.

The planted native vegetation at the Pymont Station construction sites is unlikely to be used by bats and birds. Some threatened bat and bird species may use the planted native vegetation on the Hunter Street Station (Sydney CBD) construction sites. However, given the small size of the trees, the noise disturbance from the road, the isolation from other habitat patches, and the presence of better-quality foraging habitat available, impacts to threatened bat and bird species are not anticipated as a result of the Project.

No other impacts to threatened fauna species are anticipated as a result of the Project.

#### **6.2.4. Fauna mortality through vehicle collision**

There is a chance of fauna mortality during construction through vehicle collision. Mammals, reptiles, amphibians and birds are all at risk of vehicle strike, particularly those common species (e.g. birds) that are tolerant of disturbance and would remain within construction sites. The risk of increased vehicle strike due to the Project however is low and would generally be limited to movement of vehicles to and from sites. Vehicle strike associated with the Project is unlikely to affect any threatened species of animals.

#### **6.2.5. Invasion and spread of weeds**

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 that currently occur. Disturbed areas, such as those in which earthworks are to be carried out, would be particularly susceptible to weed establishment.

The Project area is largely underground, and where surface disturbance occurs, such as construction sites, no native vegetation which meets the criteria for a PCT is present, reducing the threat of weeds to terrestrial biodiversity.



## 7. Environmental control measures

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, as amended in the Submissions Report, Infrastructure Approvals and the CEMF. Specific measures and requirements to address impacts on flora and fauna are outlined in Table 9.

This section has been developed in consideration of the SMART Principles – Specific, Measurable, Achievable, Relevant and Time-based. Ongoing risk assessments undertaken throughout the development of the EIS and Submissions Report have informed the identified of REMMs. This included the consideration of all issues that require management during construction (including cumulative impacts). On this basis, the control measures are considered to be relevant and achievable for the Project and will be monitored against specific, measurable and time-based targets through the compliance management (refer to Section 8 and Part B, Element 2). Additional details on the environmental risk assessment procedure (including ongoing risk assessments) are provided in the CEMP (Section 3.5).

### 7.1. Tree Clearing and Grubbing Procedure

The Tree Clearing and Grubbing Procedure (Appendix A) outlines the steps to be taken, and hold points required, when the clearing of trees or vegetation is required.

Trees requiring a pre-clearing inspection will be identified by the Environmental Advisor in consultation with the Project Engineer or Site Supervisor. A pre-clearing inspection will be undertaken by a suitably qualified ecologist and JCG prior to any native vegetation clearing. The pre-clearing inspection will include, as a minimum:

- Identification of hollow bearing trees or other habitat features
- Identification of any threatened flora and fauna
- A check on the physical demarcation of the limit of clearing
- An approved erosion and sediment control plan for the worksite, and
- The completion of any other pre-clearing requirements required by any project approvals, permits or licences.

The completion of the pre-clearing inspection will form a Hold Point requiring sign-off from the Environment, Approvals and Sustainability Director (or delegate) and a qualified ecologist (refer to Section 8.1).

A post clearance report will be produced that validates the type and area of vegetation cleared (refer to Table 12).

### 7.2. Fauna Handling Procedure

The Fauna Handling Procedure (Appendix A) outlines the steps to be taken when fauna is encountered within or surrounding the construction sites that needs to be rescued and relocated, or has been injured and needs to be taken into care.

Fauna rescue should 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. The indicative procedure where fauna is discovered is as follows:

- Stop all work in the vicinity of the fauna in accordance with the Fauna Handling Procedure and immediately notify the Environmental Advisor
- Seek advice from the Environmental Advisor and/or qualified ecologist to positively identify the species and any recommendations regarding the care of the animal
- Allow the fauna to leave the area without intervention where possible
- Where the fauna does not, or cannot, vacate the construction area itself, a qualified ecologist or wildlife carer with animal handling experience will carry out any fauna handling.

To minimise stress to the fauna and remove the risk of injury, the appropriately experienced person shall:



- Attempt to herd the animal into adjoining habitat (where available) outside of the construction area
- If capture is necessary, larger animals will be covered with a towel or blanket and placed in a suitably large box and/or cotton/calico bag
- Smaller animals will be placed in a cotton/calico bag tied at the top
- The animal will be in a ventilated and quiet place away from noisy construction activities
- If fauna is not injured, relocate to the suitable location identified in the pre-clearing process away from construction activities

If the fauna cannot be handled (i.e. venomous reptiles):

- Exclude all personnel from the vicinity
- Record the exact location of the animal and provide details to the appropriate rescue person (snake handler or qualified ecologist).

If injured fauna is found, contact WIRES (1300 094 737) in the first instance for advice and collection of the animal. The injured animal should be placed in a well-ventilated box, in a quiet, dark place until it is collected. If the animal is aggressive or dangerous, restrict general access to the area, record the location of the animal and provide details to the qualified ecologist or WIRES.

If the fauna species is a threatened species not identified in the EIS, the Environment, Approvals and Sustainability Director (or delegate) must apply the Unexpected Threatened Species Finds Procedure (Appendix A).

### 7.3. Unexpected Threatened Species Finds and Stop Work Procedure

The Unexpected Threatened Species Finds and Stop Work Procedure (Appendix A) outlines the steps and hold points to be taken if an unexpected threatened flora or fauna species is encountered during the works. The procedure also provides profiles of threatened fauna that could be encountered within the construction sites.

In accordance with the procedure, the Environment, Approvals and Sustainability Director (or delegate) would arrange for the qualified ecologist to review the likely impact of the works to the species, with reference the impacts predicted in the EIS. If the animal(s) is roosting within the construction sites, the qualified ecologist will also develop management options in consultation with EHG.

A record of the unexpected finds will be maintained by JCG including the following details:

- Date, time and location of unexpected find
- Details regarding assessment by the Environment, Approvals and Sustainability Director (or delegate) (and advice from suitably qualified ecologist or specialist)
- Actions undertaken before work recommenced.

If the unexpected threatened species is a microbat, refer to the Unexpected Microbat Find Procedure (Section 7.4) for additional requirements.

### 7.4. Unexpected Microbat Find Procedure

The EIS considered the likelihood of occurrence of microbats in the structures and vegetation at the Pyrmont Station and Hunter Street Station (Sydney CBD) construction sites to be low.

There is nonetheless still potential for microbat presence and habitat potential. Individual microbats are typically not clearly visible, but signs of microbat activity include:

- Audible sounds of bat calls 'squeaking'
- Bat scats/guano
- Roosting bats concealed within the structure
- Discolouration or staining from urine
- Presence of parasitic bat flies (Nycteribiid and Streblid)
- Musty animal smells.

If microbats, or evidence of their occurrence, are detected the following procedure is to be followed:

- Stop all work in the vicinity of the microbat and immediately notify the Environment Manager (or delegate)



- The Environment, Approvals and Sustainability Director (or delegate) will arrange for the qualified ecologist to undertake a microbat survey in accordance with accepted industry practice including:
  - A thorough inspection of the structure including an assessment of habitat (may include use of thermal imaging cameras if available)
  - Monitoring for microbat calls using acoustic detectors (such as Anabat), which may assist in the assessment/identification of the species present
  - Undertaking fly-out / fly-in survey (may include use of thermal imaging cameras if available) when microbats exit and leave the roost at dusk/dawn
  - Consideration of the likely impact (and proposed timing) of the activity on any microbats.

If the survey determines that microbats are not present or unlikely to be impacted, then no further consideration of microbats is recommended.

If the survey determines that microbats are present or likely to be impacted, the Environment, Approvals and Sustainability Director (or delegate) will notify EHG. The qualified ecologist will assess if the works are likely to disturb the microbats or their habitat through:

- Direct disturbance of microbats and roosts (the presence of workers close to habitat)
- Indirect disturbance through impacts such as noise, vibration, lighting, microclimate and air-quality impacts
- Increase in the baseline disturbance beyond that which is already present
- Loss or modification of potential roosting and breeding habitat (when structures are removed or roosts within them are no longer accessible).

Where the works will involve an unavoidable impact to microbats or their habitat, a Microbat Management Plan will be prepared by a suitably-qualified microbat specialist (a person with a minimum of three years' experience in managing microbat issues, including working knowledge of microbat exclusion and preparing Microbat Management Plans). If microbats or their habitat are detected in vegetation, the Microbat Management Plan must be implemented in conjunction with the Tree Clearing and Grubbing Procedure (Appendix A).

Works will only commence on the advice from the qualified ecologist or microbat specialist that works can proceed without impact to microbats or their habitat, or management measures in accordance with a Microbat Management Plan have been implemented.

This procedure has been prepared with reference to the Microbat Management Guidelines: A guide for undertaking works in culverts, bridges and other structures (TfNSW 2011). This guideline should be referred to during the implementation of this procedure for further details.

### 7.5. Weed management procedure

Weekly inspection of flora and fauna management controls, including a check on establishment, proliferation and control of weeds will be undertaken by JCG and as part of joint JCG / Sydney Metro / ER / AA inspections. The Weed Management Procedure (Appendix A) outlines the steps and hold points to be taken if weeds have been identified within the boundary of the construction sites. The procedure also provides profiles of Weeds of National Significance (WONS) and other priority weeds to be controlled.

Weed control should be undertaken in a timely manner and, where feasible, prior to weeds setting seed.

The Weed Management Procedure provides guidance for the following steps to manage weeds:

- Control of weeds including the use of herbicides in accordance with the requirements of the *Pesticides Act 1999*
- Stabilisation of areas following weed control
- Disposal of weeds
- Ongoing management.

### 7.6. Tree removal outside of the approved clearing boundaries

The EIS identified the trees and vegetation that will require clearing at the Project's construction sites. Some tree trimming may be required to provide appropriate clearance for trucks or large equipment. If



the ETP Works require the removal of trees or vegetation that is outside of the approved clearing boundaries, the following process will be followed:

- Notify the Environment, Approvals and Sustainability Director (or delegate) of the location and the need for the vegetation impact via the Pre-Clearance Inspection Checklist process
- The Environment, Approvals and Sustainability Director (or delegate) will assess whether the vegetation is nominated for retention, protected under relevant legislation, and/or legally able to be removed / pruned. Alternatives to removing the vegetation will also be investigated at this stage
- The Environment, Approvals and Sustainability Director (or delegate) will review if the proposal is consistent with the Infrastructure Approvals. A consistency assessment may be prepared depending on the outcome of the consistency review.
- The Environment, Approvals and Sustainability Director (or delegate) will consult with Sydney Metro, the ER and the relevant stakeholders or authority if the vegetation is suspected to be heritage listed, a habitat tree, nominated for retention or protected under relevant legislation.
- The Project Arborist will assess street trees that would be pruned or have the potential to be impacted as a result of the Tunnelling, Excavation and Associated Works. The project arborist will also provide advice on measures to minimise damage to street trees.

### **7.7. Environmental Control Maps**

Environmental Control Maps (ECMs) will be prepared for each construction site, which outline the location of protection measures, monitoring requirements, environmental obligations and environmentally sensitive areas (refer to Section 3.5.3 of the CEMP). The ECMs provide a practical application of the proposed control measures and are an important tool to communicate these to all personnel including subcontractors.

Flora and fauna control measures identified on each ECM will include:

- Location of No-go Zones and requirements for working within No-go Zones
- Location of weed control areas
- Vegetation clearing and pruning procedures
- Stockpiling and storage areas.

### **7.8. Management and mitigation measures**

Management and mitigation measures relevant to the Project are outlined in Table 9. These specific management and mitigation measures have been developed to address the requirements of applicable legislation, the Infrastructure Approvals and commitments of the REMMs.



Table 9: Environmental control measures

ID	Control Measures	Responsibility	Deliverables	Timing	Reference
FF 1	During detailed design, the impacts to trees will be reviewed and opportunities for the retention and protection of existing street trees will be identified.	Environment, Approvals and Sustainability Director	Design reports	Pre-construction	REMM LV2
FF 2	Engage a suitably qualified project arborist to assess street trees that will be pruned or have the potential to be impacted as a result of the Tunnelling, Excavation and Associated Works. The project arborist will provide advice on measures to minimise damage to street trees (refer to FF 3). Where feasible, trees will be pruned rather than removed. Consultation will be undertaken with the relevant Council prior to removal of street trees.	Environment, Approvals and Sustainability Director	Arborist Reports	Pre-construction Construction	REMM B2
FF 3	Temporary tree protection measures will be installed prior to construction works commencing, in accordance with AS 4970-2009 - Protection of Trees on Development Sites, for any trees to be retained within active construction sites. Tree protection, including exclusion fencing, will be erected to protect these trees from construction activities.	Site Supervisor Environmental Advisor	Environmental Control Maps Site inspection reports	Pre-construction	REMM LV2 CEMF 10.2 (a) v
FF 4	Appropriate tools will be used for pruning of vegetation, including loppers, chainsaws and vehicle mounted saws.	Site Supervisor	Site inspection reports	Construction	REMMs LV2 and LV3
FF 5	Sydney Metro will provide a net increase in the number of mature trees at a ratio of 2:1 within ten years of the date of the Project Approval or no later than the commencement of ten year operation of the Project (whichever is earlier).	Sydney Metro	Tree offsets	Post-construction	REMM LV9
FF 6	JCG will provide Sydney Metro with information on the number and species of trees removed, the location of each tree removed, and the canopy area of each removed tree.	Environment, Approvals and Sustainability Director	Tree register	Post-construction	REMM LV9



ID	Control Measures	Responsibility	Deliverables	Timing	Reference
FF 7	<p>Prior to clearing of vegetation, a qualified ecologist will complete pre-clearing surveys in accordance with the Tree Clearing and Grubbing Procedure (Appendix A). The pre-clearing inspection will include, as a minimum:</p> <ul style="list-style-type: none"> <li>▪ Identification of hollow bearing trees, nests or other habitat features likely to be impacted by the works</li> <li>▪ Identification of any threatened flora and fauna</li> <li>▪ A check on the physical demarcation of the limit of clearing</li> <li>▪ An approved erosion and sediment control plan for the worksite</li> <li>▪ The completion of any other pre-clearing requirements required by any project approvals, permits or licences.</li> </ul>	<p>Environment, Approvals and Sustainability Director (or delegate)</p> <p>Qualified ecologist</p>	<p>Pre-clearing inspection report</p> <p>Clearing and grubbing Hold Point</p>	Construction	CEMF 10.2(b) i
FF 8	<p>A staged habitat removal process will be developed by the Qualified ecologist and implemented.</p> <p>Habitat trees to be cleared will be identified with red and white tape and a white 'H'.</p> <p>Habitat trees will be cleared at least 24 hours after the clearance of non-marked vegetation, where feasible, under the supervision of the qualified ecologist.</p>	<p>Environmental Advisor</p> <p>Qualified ecologist</p>	Post clearing report	Construction	CEMF 10.1 (a) ii
FF 9	<p>The qualified ecologist must prepare a pre-clearing inspection report to document the findings of the pre-clearing inspections. The pre-clearing inspection report will form part of the Clearing and Grubbing Hold Point documentation.</p>	<p>Environment, Approvals and Sustainability Director</p> <p>Environmental Advisor</p> <p>Qualified ecologist</p>	<p>Pre-clearing inspection report</p> <p>Clearing and Grubbing Hold Point</p>	Construction	CEMF 10.2(b)
FF 10	<p>Any fauna trapped or injured on the Project construction sites during vegetation clearing or other works will be rescued in accordance with the Fauna Handling Procedure (Appendix A).</p>	<p>Site Supervisor</p> <p>Environmental Advisor</p> <p>Qualified ecologist</p>	Post clearing report	Construction	CEMF 10.1 (a)
FF 11	<p>If any unexpected threatened flora or fauna species are identified during the pre-clearing inspection or construction, works must cease that have potential to impact the species (refer to Appendix A).</p> <p>The Environment, Approvals and Sustainability Director must be notified to arrange a qualified ecologist assess the potential impacts prior to the recommencement of works.</p>	<p>Qualified ecologist</p> <p>Site Supervisor</p> <p>Environment, Approvals and Sustainability Director</p>	Unexpected threatened species report	Construction	CEMF 10.2 (a) xi



ID	Control Measures	Responsibility	Deliverables	Timing	Reference
	The Environment, Approvals and Sustainability Director must promptly notify EHG of the unexpected threatened flora or fauna species find.				
FF 12	If unexpected microbats (threatened or non-threatened) are identified prior to or during any part of the demolition work, works must cease and the Unexpected Microbats Finds Procedure will be implemented (Section 7.4).	Environment, Approvals and Sustainability Director Qualified ecologist	Unexpected threatened species report	Construction	Condition C11 (b) REMM B1
FF 13	EHG must be notified of any unexpected microbats (threatened or non-threatened) identified and outcomes of the implementation of the Unexpected Microbats Finds Procedure (Section 7.4).	Environment, Approvals and Sustainability Director Qualified ecologist	Records of notification and consultation with EHG	Construction	Condition C11 (b) REMM B1
FF 14	If the assessment under the Unexpected Microbats Finds Procedure (Section 7.4) concludes that microbats (threatened or non-threatened) are present and likely to be impacted by the works, a suitably qualified ecologist will be engaged to develop a Microbat Management Plan in consultation with EHG.	Environmental Advisor Qualified ecologist	Microbat Management Plan Records of consultation with EHG	Construction	Condition C11 (b) REMM B1
FF 15	Any disposal of excess mulch and/or weeds will be in accordance with the Waste Management Sub-plan and take into account the Raw Mulch Exemption and Order (EPA 2014).	Environmental Advisor Site Supervisor	Waste register	Construction	Condition D92
FF 16	Where weeds cannot be effectively destroyed prior to topsoil stripping, weed contaminated topsoil will be isolated and either encapsulated by deep burying, or disposed of at an approved offsite licensed facility as directed by the Site Supervisor.	Environmental Advisor Site Supervisor	Waste register	Construction	N/A
FF 17	Plant, equipment and clothing will be free of soil and vegetation matter prior to being brought to site.	Site Supervisor	Plant inspection register	Construction	CEMF 10.1 (a) iv
FF 18	Where Priority Weeds or WONS are disturbed by construction activities, weeds and topsoil that may contain weed propagules will be removed and disposed of appropriately.	Site Supervisor Environmental Advisor	Inspection records Waste disposal receipts	Construction	CEMF 10.1 (a) iv
FF 19	Regular site inspections will be undertaken, of weed control in high-risk areas such as recently weeded sites and new stockpiles. Follow up weed treatment will occur where required.	Site Supervisor Environmental Advisor	Inspection records	Construction	CEMF 10.1 (a) iv



## 8. Compliance management

### 8.1. Hold points

The activities detailed in Table 10 are recognised as hold points and will not proceed without objective review and approval by the nominated authority.

Table 10: Hold points

Hold point	Sub-plan Reference	Release of Hold Point	Responsibility
Prior to vegetation clearing / ground disturbance	Section 7.1 Appendix A	Pre-clearing Inspection Erosion and Sediment Control Plan	Qualified Ecologist Environment, Approvals and Sustainability Director (or delegate)
Unexpected microbats (threatened or non-threatened)	Section 7.4	Implementation of Unexpected Microbats Finds Procedure, including notification to the EHG	Qualified Ecologist Environment, Approvals and Sustainability Director (or delegate)
Fauna encountered	Section 7.2 Appendix A	Confirmation from the Environment, Approvals and Sustainability Director that the fauna has been removed from the works area in accordance with the Fauna Handling Procedure	Environment, Approvals and Sustainability Director with advice from the Qualified Ecologist / snake handler / WIRES

### 8.2. Complaints

Environmental complaints will be recorded and managed in accordance with the process detailed in Section 3.7 of the CEMP.



## **9. Review and improvement**

### **9.1. Continual improvement**

The continual improvement process will be undertaken in accordance with Section 3.15 of the CEMP. The intent of the process is to:

- Identify opportunities 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. Sub-plan review**

The processes described in Section 3.6 of the CEMP may result in the need to update or revise this Sub-plan. This will occur as needed, in accordance with Section 3.14.2 of the CEMP.

A copy of the updated Sub-plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure.



## Part B: Implementation Systems and Tools

Part B of this Sub-plan explains how the flora and fauna impacts of the Project will be minimised. All relevant mitigation measures from the Infrastructure Approvals, REMMs and CEMF are addressed in this Part. Compliance with these requirements is required at all times to minimise the risk of unauthorised environmental harm.

Part B contains the following:

- **Expectations and Requirements:** These describe what is required of the Project to implement the objectives of the Environment and Sustainability Policy and achieve the intended environmental performance outcomes.
- **JCG Response:** These are the specific actions that will be performed to demonstrate compliance with the Elements and Requirements.
- **Responsibility:** These are the people responsible for achieving compliance with the Expectations and Requirements. The key contributor is identified in bold font.
- **Deliverables:** These are the tangible outcomes that will be produced to demonstrate compliance with the Expectations and Requirements.



## Element 1. Training

Table 11: Element 1: Training

ID	Expectations/Requirements	JCG Response	Responsibility	Deliverables
1.1.	All personnel have completed an induction containing relevant environmental information before they are authorised to work on the Project	<p>All personnel working on the Project will undertake a site induction, which will provide initial training on various environmental aspects, including flora and fauna. It will cover:</p> <ul style="list-style-type: none"> <li>▪ Relevant approval conditions</li> <li>▪ Environmental incident procedures</li> <li>▪ Flora and fauna of conservation significance with potential to occur in the Project construction sites</li> <li>▪ Tree clearing and grubbing procedure</li> <li>▪ Fauna handling procedure</li> <li>▪ Unexpected threatened species finds and stop work procedure</li> <li>▪ Weed management procedure</li> <li>▪ Definition of a flora or fauna non-compliance.</li> </ul>	<b>Environment, Approvals and Sustainability Director</b>	Induction presentation Training records
1.2.	Toolbox talks are used to reinforce key management requirements and lessons learnt	Toolbox talks on flora and fauna requirements will be held regularly and will reinforce and reiterate information from inductions.	<b>Environmental Advisors</b> Site Supervisor	Training records



## Element 2. Monitoring and reporting

Table 12: Element 2: Monitoring and reporting

ID	Expectations/Requirements	JCG Response	Responsibility	Deliverables
2.1.	Worksites are regularly inspected to ensure the adequacy of controls	<p>Site Supervisor to undertake daily inspections of worksite to assess the adequacy and effectiveness of flora and fauna controls.</p> <p>Weekly inspection of flora and fauna management controls will be undertaken by JCG and as part of joint JCG / Sydney Metro / ER / AA inspections that will include a check on:</p> <ul style="list-style-type: none"> <li>▪ The ecological mitigation measures outlined in Table 9</li> <li>▪ Project boundary fencing</li> <li>▪ Tree protection measures</li> <li>▪ Establishment, proliferation and control of weeds.</li> </ul> <p>Actions identified during weekly environmental inspections will be closed out in accordance with Section 3.11 of the CEMP.</p>	<p><b>Environmental Advisors</b></p> <p>Site Supervisor</p>	<p>Site Diary entries</p> <p>Environmental Inspection reports</p>
2.2.	Monitoring records are maintained	<p>The following compliance records will be retained by JCG:</p> <ul style="list-style-type: none"> <li>▪ Records of pre-clearing inspections undertaken</li> <li>▪ Records of the release of the pre-clearing hold points</li> <li>▪ Records of the number of trees removed, the location of each tree removed, and each removed tree's canopy area, and</li> <li>▪ Records of fauna encountered including fate (fled, rescue and relocate, injured and taken into care, fatally injured)</li> <li>▪ Records of ecological inspections undertaken including microbat surveys.</li> </ul>	<b>Environmental Advisors</b>	<p>Pre-clearing report</p> <p>Clearing and grubbing hold points</p> <p>Tree register</p> <p>Unexpected threatened species records</p> <p>Records of consultation with EHG (if required)</p>
2.3.	Accurate records will be maintained of all trees removed and fauna impacted	A post clearance report, including any relevant Geographical Information System files, will be produced that validates the type and area of vegetation cleared including confirmation of the number of hollows impacted and fauna rescued.	<b>Qualified Ecologist</b>	Post clearance report
2.4.	Minimise impacts to street trees	Arborist reports will be prepared for all street trees to be pruned or that have the potential to be impacted as a result of the Project.	<b>Project Arborist</b>	Arborist Reports



### Element 3. Auditing, review and improvement

Table 13: Element 3: Auditing, review and improvement

ID	Expectations/Requirements	JCG Response	Responsibility	Deliverables
3.1.	Audits are undertaken to ensure compliance with the requirements of this Sub-plan	Audits will be performed in line with Section 3.12 of the CEMP, and this Sub-plan will be updated if required.	<b>Environment, Approvals and Sustainability Director</b>	Audit Reports
3.2.	All non-compliances are reported and actioned	<p>A flora or fauna non-compliance can generally be defined as a failure to comply with the Infrastructure Approvals. Where a non-compliance is also an environmental incident, JCG will implement the relevant notification procedures for both non-compliances and incidents (refer to Sections 3.10 and 3.12.2 of the CEMP).</p> <p>Where a non-compliance is raised as part of an audit or an incident or complaint investigation, the audit, incident or complaint report may be used to close out the non-compliance; it is not necessary to raise a separate non-compliance report.</p> <p>Procedures for corrective actions are addressed in Section 3.12.2 of the CEMP.</p>	<b>Environment, Approvals and Sustainability Director</b> Environmental Advisors	Corrective Action Reports Complaint Reports Incident Reports Audit Reports



## Element 4. Project specific requirements

### Infrastructure Approvals

Table 14: Infrastructure Approval (SSI 10038)

ID	Requirements (Conditions)	JCG Response	Responsibility	Deliverables	Timing
C-B9	The CSSI must result in an increase in tree canopy coverage.	<p>Sydney Metro is responsible for the requirements of this condition except that JCG will provide Sydney Metro with the area of canopy lost as part of the ETP Works.</p> <p>The requirements of this condition are addressed in Table 9.</p>	<b>Sydney Metro</b> Environment, Approvals and Sustainability Director	Tree register	Post-construction



## Revised Environmental Mitigation Measures

Table 15: Revised Environmental Mitigation Measures

ID	Requirements (REMM)	JCG Response	Responsibility	Deliverables	Timing
LV2	Opportunities for the retention and protection of existing street trees would be identified during detailed construction planning.	The JCG will review the detailed design and construction plans with the objective to only remove the trees identified in the EIS.  The requirements of this condition are addressed in Table 9.	<b>Environment, Approvals and Sustainability Director</b>  Project Manager Environmental Advisor	Detailed design Construction plans	Pre-construction
LV3	Existing trees to be retained would be protected prior to the commencement of construction in accordance with Australian Standard AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties.	The requirements of this condition are addressed in Table 9.	<b>Environmental Advisor</b>  Site Supervisor	Inspection records	Construction
LV9	Trees removed by the major civil construction work between The Bays and Sydney CBD would be replaced to provide a net increase in the number of mature trees at a ratio of 2:1 across the entire Sydney Metro west project (as part of future approval stages of Sydney Metro West).	Sydney Metro is responsible for the requirements of this condition except that JCG will provide Sydney Metro with information on the number of trees removed, the location of each tree removed, and each removed tree's canopy area.  The requirements of this condition are addressed in Table 9.	<b>Sydney Metro</b> Environment, Approvals and Sustainability Director	Tree register	Post-construction
B1	If any threatened microbats (threatened or non-threatened) are identified prior to or during any part of the demolition work then the unexpected microbats finds procedure would be implemented, including notification to the NSW Environment and Heritage Group.	An Unexpected Microbat Find Procedure is provided in Section 7.4. The procedure required works stop in the event of an unexpected microbat find and the impacts assessed by a suitably qualified person. If the works are likely to impact microbats, a microbat expert will be engaged to develop a Microbat Management Plan in consultation with EHG.	<b>Environment, Approvals and Sustainability Director</b>  Microbat expert Environmental Advisor	Pre-clearing survey report Microbat Management Plan (if required)	Construction



ID	Requirements (REMM)	JCG Response	Responsibility	Deliverables	Timing
B2	Sydney Metro would engage a suitably qualified project arborist to assess street trees that would be pruned or have the potential to be impacted as a result of this proposal. The project arborist would provide advice on measures to minimise damage to street trees.	<p>JCG will engage a Project Arborist with a minimum AQF Level 5 qualification in Arboriculture to assess street trees that would be pruned or have the potential to be impacted as a result of this proposal. The Project Arborist will prepared Arborist Reports to outline the measures to minimise damage to street trees.</p> <p>The requirements of this condition are addressed in Section 4.3, Table 9 (FF 2) and Table 12.</p>	<b>Environment, Approvals and Sustainability Director</b> <b>Project Arborist</b>	Arborist report	Construction



## Environmental Performance Outcomes

Table 16: Environmental Performance Outcomes

Key Issue	Desired Performance Outcome	Sydney Metro West Performance Outcome	JCG Response
<b>Design, Place and Movement</b>	<ul style="list-style-type: none"> <li>The proposal minimises adverse impacts on accessibility and connectivity for communities and public spaces.</li> <li>The proposal contributes to greener places by facilitating the enhancement and provision of green infrastructure.</li> <li>The proposal minimises adverse impacts on the visual amenity of the built and natural environment (including public open space).</li> </ul>	<ul style="list-style-type: none"> <li>The design reflects the Sydney Metro Design Objectives and the place and design principles</li> <li>The Sydney Metro Design Quality Framework is implemented</li> <li>Metro stations contribute positively to the surrounding urban environment and provide a sense of place</li> <li>No net loss of tree numbers and tree canopy.</li> </ul>	<p>Trees removed by the Project will be replaced to provide a net increase in the number of mature trees at a ratio of 2:1 across the entire Sydney Metro west project (as part of future approval stages of Sydney Metro West).</p> <p>Sydney Metro is responsible for the requirements of this condition except that JCG will provide Sydney Metro with information on the number of trees removed, the location of each tree removed, and the canopy area of each removed tree.</p>
<b>Biodiversity</b>	<ul style="list-style-type: none"> <li>No desired performance outcome from Secretary's Environmental Assessment Requirements</li> </ul>	<ul style="list-style-type: none"> <li>Impacts on biodiversity are avoided (where possible) and minimised, including the clearing of native vegetation</li> <li>Significant impacts to flow regimes in receiving waterways are avoided</li> <li>Design of waterway modifications and crossings incorporates best practice principles</li> <li>The Concept does not contribute to key threatening processes associated with weeds and pathogens</li> <li>Biodiversity impacts are offset in accordance with the Biodiversity Conservation Act 2016.</li> </ul>	<p>Potential impacts to of the Project were considered in proposal planning phase as described in EIS Chapter 18 – Biodiversity.</p> <p>The Project is located within a highly urbanised area that does not possess large expanses of intact native vegetation with high biodiversity value. As the majority of the Project will be underground or in pre-existing developed areas, direct impacts to terrestrial biodiversity have been largely avoided and/or minimised.</p> <p>There are no waterway modifications or crossings required for the ETP Works.</p> <p>Due to the modified nature of the existing environment, a BDAR waiver was granted for the Project and the Biodiversity Offset Scheme (BOS) is not required.</p>



## Construction Environmental Management Framework

Table 17: Construction Environmental Management Framework

ID	Requirements (CEMF)	JCG Response
3.5 (a)	<p>Subject to Section 3.4(b) the Principal Contractors will prepare issue-specific environmental sub plans to the CEMP which address each of the relevant environmental impacts at a particular site or stage of the project. Issue specific sub plans will include as a minimum:</p> <ul style="list-style-type: none"> <li>i. Spoil management;</li> <li>ii. Groundwater management;</li> <li>iii. Noise and vibration management;</li> <li>iv. Heritage management;</li> <li>v. Flora and fauna management;</li> <li>vi. Visual amenity management;</li> <li>vii. Soil and water management;</li> <li>viii. Air quality management; and</li> <li>ix. Waste management.</li> </ul>	<p>This FFMP has been prepared to address the residual impacts to biodiversity and manage biodiversity risks associated with the ETP Works.</p>
3.6 (a)	<p>The Principal Contractor will prepare and implement activity specific environmental procedures. These procedures should supplement environmental management sub plans, but may substitute for sub plans in agreement with Sydney Metro if a reasonable risk based justification can be made and the sub plan is not a requirement of any approval.</p>	<p>This FFMP included the following activity specific environmental procedures:</p> <ul style="list-style-type: none"> <li>▪ Tree clearing and grubbing procedure</li> <li>▪ Fauna handling procedure</li> <li>▪ Unexpected threatened species and stop work procedure</li> <li>▪ Unexpected microbat find procedure</li> <li>▪ Weed management procedure.</li> </ul>
3.6 (b)	<p>The procedures will include:</p> <ul style="list-style-type: none"> <li>i. A breakdown of the work tasks relevant to the specific activity and indicate responsibility for each task;</li> <li>ii. Potential impacts associated with each task;</li> <li>iii. A risk rating for each of the identified potential impacts;</li> <li>iv. Mitigation measures relevant to each of the work tasks; and</li> <li>v. Responsibility to ensure the implementation of the mitigation measures.</li> </ul>	<p>Each procedure has been developed to address the requirements of CEMF 3.6(b). Refer also to Activity Method Statements and Task Risk Assessments.</p>
10.1 (a)	<p>The following flora and fauna management objectives will apply to construction:</p> <ul style="list-style-type: none"> <li>i. Minimise impacts on flora and fauna;</li> </ul>	<p>The objectives have been included in Section 1.2 of this FFMP.</p>



ID	Requirements (CEMF)	JCG Response
	ii. Design waterway modifications and crossings to incorporate best practice principles; iii. Retain and enhance existing flora and fauna habitat wherever possible; and iv. Appropriately manage the spread of weeds and plant pathogens.	Corresponding targets and key performance indicators have been established for each objective.
10.2 (a) i	Principal Contractors will develop and implement a Flora and Fauna Management Plan which will include as a minimum: i. The ecological mitigation measures as detailed in the environmental approval documentation;	The ecological mitigation measures detailed in the environmental approval documentation have been provided in Table 14 and Table 15 with cross references on where they are addressed in the Sub-plan.
10.2 (a) ii	The responsibilities of key project personnel with respect to the implementation of the plan	The responsibilities of key project personnel with respect to the implementation of this Sub-plan are provided in Section 4
10.2 (a) iii	Procedures for the clearing of vegetation and the relocation of flora and fauna	The Tree Clearing and Grubbing Procedure is outlined in Section 7.1 and presented in Appendix A.
10.2 (a) iv	Details on the locations, monitoring program and use of nest boxes by fauna	Given the existing environment of the Project and the lack of likely hollow bearing trees, no compensatory nest boxes are proposed for this package of the Project.
10.2 (a) v	Procedures for the demarcation and protection of retained vegetation, including all vegetation outside and adjacent to the construction footprint;	As outlined in Section 7.1 and Table 9 (FF 7), the Environment, Approvals and Sustainability Director (or delegate) and qualified ecologist will complete inspections of the protection of retained trees prior to the release of the clearing and grubbing hold point.
10.2 (a) vi	Plans for impacted and adjoining areas showing vegetation communities; important flora and fauna habitat areas; locations where threatened species, populations or ecological communities have been recorded;	Environmental Control Maps will be prepared for all construction sites and approved by the Environment, Approvals and Sustainability Director (or delegate) prior to the commencement of works.  There are no areas of vegetation communities, important flora and fauna habitat areas, locations where threatened species, populations or ecological communities have been recorded in adjoining areas to the construction sites.
10.2 (a) vii	Vegetation management plan(s) for sites where native vegetation is proposed to be retained	Not applicable to this package of the Project.



ID	Requirements (CEMF)	JCG Response
		There is no native vegetation that meets the definition of a PCT on the site.
10.2 (a) viii	Identification of measures to reduce disturbance to sensitive fauna	The Unexpected Threatened Species Find and Stop Work Procedure (Section 7.3 and Appendix A) and Unexpected Microbat Find Procedure (Section 7.4) will be implemented if any sensitive fauna (species of conservation concern) are encountered.  Other fauna encountered will be managed in accordance with the Fauna Handling Procedure (Section 7.2 and Appendix A).
10.2 (a) ix	Rehabilitation details, including identification of flora species and sources, and measures for the management and maintenance of rehabilitated areas (including duration of the implementation of such measures);	Rehabilitation works are not within the ETP Works scope.
10.2 (a) x	Weed management measures focusing on early identification of invasive weeds and effective management controls;	The Weed management procedure (Section 7.5) will be implemented to manage weeds within the construction sites.
10.2 (a) xi	A procedure for dealing with unexpected EEC threatened species identified during construction, including cessation of work and notification of the Department, determination of appropriate mitigation measures in consultation with the OEH (including relevant relocation measures) and updating of ecological monitoring or off-set requirements;	The Unexpected Threatened Species Find and Stop Work Procedure (Section 7.3 and Appendix A) and Unexpected Microbat Find Procedure (Section 7.4) will be implemented if any sensitive fauna (species of conservation concern) are encountered.
10.2 (a) xii	Details on the methodology for vegetation mapping and survey	There is not native vegetation within the construction sites that meets the definition of a PCT.
10.2 (a) xiii	Ecological monitoring requirements	Pre-clearing inspections and supervision of vegetation clearing will be completed by the qualified ecologist in accordance with the Tree Clearing and Grubbing Procedure (Section 7.1 and Appendix A).  Regular (daily and weekly) inspections of the worksite will be completed to assess adequacy and effectiveness of flora and fauna controls.
10.2 (a) xiv	Compliance record generation and management	Accurate records will be maintained substantiating measures taken to implement this FFMP (Table 12).



ID	Requirements (CEMF)	JCG Response
10.2 (b) i	<p>Principal Contractors would undertake the following ecological monitoring as a minimum:</p> <p>A pre-clearing inspection will be undertaken prior to any native vegetation clearing by a suitable qualified ecologist and the Contractor's Environmental Manager (or delegate). The pre-clearing inspection will include, as a minimum:</p> <ul style="list-style-type: none"> <li>▪ Identification of hollow bearing trees or other habitat features;</li> <li>▪ Identification of any threatened flora and fauna;</li> <li>▪ A check on the physical demarcation of the limit of clearing;</li> <li>▪ An approved erosion and sediment control plan for the worksite; and</li> <li>▪ The completion of any other pre-clearing requirements required by any project approvals, permits or licences.</li> </ul>	Pre-clearing inspections and supervision of vegetation clearing will be completed by the qualified ecologist in accordance with the Tree Clearing and Grubbing Procedure (Section 7.1 and Appendix A).
10.2 (b) ii	The completion of the pre-clearing inspection will form a Hold Point requiring sign-off from the Contractor's Environmental Manager (or delegate) and a qualified ecologist	The completion of the pre-clearing inspection has been included as a Hold Point (Table 10)
10.2 (b) iii	A post clearance report, including any relevant Geographical Information System files, will be produced that validates the type and area of vegetation cleared including confirmation of the number of hollows impacted and the corresponding nest box requirements to offset these impacts.	The qualified ecologist will prepare the post clearing report as described in Table 12.
10.2 (c)	The Principal Contractor's regular inspections will include a check on the ecological mitigation measures and project boundary fencing	Regular (daily and weekly) inspections of the worksite will be completed to assessment adequacy and effectiveness of flora and fauna controls as outlined Table 12.
10.2 (d)	<p>The following compliance records would be kept by the Principal Contractor:</p> <ul style="list-style-type: none"> <li>i. Records of pre-clearing inspections undertaken;</li> <li>ii. Records of the release of the pre-clearing hold point; and</li> <li>iii. Records of ecological inspections undertaken.</li> </ul>	Accurate records will be maintained substantiating measures taken to implement this FFMP as outlined in Table 12.



## Part C Annexures

### Appendix A      Environmental Procedures



# FAUNA HANDLING PROCEDURE

## MANAGEMENT AND RESPONSIBILITY

All personnel are to attend the project induction and toolbox talks.

Site Supervisor  
Environmental  
Advisor



### FAUNA ENCOUNTERED

If any native fauna is encountered (including microbats), stop work in the immediate area and contact the Environmental Advisor.

Site Supervisor  
Environmental  
Advisor

### HANDLING AND NOTIFICATION

1. If the animal cannot be handled (i.e. venomous snake or bats\*), the location of the animal is to be recorded and provided to the snake handler or project ecologist.
2. If the animal requires immediate attention, as determined by the Environmental Advisor in consultation with the project ecologist or fauna specialist (where required), a rescue service will be contacted.
3. In the event the rescue service cannot attend the site, the Environmental Advisor will deliver the injured/captured animal (other than snakes or bats) to the animal service/shelter as soon as practical.
4. In the case of a bat\*, the Environment, Approvals and Sustainability Director is to notify Sydney Metro, the ER and the NSW Environment and Heritage Group. In consultation with relevant stakeholders, the Environmental Advisor and project ecologist will implement any corrective action and additional safeguards required.

Environment,  
Approvals and  
Sustainability Director  
Environmental  
Advisor  
Project Ecologist

### RELOCATION

If the animal is not injured, the Environmental Advisor, in consultation with the project ecologist (where required), may release the fauna into a suitable area in accordance with the following procedures:

1. Animals should be released in suitable habitat as close as possible to the original capture location where possible.
2. If the species is nocturnal, release should be carried out at dusk if practicable.
3. Records of any fauna handling and release locations will be retained.

#### To minimise stress to fauna during relocation:

1. Ensure appropriate PPE (e.g. leather gloves) prior to attempting to handle fauna.
2. Cover larger animals with a towel or blanket and place in a cardboard box and/or hessian bag.
3. Place smaller animals in a cotton bag, tied at the top; keep the animal in a quiet, warm, ventilated and dark place.
4. If fauna is not injured, relocate to a suitable location. If cats or dogs are found, return to owner or local animal shelter.

Environmental  
Advisor  
Project Ecologist

## Rescue Service Contact

WIRES	1300 094 737
RSPCA (Emergency Line)	02 9770 7556
Sydney Snake Catchers	1300 599 938

### \*Australian Bat Lyssavirus (ABL) Warning

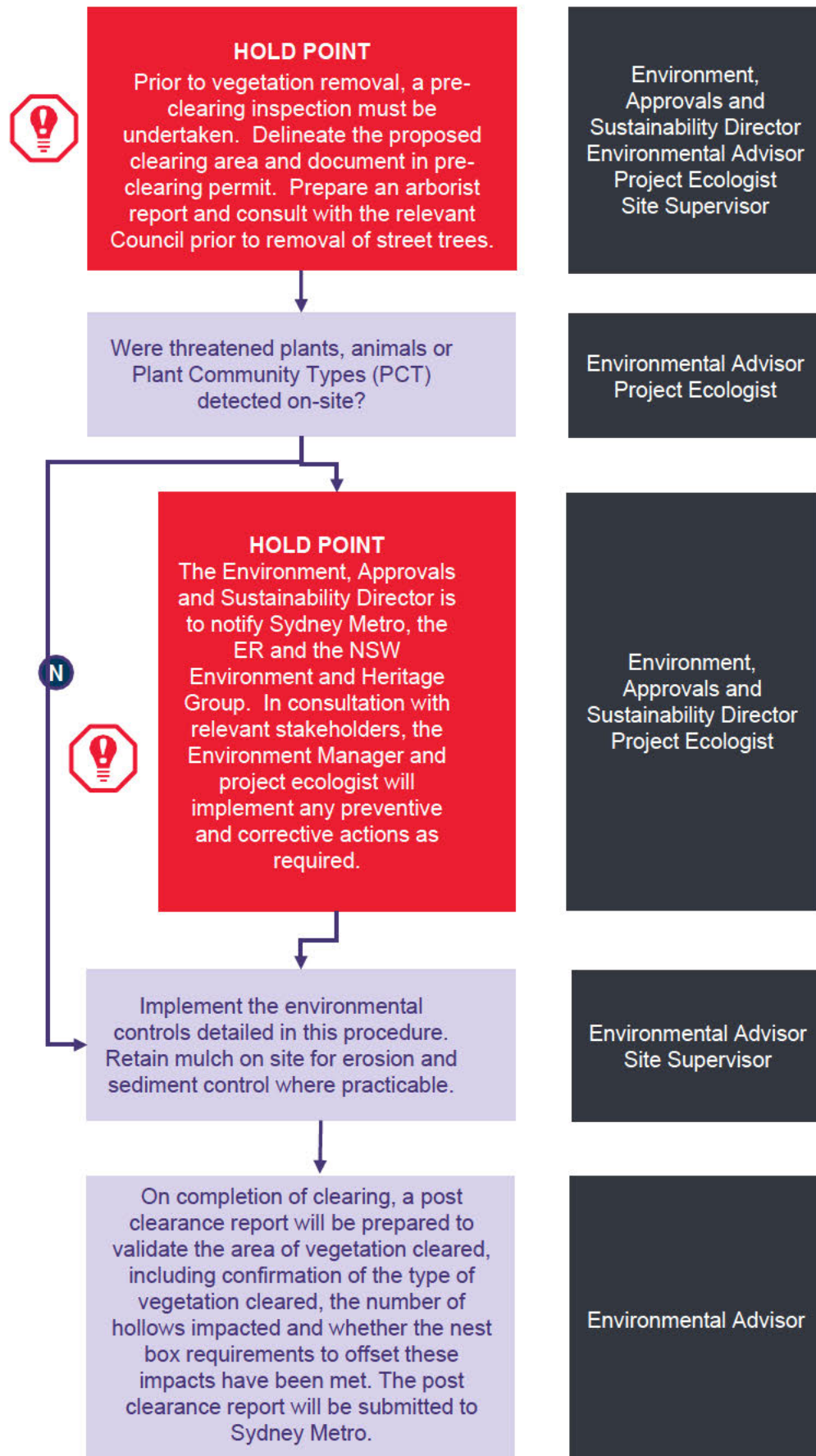
Australian Bat Lyssavirus is a rabies like virus that can infect humans if they are bitten or scratched by an infected bat. Bats that are symptomatic with the virus often behave as if injured, disorientated or unwell. Under no circumstances should unvaccinated and untrained personnel approach, capture or handle Grey-Headed Flying Foxes or microbat species.





# TREE CLEARING AND GRUBBING PROCEDURE

## MANAGEMENT AND RESPONSIBILITY



## PROTOCOL

### Delineate Vegetation to be Cleared or Trimmed

Environment Advisor and Site Supervisor to delineate the area of vegetation to be cleared or trimmed based on the EIS and confirmed through survey. Install perimeter flagging/ fencing and "Environmental Exclusion Zone – No Access" signage (see below) around areas to be retained.

### Pre-clearing inspection

Pre-clearing inspections of any native vegetation must be undertaken by the Project Ecologist at least 14 days prior to clearing of vegetation. All other pre-clearing inspections can be undertaken by the Environmental Advisor, in consultation with the Project Ecologist as required.

As part of the pre-clearing inspection:

- Mark habitat features, including trees containing hollows or nests
- Identify any threatened flora and fauna
- Check on the physical demarcation of the limit of clearing
- Review the approved ESCP for the worksite
- Inspect for presence of fauna; capture and relocate in accordance with the Fauna Handling Procedure.
- Identify features that could provide roosts for microbats including abandoned buildings, culverts and other under-road structures and survey as required
- Submit the Pre-Clearing and Grubbing Permit to the Environment Manager for approval.

### Implement Environmental Controls

- Install erosion and sediment controls prior to grubbing works
- Separate topsoil from sub-soil and green waste and stockpile for reuse onsite or offsite. Stockpiles are to be on hardstand or appropriately delineated and must not be compacted.



### Remove Vegetation

#### ONLY CLEAR VEGETATION WITHIN THE APPROVED PRE-CLEARING AND GRUBBING PERMIT

1. All non-marked trees and features will be removed first.  
Groundcover habitat features that are not too large to be moved will be removed and searched.
2. All remaining marked habitat trees will be knocked (gently tapped with construction equipment) at the end of each day of clearing and groundcover features such as logs will be gently rolled and searched for the presence of animals.
3. At least 24 hours after the clearance of non-marked vegetation, each habitat tree will be carefully removed in the presence of the project ecologist, and thoroughly searched for the presence of animals:
  - Marked trees will be shaken prior to felling using an excavator or similar equipment and then left for a specific period (determined by the project ecologist) to allow any fauna using the hollows to be observed.
  - Hollow-bearing trees will be slowly pushed over to avoid damage to hollows.
  - Fauna rescue personnel will instruct the equipment operators regarding how and which side to fell the trees so that hollows can be quickly checked. In some circumstances, sections of a tree containing a hollow or habitat may be individually removed prior to felling.
  - Felled habitat trees will be left on the ground for 24 hours or inspected by the project ecologist prior to further processing.
3. Report any injured native fauna to the Environmental Advisor immediately. The Environmental Advisor will provide direction (in consultation with the project ecologist) on relocation of the native fauna.
4. Mulch is to be reused on-site for erosion and sediment control, if practicable. Residual mulch is to be taken to a recycling facility. Mulch/green waste containing herbaceous noxious weeds will be managed in accordance with the Weed Management Procedure. Disposal records will be retained.

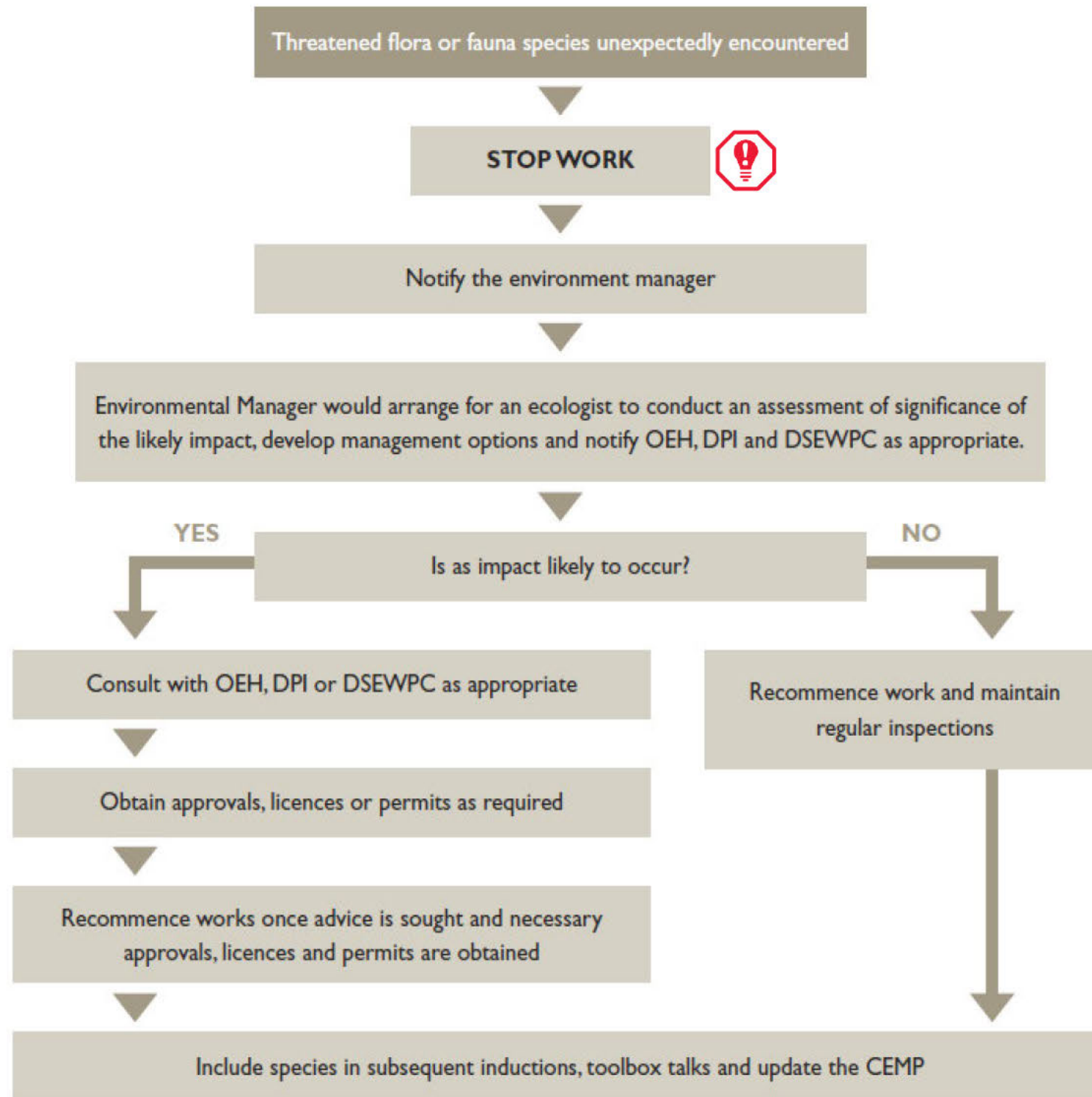




# UNEXPECTED THREATENED SPECIES FINDS AND STOP WORK PROCEDURE

## 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))



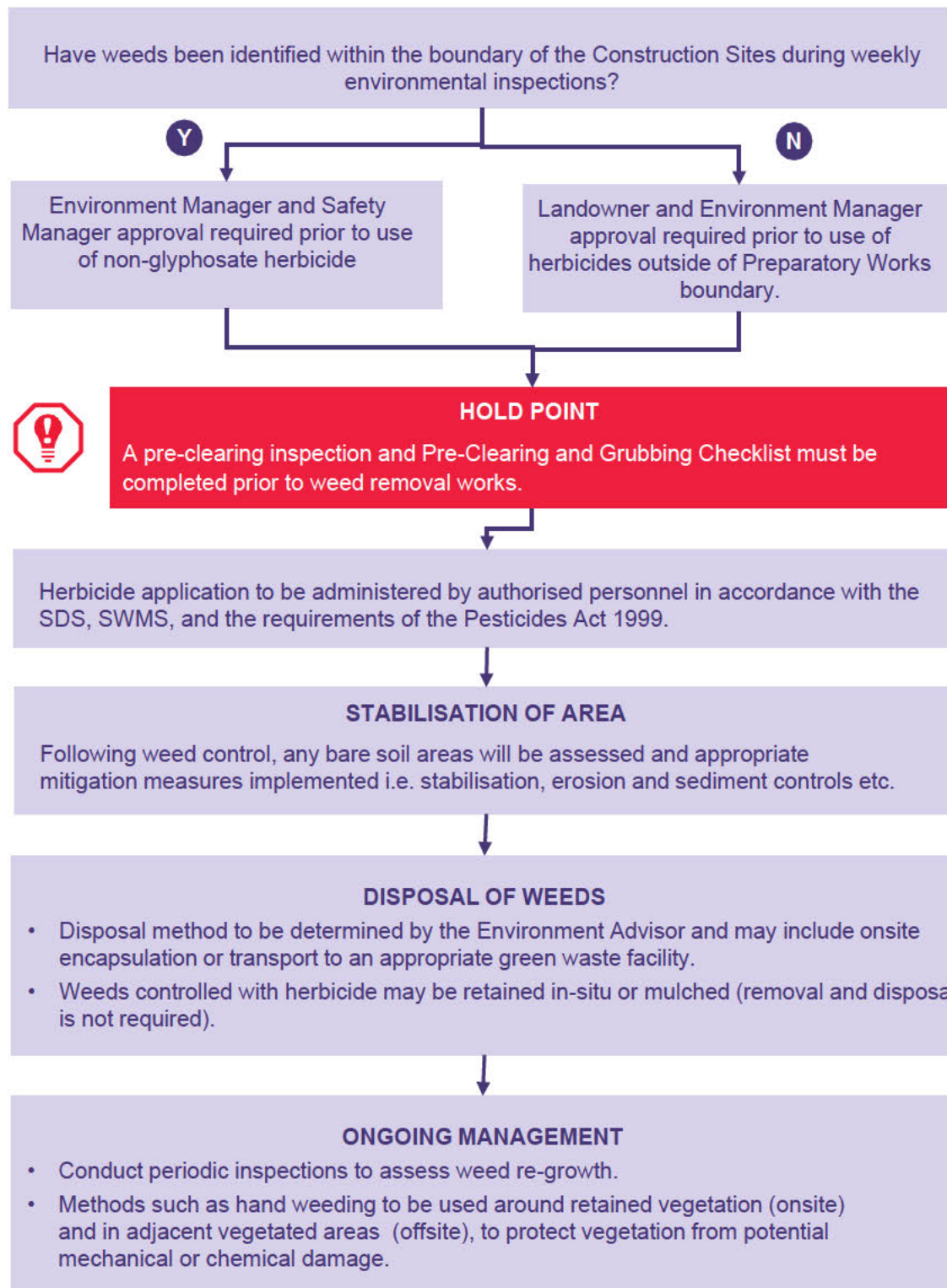
## Threatened Fauna that could be Encountered

Image	Name	BC Act	EPBC Act
	Powerful Owl <i>Ninox strenua</i>	Vulnerable	Not listed
	Little lorikeet <i>Glossopsitta pusilla</i>	Vulnerable	Not listed
	Dusky Woodswallow <i>Artamus cyanopterus</i>	Vulnerable	Not listed
	White-bellied Sea Eagle <i>Haliaeetus leucogaster</i>	Vulnerable	Not listed
	Superb Fruit-Dove <i>Ptilinopus superbus</i>	Vulnerable	Not listed
	Grey-headed Flying Fox <i>Pteropus poliocephalus</i> *	Vulnerable	Vulnerable
	Large Bent-winged Bat <i>Miniopterus orianae oceanensis</i>	Vulnerable	Not listed
	Southern Myotis <i>Myotis macropus</i>	Vulnerable	Not listed



# WEED MANAGEMENT PROCEDURE

## MANAGEMENT AND RESPONSIBILITY



Environmental  
Advisor  
Site Supervisor

Environment  
Manager  
Site Supervisor

Environmental  
Advisor  
Project Ecologist

Site Supervisor

Site Supervisor

Environmental  
Advisor  
Site Supervisor

Environmental  
Advisor  
Site Supervisor

## WEEDS of NATIONAL SIGNIFICANCE AND PRIORITY WEEDS TO BE CONTROLLED

IMAGE*	WEED	SOLUTION	IMAGE*	WEED	SOLUTION
	Name: Sheep Sorrel <i>Acetosella vulgaris</i> WoNS: No HT Weed: Yes			Name: Khaki Weed ( <i>Alternanthera pungens</i> ) WoNS: No HT Weed: Yes	
	Name: Moth Vine <i>Araujia sericifera</i> WoNS: No HT Weed: Yes			Name: Asparagus Fern <i>Asparagus aethiopicus</i> WoNS: Yes HT Weed: Yes	
	Name: Bridal Creeper <i>Asparagus asparagoides</i> WoNS: Yes HT Weed: Yes			Name: Green Cestrum <i>Cestrum parqui</i> WoNS: No HT Weed: Yes	
	Name: African Love Grass <i>Eragrostis curvula</i> WoNS: No HT Weed: Yes			Name: Small-leaved Privet <i>Ligustrum sinense</i> WoNS: No HT Weed: Yes	
	Name: African Box Thorn <i>Lycium ferocissimum</i> WoNS: Yes HT Weed: Yes			Name: African Olive <i>Olea europaea</i> WoNS: No HT Weed: Yes	
	Name: Castor Oil Plant <i>Ricinus communis</i> WoNS: No HT Weed: Yes			Name: Blackberry <i>Rubus fruticosus</i> complex WoNS: Yes HT Weed: Yes	
	Name: Fireweed <i>Senecio madagascariensis</i> WoNS: Yes HT Weed: Yes			Name: Bathurst Burr <i>Xanthium spinosum</i> WoNS: No HT Weed: Yes	
	Name: <i>Chrysanthemoides monilifera</i> WoNS: Yes HT Weed: Yes			Name: <i>Lantana camara</i> WoNS: Yes HT Weed: Yes	

\* Images sourced from NSW WeedWise (<https://weeds.dpi.nsw.gov.au/>)

### KEY

- Cut and paint herbicide treatment
- Hand weeding
- Scrape and paint herbicide treatment
- Spray with herbicide treatment



Hold Point



Appendix B      Consultation Report



# CONSULTATION REPORT

## Flora and Fauna Management Sub-plan

Project number	7040
----------------	------

### Document approval

Rev	Date	Prepared by	Reviewed by	Comments	Approved by
A	10/02/2023			For submission to the ER for endorsement	
Signature:					
B					
Signature:					



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## 1. Introduction

### 1.1. Background

Sydney Metro West is a new 24-kilometre metro line that will connect Greater Parramatta with the Sydney CBD via stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

The planning process for Sydney Metro West was assessed as a staged infrastructure application under section 5.20 of the *Environment Planning and Assessment Act 1979* (EP&A Act). Stage 2 of the planning approval process, the Eastern Tunnelling Package (ETP Works or Project), includes all major civil construction work including station excavation (Pyrmont Station and Hunter Street Station (Sydney CBD) and tunnelling between The Bays and Sydney CBD.

The Project was approved by the Minister for Planning on 24 August 2022 (SSI 19238057) under section 5.19 of the EP&A Act and will be delivered by the John Holland CPB Ghella Joint Venture (JCG).

### 1.2. Report scope

Reflecting the requirements of the SSI 19238057 Infrastructure Approval, this report has been prepared to provide the evidence of consultation with the identified parties during the development of the Flora and Fauna Management Sub-plan (Subject Document).



## 2. Consultation requirements

### 2.1. SSI 19238057 Infrastructure Approval

The Conditions of Approval relevant to stakeholder consultation on the Subject Document are listed in Table 1.

Table 1: Conditions of Approval

Ref	Condition
A6	<p>Where the conditions 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> <ul style="list-style-type: none"> <li>(a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;</li> <li>(b) a log of the dates of engagement or attempted engagement with the identified party and a summary of the issues raised by them;</li> <li>(c) documentation of the follow-up with the identified party(s) where feedback has not been provided to confirm that the party(s) has none or has failed to provide feedback after repeated requests;</li> <li>(d) outline of the issues raised by the identified party(s) and how they have been addressed; and</li> <li>(e) a description of the outstanding issues raised by the identified party(s) and the reasons why they have not been addressed.</li> </ul> <p><i>Note: *Consultation with the community and businesses will be undertaken in accordance with the Overarching Community Communication Strategy required under Condition B1.</i></p>
C5	<p>Of the CEMP Sub-plans required under Condition C1, the following CEMP Sub-plans must be prepared in consultation with the relevant government agencies identified for each CEMP Sub-plan. Details of issues raised by a government agency during consultation must be included in the relevant CEMP Sub-plan, including copies of all correspondence from those government agencies as required by Condition A6. Where a government agency (ies) request(s) is not included, the Proponent must provide the Planning Secretary / ER (whichever is applicable) justification as to why:</p> <ul style="list-style-type: none"> <li>(a) Noise and vibration: Place Management NSW (in respect of The Bays) and Relevant Council(s)</li> <li>(b) Flora and fauna: DPE Environment and Heritage Group, DPI Fisheries, and Relevant Council(s)</li> <li>(c) Heritage (Non-Aboriginal and Aboriginal): Heritage NSW, Place Management NSW (in respect of The Bays) and Relevant Council(s)</li> <li>(d) Spoil: Relevant council(s)</li> <li>(e) Soil and water: DPE Water and Relevant Council(s)</li> </ul>

### 2.2. Revised Environmental Mitigation Measures

There are no Revised Environmental Mitigation Measures (REMMs) relevant to stakeholder consultation on the Subject Document.



### 3. Consultation summary

In accordance with the SSI 19238057 Infrastructure Approval, the Subject Document has been prepared in consultation with the identified parties. A summary of the consultation is provided in Table 2.

Table 2: Stakeholder consultation summary

Stakeholder	Consultation Summary	Status	Reference
City of Sydney Council	Issues raised have been adequately addressed in the Subject Documents; there are no outstanding issues.	Addressed and closed.	Appendix A
Inner West Council	Stakeholder confirmed that there are no issues with the Subject Documents.	No action required	Appendix B
Department of Planning and Environment (DPE) Environment and Heritage	Stakeholder confirmed that there are no issues with the Subject Documents.	No action required	Appendix C
Department of Primary Industries (DPI) Fisheries	Stakeholder confirmed that there are no issues with the Subject Documents.	No action required	Appendix D



## Appendix A City of Sydney Council Consultation Evidence

Table 3: Consultation Log

In/Out	Date	Medium	Details of Contact
Out	13 December 2022, 5:36pm	Email	Sydney Metro issues Subject Document to Tegan Mitchell (Manager Major Transport Projects) and specifies dates of review period.
In	14 December 2022, 3:00pm	Email	Tegan Mitchell (Manager Major Transport Projects) acknowledges receipt of Subject Document.
Out	15 December 2022, 7:26pm	TeamBinder Transmittal	Subject Document is provided to stakeholder via TeamBinder.
Out	10 January 2023, 1:22pm	Email	Metro follows up with Nathan English (Planning Coordinator, Major Transport Projects) regarding progress of Subject Document review. Metro offers to set up a meeting to clarify any outstanding questions and provide additional information.
In	12 January 2023, 11:17am	Email	Stakeholder advises they do not have any questions regarding the Subject Document.
Out	18 January 2023	Phone call	Metro requests update on the subject document review and reminds stakeholder that feedback is due 27/1/2023. Metro confirms that consultation includes DPE.
Out	24 January 2023	Phone call	Metro clarifies with stakeholder the process for returning feedback comments. Metro confirms that stakeholder has been granted an extension until 1/02 to provide feedback.
In	27 January 2023, 10:50am	Email	Stakeholder provides Metro with feedback on Subject Document.

Table 4: Issues Raised by Stakeholder

No	Issues Raised	How Addressed	Subject document ref
Flora and Fauna Management Sub-plan			
1	16 trees (this includes 6 trees within construction sites and 10 street trees) have been approved for removal (Sydney Metro SSI 19238057) - <a href="https://pp.planningportal.nsw.gov.au/major-projects/projects/sydney-metro-west-bays-sydney-cbd">https://pp.planningportal.nsw.gov.au/major-projects/projects/sydney-metro-west-bays-sydney-cbd</a> . Comments provided by CoS in relation to the SSI were not been adopted in the final approval.	Noted. The concerns of City of Sydney are acknowledged and reflected in the following amendments of the Flora and Fauna Management Sub-plan: The Tree Clearing and Grubbing Procedure (Appendix A) includes a Hold Point which requires the preparation of an arborist report and consultation with the relevant Council prior to removal of street trees. The FFMP (Table 9, ID FF2) provides additional details on this Hold Point and notes that where feasible, trees will be pruned rather than removed.	Appendix A Table 9
2	Reasons for tree removal in the SSI and Flora and Fauna sub-plan have not been defined (ie: it is unclear why the 10 street trees require removal. It is noted that 6 trees within the construction sites will require removal for the purpose of tunnelling).	Section 6.1 of the FFMP has been revised to provide clarity on the activities that may result in tree pruning or removal, "Removal of trees and vegetation to enable utility works, access to nominated worksites, installation of hoarding and construction of the approved	Section 6.1



No	Issues Raised	How Addressed	Subject document ref
		project (excavation, tunnelling and support activities).	
3	The Flora and Fauna sub-plan outlines that no impacts are expected from the removal of 16 trees which is mainly related to impacts on native fauna. However the removal of the 16 trees will result in a loss of 250sqm canopy cover. The City's data indicates this area has just 17.6% canopy cover, which needs to be considerably higher. The removal of healthy mature canopy cover will have a negative impact on the environment and amenity of the immediately affected areas which has not been considered in the SSI (EIS and other documentation) or Flora and Fauna sub-plan.	<p>The Flora and Fauna Management Sub-plan is referring to potential impact to species, populations or ecological communities of conservation concern. No impacts to any entities of conservation concern are expected.</p> <p>Consideration of impacts to tree canopy coverage cover have been added to the Sub-plan by including REMM B2 in Table 15. In addition, the Environmental Control Measure FF2 has been included in Table 9 which requires JCG to engage a suitably qualified project arborist to assess street trees that would be pruned or have the potential to be impacted as a result of the Tunnelling, Excavation and Associated Works.</p> <p>The impacts to tree canopy coverage cover will be measured and offset by the Tree Register maintained by JCG JV and replacement trees by Sydney Metro.</p>	Table 9 Table 15
4	The justification for tree removal seems to rely solely on the fact that they have been found by the ecologist as currently not providing any value for native fauna. However there are many other benefits provided by the trees that will be adversely affected as a result of their removal. There is substantial research, and community awareness, of the extensive health and well-being benefits provided to our community from these trees, along with the reduction in the urban heat island effect. None of which have been considered in the assessment of the SSI and Metro West Eastern Tunnelling Package Sub-plans. This is a serious omission in this assessment, and we consider that the 10 street trees should be retained and protected as part of the proposal.	The aesthetic and amenity value of street trees is acknowledged and added to the scope of the sub-plan by including REMM B2 in Table 15. In addition, the Environmental Control Measure FF2 has been included in Table 9 which requires JCG to engage a suitably qualified project arborist to assess street trees that would be pruned or have the potential to be impacted as a result of the Tunnelling, Excavation and Associated Works. Where feasible trees will be pruned rather than removed.	Table 9 Table 17
5	"Given the limited green cover in Sydney LGA, and Pyrmont area, any vegetation, regardless of it being native or exotic, is an important ecological resource, and has potential to be habitat for indigenous fauna, particularly birds, lizards and invertebrates. As such, there should be no net loss of vegetation as a result of the project. Will the exotic vegetation, as mapped in Figure 3, be replaced at a later stage of this development? In replacement, preferably locally endemic species will be used that offer greater habitat value than the exotic species currently present.	Street trees that are removed for the project will be assessed by a suitably qualified arborist and documented in an Arborist Report (refer to Table 9 and the Tree Clearing and Grubbing Procedure in Appendix A). Condition C-B9 of SSI 10038 Infrastructure Approval (Sydney Metro concept approval) requires the project to increase the tree canopy coverage (refer to Table 14). JCG will record trees removed in a Tree Register and Sydney Metro will	Table 9 Table 14 Appendix A



No	Issues Raised	How Addressed	Subject document ref
	Otherwise, satisfied in the management measures in place to minimise and mitigate impact on local ecology. "	ensure that the replacement trees are provided to increase canopy coverage.	
6	Possible impact to streetscape on Union Street and a traffic treatment on Edward Street, Pyrmont. The streetscape on Union Street's southern side was recently installed and may not have been present with the report was commissioned.	Noted. Section 7.6 of the Sub-plan will ensure that the Project Arborist will assess street trees that have the potential to be impacted as a result of the Tunnelling, Excavation and Associated Works. The Project Arborist will also provide advice on measures to minimise damage to street trees (refer to Environmental Control Measure FF2 in Table 9).	Section 7.6 Table 9
7	In Figures 3 and 6.2 'Impacts' details how three London Plane Trees are to be removed. These trees are located within the streetscape garden. It would be assumed that the new streetscape would also require removal. The City recommends that the Flora and Fauna Management Sub-Plan be amended to include reference to the streetscape and a replanting plan be developed to include replacement of removed vegetation. We have not found a commitment to any replanting or replacement of removed vegetation.	The replanting of trees following construction of the CSSI is not within the scope of the Eastern Tunnel Package. This will be managed by Sydney Metro and subsequent packages of works. It is noted that Condition C-B9 of SSI 10038 Infrastructure Approval (Sydney Metro concept approval) requires the project to increase the tree canopy coverage (refer to Table 14). JCG will record trees removed in a Tree Register and Sydney Metro will ensure that the replacement trees are provided to increase canopy coverage.	Table 14



[REDACTED]

**Subject:** Review of Environmental Management Plans - Sydney Metro West - Eastern Tunnelling Package

Hi [REDACTED]

Sydney Metro is providing City of Sydney with environmental management plans for review as part of the consultation process for the preparation of these plans.

These plans are required for the Eastern Tunnelling Package (ETP) Package that was recently awarded to John Holland CPB Ghella Joint Venture (JCG) for works that form part of Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval located [here](#).

The review period is from 13 December 2022 to 27 January 2023. Please advise in the coming days if you require a meeting during this time to go through the plans.

We have sent these documents via secure transmittal, in addition to this email. We will also issue them via TeamBinder (our document management system).

If you have any questions please feel free to reach out.

Best regards

[REDACTED]  
Manager, Stakeholder Engagement  
Sydney Metro West  
[REDACTED]

Level 43, 680 George Street, Sydney NSW 2000  
PO Box K659, Haymarket NSW 1240





13 December 2022

Attn Ms [REDACTED]  
Manager Major Transport Projects  
City of Sydney  
PO Box 1591  
SYDNEY NSW 2001

Dear [REDACTED]

Sydney Metro SSI 19238057 – Eastern Tunnelling Package – John Holland CPB Ghella Joint Venture – Construction Flora and Fauna Management Sub-plan; Heritage Management Sub-plan; Noise and Vibration Management Sub-plan; Noise and Vibration Monitoring Program; Soil and Water Management Sub-plan; Spoil Management Sub-plan; Surface Water Quality Monitoring Program

The Eastern Tunnelling Package (ETP) Package was recently awarded to John Holland CPB Ghella Joint Venture (JCG). These works form part of the Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval.

The planning approval requires the preparation of environmental management plans prior to construction commencing. Please find attached the ETP:

- Construction Flora and Fauna Management Sub-plan
- Heritage Management Sub-plan
- Noise and Vibration Management Sub-plan
- Noise and Vibration Monitoring Program
- Soil and water Management Sub-plan
- Spoil Management Sub-plan
- Surface Water Quality Monitoring Program

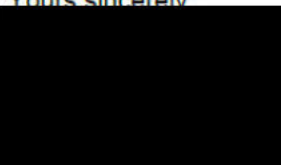
Prepared by JCG and issued to the City of Sydney for consultation in accordance with SSI 19238057 Conditions of Approval C5 and C14.

We are commencing a 6-week consultation process with you as of 13 December 2022 with this submission. In recognition of the Christmas holiday period, an extended consultation period has been nominated to allow sufficient time for review of the document(s). It is requested that comments (or confirmation of no comments) are provided by **27 January 2023**. In addition, if you would like to discuss the sub-plan details, please advise and we can arrange a specific meeting.

Should you have any questions or comments on the attached, please do not hesitate to contact [REDACTED]

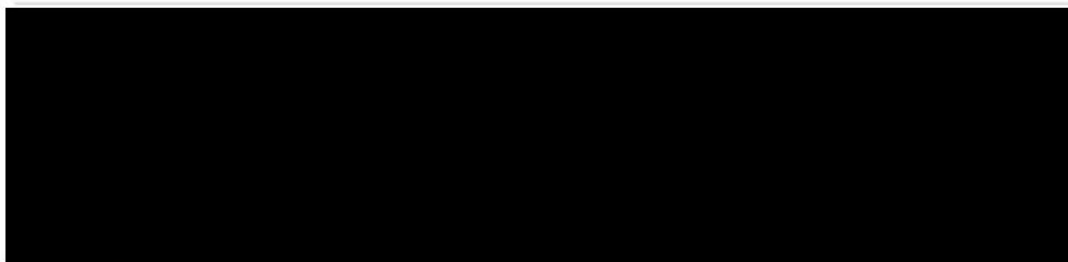
Sydney Metro  
Level 43, 680 George Street, Sydney NSW 2000 | PO Box K659, Haymarket NSW 1240  
T 02 8265 9400 | sydneymetro.info | ABN 12 354 063 515

Yours sincerely



Director, Project Environment, Sustainability & Planning  
Metro West  
Sydney Metro





**Subject:** JV - Team introduction and meeting

**CAUTION:** This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED],

Thanks for sending through various sub plans etc.. – we will make every attempt to provide feedback by 27<sup>th</sup>, as I said yesterday the City is 150% supportive of the Metro project.

Yesterdays meeting was constructive , there are many issues still to discuss. Nathan will set up meetings as discussed 31 Jan.

Can you please confirm whether you will be sending through actions from yesterdays meeting?  
I recall 4 actions (Other than the response to your plans) :

1. JV requested an up to date list of property owners for area around the Pymont station
2. JV request assistance in passing on quality furniture to charity organisations ( JV to provide pack with details of items etc..)
3. City to provide contact details of Homeless unit
4. City to provide assistance with first nations artists to potentially prepare art for the wall for the Hunter connection food court.

The City asked for information about impacts to trees to be provided as soon as possible, noting trimming also has an impact on tree health and the City has ambitious tree canopy targets .

Please let me know if I have missed anything?

Can you please confirm this with the JV?

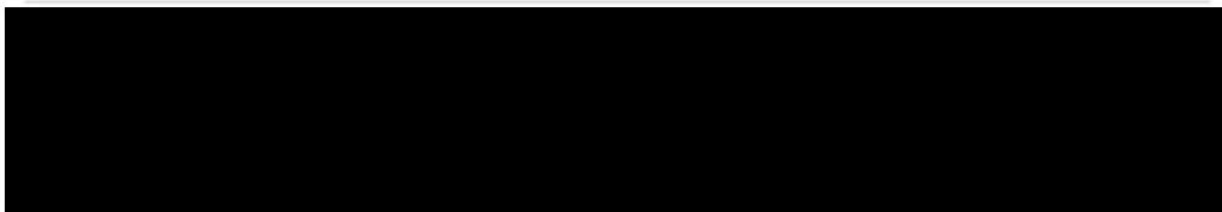
Many Thanks

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Happy Christmas







**Subject:** Review of Environmental Management Plans - Sydney Metro West - Eastern Tunnelling Package

**Caution:** This email came from outside the organisation. Don't click links or open attachments unless you know the sender, and were expecting this email.

Hi [REDACTED]

Sydney Metro is providing City of Sydney with environmental management plans for review as part of the consultation process for the preparation of these plans.

These plans are required for the Eastern Tunnelling Package (ETP) Package that was recently awarded to John Holland CPB Ghella Joint Venture (JCG) for works that form part of Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval located [here](#).

The review period is from 13 December 2022 to 27 January 2023. Please advise in the coming days if you require a meeting during this time to go through the plans.

We have sent these documents via secure transmittal, in addition to this email. We will also issue them via TeamBinder (our document management system).

If you have any questions please feel free to reach out.

Best regards

[REDACTED]  
Manager, Stakeholder Engagement  
Sydney Metro West

[REDACTED]  
Level 43, 680 George Street, Sydney NSW 2000  
PO Box K659, Haymarket NSW 1240



[REDACTED]

**Subject:** RE: Review of documents from JCG JV

**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.

Not sure yet – I'll get back to you.

[REDACTED]

**Subject:** Review of documents from JCG JV

**Caution:** This email came from outside the organisation. Don't click links or open attachments unless you know the sender, and were expecting this email.

Hi [REDACTED]

I'm just following up on the review of the documents sent before Christmas. Just wondering if the reviewers have any questions on the documents transmitted. I'm happy to set up a meeting with the reviewers if they would like clarification or have any questions.

Best wishes

[REDACTED]  
A/Senior Manager, Stakeholder Engagement  
Sydney Metro West



[REDACTED]

**Sent:** Thursday, 12 January 2023 11:17 AM

[REDACTED]

**Subject:** Quick enquiry

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED]

I don't think anyone has any questions as yet regarding the Sub Plans for ETP. Since I went on leave, have any further elements been released? I've not received anything to my knowledge...

[REDACTED]

Planning Coordinator, Transport Major Projects  
City Access



[REDACTED]

cityofsydney.nsw.gov.au



[REDACTED]

**Subject:** Feedback from City re: Sydney Metro Eastern Tunnelling Package Environmental Management sub plans Jan 2023

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED]

Please find attached feedback from City staff regarding the Environmental Management Sub

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plans attached in 6 spread sheet documents

- Construction Flora and Fauna Management Sub-plan (Comments across two spread sheets)
- Heritage Management Sub-plan
- Noise and Vibration Management Sub-plan (includes comments on - Noise and Vibration Monitoring Program )
- Soil and water Management Sub-plan ( Also contains comments on Surface Water Quality Monitoring Program )
- Spoil Management Sub-plan

Additional comments regarding feedback:

1. City staff have not provided feedback regarding ground water contamination – we require a few additional days to source this feedback. **ACTION:** City will update Metro Monday 30 Jan 2022.
2. City staff have emphasised that the removal of trees should be *minimised*. The City considers that mature trees have benefits for native and non-native fauna. In addition the Community place *a significant value on the amenity and shade* provided by these mature trees. **ACTION:** The City requests Mero reconsider the blanket removal of trees, and minimise impacts wherever possible. The City can provide advice on what measures can be taken to protect trees if requested.

Please let me know if you have any questions, I will pass on the next series of feedback as soon as it is completed.

Apologise for not providing the complete suite of responses, I will contact you on Monday with an update.

[REDACTED]  
Manager Major Transport Projects  
City Access



## REVIEW COMMENTS SHEET

NO	REVIEW DOCUMENT NO.	DOCUMENT REF	DEVELOPER	COMMENTS / RESPONSE	COMMENT CATEGORY	CLOSED OUT
48	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	16 trees (this includes 6 trees within construction sites and 10 street trees) have been approved for removal (Sydney Metro SSI 19238057) - <a href="https://pp.planningportal.nsw.gov.au/major-projects/projects/sydney-metro-west-bays-sydney-cbd">https://pp.planningportal.nsw.gov.au/major-projects/projects/sydney-metro-west-bays-sydney-cbd</a> . Comments provided by CoS in relation to the SSI were not been adopted in the final approval.COMMENTED BY - CITY OF SYDNEY - SAM KNIGHT - TREE MANAGEMENT OFFICER	Observation	N
	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	Noted. The concerns of City of Sydney are acknowledged and reflected in the following amendments of the Flora and Fauna Management Sub-plan: The Tree Clearing and Grubbing Procedure (Appendix A) includes a Hold Point which requires the preparation of an arborist report and consultation with the relevant Council prior to removal of street trees. The FFMP (Table 9, ID FF2) provides additional details on this Hold Point and notes that where feasible, trees will be pruned rather than removed.	Observation	N
49	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	Reasons for tree removal in the SSI and Flora and Fauna sub-plan have not been defined (ie: it is unclear why the 10 street trees require removal. It is noted that 6 trees within the construction sites will require removal for the purpose of tunnelling).COMMENTED BY - CITY OF SYDNEY - SAM KNIGHT - TREE MANAGEMENT OFFICER	Observation	N
	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	Section 6.1 of the FFMP has been revised to provide clarity on the activities that may result in tree pruning or removal, "Removal of trees and vegetation to enable utility works, access to nominated worksites, installation of hoarding and construction of the approved project (excavation, tunnelling and support activities).	Observation	N
50	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	The Flora and Fauna sub-plan outlines that no impacts are expected from the removal of 16 trees which is mainly related to impacts on native fauna. However the removal of the 16 trees will result in a loss of 250sqm canopy cover. The City's data indicates this area has just 17.6% canopy cover, which needs to be considerably higher. The removal of healthy mature canopy cover will have a negative impact on the environment and amenity of the immediately affected areas which has not been considered in the SSI (EIS and other documentation) or Flora and Fauna sub-plan.COMMENTED BY - CITY OF SYDNEY - SAM KNIGHT - TREE MANAGEMENT OFFICER	Potential Compliance Non-	N
	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	The Flora and Fauna Management Sub-plan is referring to potential impact to species, populations or ecological communities of conservation concern. No impacts to any entities of conservation concern are expected. Consideration of impacts to tree canopy coverage cover have been added to the Sub-plan by including REMM B2 in Table 15. In addition, the Environmental Control Measure FF2 has been included in Table 9 which requires JCG to engage a suitably qualified project arborist to assess street trees that would be pruned or have the potential to be impacted as a result of the Tunnelling, Excavation and Associated Works. The impacts to tree canopy coverage cover will be measured and offset by the Tree Register maintained by JCG JV and replacement trees by Sydney Metro.	Potential Compliance Non-	N



## REVIEW COMMENTS SHEET

NO	REVIEW DOCUMENT NO.	DOCUMENT REF	DEVELOPER REF	COMMENTS / RESPONSE	COMMENT CATEGORY	CLOSED OUT
51	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	The justification for tree removal seems to rely solely on the fact that they have been found by the ecologist as currently not providing any value for native fauna. However there are many other benefits provided by the trees that will be adversely affected as a result of their removal. There is substantial research, and community awareness, of the extensive health and well-being benefits provided to our community from these trees, along with the reduction in the urban heat island effect. None of which have been considered in the assessment of the SSI and Metro West Eastern Tunnelling Package Sub-plans. This is a serious omission in this assessment, and we consider that the 10 street trees should be retained and protected as part of the proposal. COMMENTED BY - CITY OF SYDNEY - SAM KNIGHT - TREE MANAGEMENT OFFICER	Potential Compliance Non-	N
	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	The aesthetic and amenity value of street trees is acknowledged and added to the scope of the sub-plan by including REMM B2 in Table 15. In addition, the Environmental Control Measure FF2 has been included in Table 9 which requires JCG to engage a suitably qualified project arborist to assess street trees that would be pruned or have the potential to be impacted as a result of the Tunnelling, Excavation and Associated Works. Where feasible trees will be pruned rather than removed.	Potential Compliance Non-	N
52	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	Given the limited green cover in Sydney LGA, and Pyrmont area, any vegetation, regardless of it being native or exotic, is an important ecological resource, and has potential to be habitat for indigenous fauna, particularly birds, lizards and invertebrates. As such, there should be no net loss of vegetation as a result of the project. Will the exotic vegetation, as mapped in Figure 3, be replaced at a later stage of this development? In replacement, preferably locally endemic species will be used that offer greater habitat value than the exotic species currently present. Otherwise, satisfied in the management measures in place to minimise and mitigate impact on local ecology. COMMENTED BY - CITY OF SYDNEY - JAMES MACNAMARA - URBAN ECOLOGY COORDINATOR	Observation	N
	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	Street trees that are removed for the project will be assessed by a suitably qualified arborist and documented in an Arborist Report. Condition C-B9 of SSI 10038 Infrastructure Approval (Sydney Metro concept approval) requires the project to increase the tree canopy coverage (refer to Table 14). JCG will record trees removed in a Tree Register and Sydney Metro will ensure that the replacement trees are provided to increase canopy coverage.	Observation	N



## REVIEW COMMENTS SHEET

NO	REVIEW DOCUMENT NO.	DOCUMENT REF	DEET REF	COMMENTS / RESPONSE	COMMENT CATEGORY	CLOSED OUT
53	SMWSTETP-JCG-1NL-EN-PLN-000001	TP-JCG-1NL-EN-PLN-000001	NA	Edward Street, Pyrmont. The streetscape on Union Street's southern side was recently installed and may not have been present with the report was commissioned. COMMENTED BY - CITY OF SYDNEY - PETER DAY - PARK ASSETS AND SERVICES MANAGER	Observation	N
	SMWSTETP-JCG-1NL-EN-PLN-000001	SMWSTETP-JCG-1NL-EN-PLN-000001	NA	Noted. Section 7.6 of the Sub-plan will ensure that the Project Arborist will assess street trees that have the potential to be impacted as a result of the Tunnelling, Excavation and Associated Works. The Project Arborist will also provide advice on measures to minimise damage to street trees (refer to Environmental Control Measure FF2 in Table 9).	Observation	N
54	SMWSTETP-JCG-1NL-EN-PLN-000001	Figure 3 and Section 6.2	NA	In Figures 3 and 6.2 'Impacts' details how three London Plane Trees are to be removed. These trees are located within the streetscape garden. It would be assumed that the new streetscape would also require removal. The City recommends that the Flora and Fauna Management Sub-Plan be amended to include reference to the streetscape and a replanting plan be developed to include replacement of removed vegetation. We have not found a commitment to any replanting or replacement of removed vegetation. COMMENTED BY - CITY OF SYDNEY - PETER DAY - PARK ASSETS AND SERVICES MANAGER	Observation	N
	SMWSTETP-JCG-1NL-EN-PLN-000001	Figure 3 and Section 6.2	NA	The replanting of trees following construction of the CSSI is not within the scope of the Eastern Tunnel Package. This will be managed by Sydney Metro and subsequent packages of works. It is noted that Condition C-B9 of SSI 10038 Infrastructure Approval (Sydney Metro concept approval) requires the project to increase the tree canopy coverage (refer to Table 14). JCG will record trees removed in a Tree Register and Sydney Metro will ensure that the replacement trees are provided to increase canopy coverage.	Observation	N



## Appendix B Inner West Council Consultation Evidence

Table 5: Consultation Log

In/Out	Date	Medium	Details of Contact
Out	13 December 2022, 5:42pm	Email	Sydney Metro issues Subject Document to Ken Walsh (Team Lead – Strategic Transport Planning) and specifies dates of review period.
Out	15 December 2022, 7:26pm	TeamBinder Transmittal	Subject Document is provided to stakeholder via TeamBinder.
Out	10 January 2023, 1:18pm	Email	Sydney Metro follows up with [REDACTED] (Engineer) regarding progress of Subject Document review. Sydney Metro offers to set up a meeting to clarify any outstanding questions and provide additional information.
Out	13 January 2023	Phone call	Sydney Metro follows up with stakeholder regarding progress of Subject Document review and offers to clarify any questions.
In	24 January 2023	Phone call	Stakeholder confirms they are on-track to provide comments by 27/01/2023.
In	30 January 2023, 10:51am	Email	Stakeholder confirms that they have no comments on the Subject Document.

Table 6: Issues Raised by Stakeholder

No	Issues Raised	How Addressed	Subject document ref
Flora and Fauna Management Sub-plan			
8	No comments	No action required	N/A



[REDACTED]

**Subject:** Review of Environmental Management Plans - Sydney Metro West - Eastern Tunnelling Package

Hi [REDACTED]

Sydney Metro is providing Inner West Council with environmental management plans for review as part of the consultation process for the preparation of these plans.

These plans are required for the Eastern Tunnelling Package (ETP) Package that was recently awarded to John Holland CPB Ghella Joint Venture (JCG) for works that form part of Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval located [here](#).

The review period is from 13 December 2022 to 27 January 2023. Please advise in the coming days if you require a meeting during this time to go through the plans.

We have sent these documents via secure transmittal, in addition to this email. We will also issue them via TeamBinder (our document management system).

If you have any questions please feel free to reach out.

Best regards

[REDACTED]  
Manager, Stakeholder Engagement  
Sydney Metro West

[REDACTED]  
Level 43, 680 George Street, Sydney NSW 2000  
PO Box K659, Haymarket NSW 1240





13 December 2022

Attn Mr [REDACTED]  
Team Leader Transport Planning  
Inner West Council  
PO Box 14  
PETERSHAM NSW 2049

Dear Mr [REDACTED],

**Sydney Metro SSI 19238057 – Eastern Tunnelling Package – John Holland CPB Ghella Joint Venture – Construction Flora and Fauna Management Sub-plan; Heritage Management Sub-plan; Noise and Vibration Management Sub-plan; Noise and Vibration Monitoring Program; Soil and Water Management Sub-plan; Spoil Management Sub-plan; Surface Water Quality Monitoring Program**

The Eastern Tunnelling Package (ETP) Package was recently awarded to John Holland CPB Ghella Joint Venture (JCG). These works form part of the Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval.

The planning approval requires the preparation of environmental management plans prior to construction commencing.

Please find attached the ETP:

- Flora and Fauna Management Sub-plan
- Heritage Management Sub-plan
- Noise and Vibration Management Sub-plan
- Noise and Vibration Monitoring Program
- Soil and Water Management Sub-plan
- Spoil Management Sub-plan
- Surface Water Quality Monitoring Program.

Prepared by JCG and issued to the Inner West Council for consultation in accordance with SSI 19238057 Conditions of Approval C5 and C14.

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Sydney Metro

Level 43, 680 George Street, Sydney NSW 2000 | PO Box K659, Haymarket NSW 1240  
T 02 8265 9400 | sydneymetro.info | ABN 12 354 063 515

OFFICIAL



We are commencing a 6-week consultation process with you as of 13 December 2022 with this submission. In recognition of the Christmas holiday period, an extended consultation period has been nominated to allow sufficient time for review of the document(s). It is requested that comments (or confirmation of no comments) are provided by **27 January 2023**. In addition, if you would like to discuss the sub-plan details, please advise and we can arrange a specific meeting.

Should you have any questions or comments on the attached, please do not hesitate to contact [REDACTED]

Yours sincerely

[REDACTED]

Director, Project Environment, Sustainability & Planning  
Metro West  
Sydney Metro

Cc: [REDACTED]



mailto: [REDACTED]

**From:** [REDACTED]  
**Sent:** Tuesday, 10 January 2023 1:18 PM  
**To:** [REDACTED]  
**Subject:** RE: Meeting with JCG JV & Sydney Metro

Hi [REDACTED]

Happy new year and hope you enjoyed some time off over the holiday season.

I'm following up on the review of the documents you received before Christmas. Do you or Brigid have any questions on the documents transmitted by JCG JV. Let me know how you are going and if you would like to set up a meeting to discuss the review.

Many thanks

[REDACTED]  
A/Senior Manager, Stakeholder Engagement  
Sydney Metro West

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**From:** [REDACTED]  
**Sent:** Friday, 23 December 2022 12:05 PM  
**To:** [REDACTED]  
**Subject:** FW: Meeting with JCG JV & Sydney Metro

CAUTION: This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED]

Please find email from [REDACTED] below. I am available from 3<sup>rd</sup> January onwards.

Have a great Christmas.

Regards

[REDACTED]



[REDACTED]

**Subject:** Meeting with JCG JV & Sydney Metro


Hi [REDACTED]

I hope you're well. Can I just ask if you had any luck setting up the meeting around mid-January with your team. I'll need to have a few different dates and times to offer the contractor.

Many thanks

[REDACTED]  
Stakeholder engagement manager  
Sydney Metro West

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 **Consider the environment. Please don't print this e-mail unless really necessary.**

[REDACTED]

**Subject:** Fw: Review Sydney Metro sub plans

**CAUTION:** This email is sent from an external source. Do not click any links or open attachments unless you recognise the sender and know the content is safe.

Hi [REDACTED]

Hope you are well.

Apologies for sending this in late.

Please find a set of comments below from Inner West Council.

Thanks

[REDACTED]



[REDACTED]

[REDACTED]

**Subject:** RE: Review Sydney Metro sub plans

Hi [REDACTED]

Thanks for co-ordinating. I was able to access the files from your link to SharePoint (and I assume others can too), so no need to put them on the common drive. Apologies for not sending this to you last Fri. I was allowing time to run this by Ken, who has been the key Council person working on Metro West planning, but Ken is off sick this week.

I've had a quick look through all the plans, and am pleased to say that in general terms I can't see any significant impacts for our council area. That's not to say there are no impacts at all, and it needs to be kept in mind that the Rozelle/Balmain area continues to be subject to significant cumulative impacts from multiple major projects & activities. Unlike WestConnex & Western Harbour Tunnel, Metro West is public transport, so is supported at a strategic level by our council.

As these plans are concerned only with tunnel & station excavation from The Bays through to the CBD, the only construction activity within our council area is from one site within The Bays precinct. Most of this activity is underground and covered by acoustic sheds (which helps minimise impacts) and fortunately there doesn't appear to be any residential or other sensitive land uses within very close proximity to the construction site at The Bays. It's a different story over the border within the City of Sydney, where there are multiple construction sites with a variety of sensitive uses in very close proximity.

I also note that all spoil haulage will be along main roads like City West Link, not local roads. I'm pleased to see there's a condition of approval preventing spoil trucks operating from The Bays from using Robert Street (except in emergencies), which means they'll all be using James Craig Road to access City West Link.

As a transport planner I've focused on traffic/transport issues, but have included a few brief comments below on other topics based on my experience with WestConnex.

Hope these comments are useful, and happy to discuss any time - Kendall

#### **Comments on the *Overarching Construction Traffic Management Plan***

- Table 5 shows that peak daily traffic movements for both heavy & light vehicles to be significant, although impacts should be minimised by Consent Condition D70, which requires all these movements to be via James Craig Road, not Robert Street. Council would like confirmation that there will not be unacceptable congestion along James Craig Road and at its intersection with City West Link. This confirmation should be part of the further assessment in the forthcoming site-specific Construction Traffic Management Plan (CTMP). This assessment will



need to consider cumulative impacts from other projects & activities in and around the precinct.

- Council supports the requirement that pedestrian movement plans be developed and implemented, although these plans should include cycling routes.
- It is noted that worker parking will be provided in White Bay (137 spaces) and that public transport and car-pooling encouraged to reduce worker parking demand. As there have been significant issues with worker parking demand from WestConnex, Council would like to see a firm commitment to provision of these spaces and incentives/penalties to ensure parking demand is minimised. This commitment should be detailed within the forthcoming *Construction Parking & Access Strategy* required by Consent Condition D78.
- It is noted that a truck marshalling area is to be created on Glebe Island to minimise impacts of trucks parking and idling. Based on its experience with significant impacts from WestConnex trucks parking and idling, Council would like to see a firm commitment to this action. The marshalling area would likely be located within the City of Sydney, so it is important that the City is satisfied that trucks would not affect any residential areas or other sensitive uses.
- It is noted that all spoil haulage routes for The Bays component of the project would be on main roads, with none on local roads within the inner West

#### Comments on the *Noise & Vibration Management Sub-plan*

- It is noted in Table 10 that there many out-of-hours (OOH) work periods are scheduled for The Bays precinct. Although (fortunately) most works will be underground, the main worksite will be covered by acoustic sheds and dwellings and other sensitive uses are not in very close proximity, noise from these works will add to existing night-time ambient noise, e.g. noise from cruise ship terminal. Cumulative noise impacts therefore need to be considered, particularly for OOH works.
- The 'additional mitigation measures' are noted. Council would like to see a generous approach to offering residents relief from noise impacts if needed, such as alternative accommodation.
- It is noted that Figure 3 shows there are many potential residential receivers in Balmain & Rozelle area

#### Comments on the *Soil & Water Management Sub-plan*

- Council has previously raised concerns about tunnel-related groundwater drawdown in relation to WestConnex. The assessment of this impact will need to consider cumulative impacts from the extensive tunnelling activity in this area.

#### Comments on the *Spoil Management Sub-plan*

- It is noted that spoil would be productively used for a range of projects mainly located in western Sydney
- It is noted that spoil haulage will be guided by a number of criteria to maintain effective spoil removal while minimising impacts on pedestrians, traffic, and sensitive receivers. These criteria are supported.

No comments or issues are raised with the *Flora & Fauna Management Sub-plan*

and the *Heritage Management Sub-plan*.

Kendall Banfield

Senior Transport Planner

p +61 2 9335 2179 e [Kendall.Banfield@innerwest.nsw.gov.au](mailto:Kendall.Banfield@innerwest.nsw.gov.au) m 0417 729 424

Inner West Council



## Appendix C DPE Environment and Heritage Consultation Evidence

Table 7: Consultation Log

In/Out	Date	Time	Details of Contact
Out	8 December 2022	Phone call	No answer
Out	13 December 2022, 6:17pm	Email	Sydney Metro issues the Subject Document to Susan Harrison (Senior Team Leader Greater Sydney Branch), advises the review period dates, and offers a briefing meeting.
Out	15 December 2022, 7:26pm	TeamBinder Transmittal	Subject Document is provided to stakeholder via TeamBinder.
In	16 December 2022, 9:48am	Email	Stakeholder requests clarification as to the timing for issuing the Subject Document
Out	16 December 2022	Phone call	No answer
Out	16 December 2022, 4:30pm	Email	Sydney Metro offers to arrange a meeting or phone call to discuss stakeholder's query.
In	12 January 2023, 5:11pm	Email	Stakeholder provides feedback letter advising they have no comments on the Subject Document.
Out	13 January 2023	Phone call	No answer

Table 8: Issues Raised by Stakeholder

No	Issues Raised	How Addressed	Subject document ref
Flora and Fauna Management Sub-plan			
9	EHG has reviewed the Sub-Plan and has no comments and no wish to be further consulted.	No action required	N/A



**From:** [REDACTED]  
**To:** [REDACTED]  
**Subject:** FW: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (EHG)  
**Date:** Monday, 30 January 2023 3:55:12 PM  
**Attachments:** [Image001.jpg](#)

---

[REDACTED]

**Subject:** RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (EHG)

Hi [REDACTED]

Thank you for getting in contact. I tried calling you both on Friday (16/12/2023), and initially Susan (08/12/2022) however no one picked up.

Feel free to call me back, alternatively we can arrange a time discuss next week? Hope you both have great weekend!

Regards,  
[REDACTED]



[REDACTED]

[REDACTED]

**Subject:** RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (EHG)

You don't often get email from [david.way@planning.nsw.gov.au](mailto:david.way@planning.nsw.gov.au). [Learn why this is important](#)

**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.

Good Morning [REDACTED]

I just wanted to touch base to check on the timing for issuing / submitting the Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans.

Happy to discuss,

[REDACTED]

[REDACTED]

**Senior Conservation Officer**

Greater Sydney Branch | Biodiversity and Conservation Division

[REDACTED]

12 Darcey Street Parramatta NSW 2000

[www.dpie.nsw.gov.au](http://www.dpie.nsw.gov.au)

*The Department of Planning 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.*



[REDACTED]

**Subject:** RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (EHG)

Hi [REDACTED]

Could you please provide access to my myself [REDACTED] and [REDACTED]

Regards, [REDACTED]

[REDACTED]  
**Senior Project Officer – Planning**  
**Greater Sydney**

Biodiversity & Conservation | Environment, Energy and Science  
Department of Planning and Environment

[REDACTED]  
Level 6, 4 Parramatta Square, 12 Darcy St, Parramatta NSW 2150  
[www.dpie.nsw.gov.au](http://www.dpie.nsw.gov.au)



[REDACTED]

Cc: OEH ROG Greater Sydney Region Planning Unit Mailbox

[REDACTED]

**Subject:** Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (EHG)

Hi [REDACTED]

Sydney Metro is providing the Department of Planning and Environment – Environment and Heritage Group (EHG) a Construction Flora and Fauna Management Sub-plan for review as part of the consultation process for the preparation of this plan.

This plan is required for the Eastern Tunnelling Package (ETP) Package that was recently awarded to John Holland CPB Ghella Joint Venture (JCG) for works that form part of Sydney Metro West – Stage 2 (major civil construction between The Bays to Sydney CBD) planning approval located [here](#).

The review period is from **13 December 2022 to 27 January 2023**. Please advise in the coming days if you require a meeting during this time to go through the plans and the preferred contact (I called [REDACTED] last week, however it appears he is on leave).

I have sent this document via transmittal, in addition to this email. We will also issue it via TeamBinder (our document management system).

If you have any questions please feel free to reach out. Thank you,

[REDACTED]  
Manager Environment  
Environment, Sustainability & Planning  
Sydney Metro

[REDACTED]



HOW

## Department of Planning and Environment



Our ref: DOC22/1124225

Your ref: SSI 19238057

[REDACTED]  
Director, Project Environment, Sustainability & Planning, Metro West  
Sydney Metro  
PO Box K659  
HAYMARKET NSW 1240

11 January 2023

**Subject: Sydney Metro West Eastern Tunnelling Package Construction Flora and Fauna Management Sub-Plan**

Dear [REDACTED]

Thank you for your letter dated 13 December 2022 requesting input from the Environment and Heritage Group (EHG) on the Sydney Metro West Eastern Tunnelling Package Flora and Fauna Management Sub-Plan (Sub-Plan) prepared by John Holland CPB Ghella Joint Venture dated 22 November 2022.

EHG understands that the Sub-Plan has been prepared to satisfy Condition of Approval C5 of SSI 19238057. EHG has reviewed the Sub-Plan and has no comments and no wish to be further consulted.

If you have any queries please contact [REDACTED] Senior Project Officer Planning via [REDACTED]

Yours sincerely,

[REDACTED]  
Senior Team Leader  
Greater Sydney Branch  
Biodiversity and Conservation



## Appendix D DPI Fisheries Consultation Evidence

Table 9: Consultation Log

In/Out	Date	Time	Details of Contact
Out	13 December 2022, 7:42pm	Email	Sydney Metro issues the Subject Document to Sarah Conacher (Senior Fisheries Manager) advises the review period dates, and offers a briefing meeting.
Out	15 December 2022, 7:26pm	TeamBinder Transmittal	Subject Document is provided to stakeholder via TeamBinder.
In	19 December 2022, 10:03am	Email	Stakeholder advises Sarah Conacher (Senior Fisheries Manager) is on Christmas leave returning 9/01/2023
Out	13 January 2023	Phone call	No answer
Out	18 January 2023, 10:48am	Email	Sydney Metro requests update on review of Subject Document and offers a meeting.
Out	18 January 2023	Phone call	No answer
In	18 January 2023, 11:08am	Email	Stakeholder advises Sarah Conacher (Senior Fisheries Manager) is on Christmas leave returning 23/01/2023
Out	25 January 2023, 3:24pm	Email	Sydney Metro follows up regarding previous enquiry.
Out	25 January 2023	Phone call	No answer
In	31 January 2023, 2:44pm	Email	Sarah Conacher (Senior Fisheries Manager) advises that they will review the Subject Document and provide feedback by 31.01.2023
In	31 January 2023, 3:10pm	Email	Sarah Conacher (Senior Fisheries Manager) requests the Subject Document is re-issued.
Out	1 February 2023	Phone call	No answer
Out	1 February 2023, 10:17am	Email	Sydney Metro advises Sarah Conacher (Senior Fisheries Manager) that Subject Document has been re-issued.
In	1 February 2023, 5:21pm	Email	Sarah Conacher (Senior Fisheries Manager) advises they have no comments.

Table 10: Issues Raised by Stakeholder

No	Issues Raised	How Addressed	Subject document ref
Flora and Fauna Management Sub-plan			
10	I've reviewed the Flora and Fauna Subplan and I have no comments or recommendations to make. The flora/fauna is all terrestrial from what I can see.	No action required	N/A



Subject: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans - DPI Fisheries (Secure transmittal)



sent you a secure message

Access message

Hi [REDACTED]

The Sydney Metro West (SMW) Eastern Tunnelling Package (ETP) Construction Flora and Fauna Management Sub-plan is able to be accessed via the link for review. In addition to this link we will provide the documents via TeamBinder.

If you have any questions please reach out.



[sydnymetro.info](mailto:sydnymetro.info)  
Level 43, 680 George Street, Sydney NSW 2000  
PO Box K659, Haymarket NSW 1240



Attachments expire on Dec 20, 2022



1 spreadsheet

Comments Review Sheet Flora & Fauna Management Sub-Plan.xlsx

From: [REDACTED]

Sent: Monday, 19 December 2022 10:03 AM

To: [REDACTED]

Subject: RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans - DPI Fisheries (Secure transmittal)

**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.

Good Morning [REDACTED]

Sarah has begun her Christmas leave, and is due to return on the 9<sup>th</sup> January. I am unable to open the attached documents to save into our record management database.

They have been shared to ahp.central which is a shared email box without its own identity.

Do you mind sharing with me - then I can upload the documents in our system - [REDACTED]

Many thanks

[REDACTED]  
Administrative Officer  
DRNSW Fisheries  
Department of Regional NSW

[regional.nsw.gov.au](mailto:regional.nsw.gov.au)





Cc: DPI AHP Central Mailbox <[ahp.central@dpi.nsw.gov.au](mailto:ahp.central@dpi.nsw.gov.au)>; Melissa Coughran <[melissa.coughran@dpi.nsw.gov.au](mailto:melissa.coughran@dpi.nsw.gov.au)>; Sarah Kemp <[Sarah.Kemp@transport.nsw.gov.au](mailto:Sarah.Kemp@transport.nsw.gov.au)>  
Subject: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (DPI Fisheries)

Hi [REDACTED]

Hope you had a good break over the new year!

Confirming if you have any feedback on the *Sydney Metro West Eastern Tunnelling Package Construction Flora and Fauna Management Sub-plan* or if you would like to meet to discuss further?

I called last Friday and today and no one picked up? Thank you,



[sydnemetro.info](http://sydnemetro.info)

Level 43, 680 George Street, Sydney NSW 2000  
PO Box K659, Haymarket NSW 1240

From: [REDACTED]  
Sent: Wednesday, 18 January 2023 11:08 AM

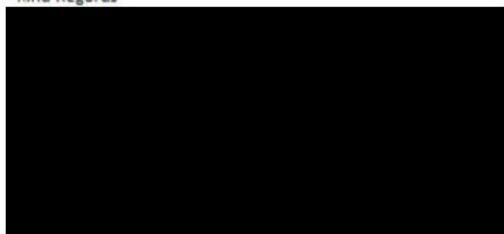
Subject: RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (DPI Fisheries)

**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.

Good Morning Ari,

Sarah is on leave this week. She is due to return on Monday 23<sup>rd</sup> January.

Kind Regards



Department of Primary Industries  
Department of Regional NSW



[REDACTED]

Subject: RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (DPI Fisheries)

Hi [REDACTED]

Hope you had a good break! Following up our enquiry regarding the review *Sydney Metro West Eastern Tunnelling Package Construction Flora and Fauna Management Sub-plan*.

I called earlier today, however no one picked up. Feel free to call me back or get in touch. Thank you,

[REDACTED]

[sydnymetro.info](http://sydnymetro.info)

Level 43, 680 George Street, Sydney NSW 2000  
PO Box K659, Haymarket NSW 1240

METRO-NSWGovt\_2COL



[REDACTED]

Subject: RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (DPI Fisheries)

Hi [REDACTED]

My apologies, I'm just returning from leave today. I'll aim to get a response to you this afternoon re the Flora Fauna Plans.

Kind regards,

[REDACTED] Senior Fisheries Manager – Coastal Systems Unit

NSW Department of Primary Industries | Fisheries

12 Shirley Rd, Wollstonecraft NSW

ALL MAIL TO: DPI Fisheries, Attn: M.Coughran, 1243 Bruxner Hwy, Wollongbar NSW 2477

[REDACTED]



**Subject:** RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (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.

Hi [REDACTED]

Can you please reactivate the link to the flora fauna management plan?

Thanks,

[REDACTED] Senior Fisheries Manager – Coastal Systems Unit  
NSW Department of Primary Industries | Fisheries  
12 Shirley Rd, Wollstonecraft NSW  
ALL MAIL TO: DPI Fisheries, Attn: M Coughran 1243 Bruxner Hwy, Wollongbar NSW 2477

**Subject:** RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (DPI Fisheries)

Hi [REDACTED]

Welcome back from leave! I tried calling you this morning however it rung out. You would have received an email this morning, that has reactivated the files for download (please access the files via that link).

The review period was from 18 Dec 2022 to 27 Jan 2023. Please confirm if you have any comments or would like to discuss further and if you have any questions please let me know.

[REDACTED]

Thank you,  
An



[REDACTED]

**Subject:** RE: Sydney Metro West - Eastern Tunnelling Package - Environmental Management Plans (DPI Fisheries)  
**Date:** Wednesday, 1 February 2023 5:21:46 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image006.png](#)  
[image007.png](#)  
[image008.png](#)  
[image009.png](#)

You don't often get email from sarah.conacher@dpi.nsw.gov.au. [Learn why this is important](#)

**CAUTION:** This email is sent from an external source. Do not click any links or open attachments unless you recognize the sender and know the content is safe.

Hi Ari,

Thank you and sorry I missed your call this morning. I spend most of my days in meetings.

I've reviewed the Flora and Fauna Subplan and I have no comments or recommendations to make. The flora/fauna is all terrestrial from what I can see.

Kind regards,

[REDACTED]  
Senior Fisheries Manager – Coastal Systems Unit  
NSW Department of Primary Industries | Fisheries  
12 Shirley Rd, Wollstonecraft NSW  
ALL MAIL TO: DPI Fisheries, Attn: M Counihan, 1243 Bruxner Hwy, Wollongbar NSW 2477  
[REDACTED]



Appendix C      Project Ecologist CV





Peter is an ecologist (botanist) with over 20 years of experience in biodiversity impact assessment, ecological restoration, bushland regeneration, environmental planning and approvals, construction phase flora and fauna management and the delivery of major projects.

Peter has extensive experience in flora and fauna surveys and is an Accredited Assessor under the NSW Biodiversity Assessment Methodology (BAM). He has undertaken ecological assessments under the BAM as well as Threatened Species Significance Assessment for projects assessed under Part 5 of the Act.

Peter also has extensive experience in major project delivery. Peter has worked on numerous major infrastructure projects each including significant ecological monitoring programs. On the Frederickton to Eungai Pacific Highway Upgrade and M12 Central Project, Peter was the contractor's Project Ecologist. These projects included design review of fauna crossings, installation and monitoring of nest boxes, pre-clearing surveys and fauna rescue, and implementation of the construction phase ecological monitoring programs.

## LENECO PTY LTD

Peter Monsted  
Senior Ecological Consultant  
Email. [REDACTED]  
Ph. [REDACTED]

### Qualifications

- Master of Science (Wildlife Conservation), Macquarie University (2011)
- Bachelor of Science (Resource and Environmental Management), Macquarie University (1998)
- Certificate III in Conservation Land Management, TAFE (2003)
- Certificate II in Bush Regeneration, TAFE (2002)

### Certifications

- BAM Accredited Assessor (BAAS.22011)
- IECA Certified Professional in Erosion and Sediment Control (CPESC #9758)
- Queensland Regional Ecosystem Framework and its Application (Regional Ecosystem and Vegetation Structure), Queensland Herbarium (2008)

### Key Expertise Areas

Peter's relevant areas of expertise include:

- Flora and fauna surveys
- Ecological monitoring programs
- Biodiversity Development Assessment Reports (BDAR)
- Bushland regeneration and vegetation management plans (VMPs)
- Environment and planning legislation
- Stakeholder and regulator consultation
- Design review
- Project Ecologist for major infrastructure projects.

### Key Relevant Project Experience

- Senior Ecologist, Leneco (2021-present)
- Environment, Approvals and Sustainability Manager, CPB (2016 – 2020)
- Project Ecologist, Frederickton to Eungai Pacific Highway Upgrade, CPB (2012-15)
- Environment Manager, Thiess / Leighton (2009 – 2012)
- Ecological Consultant (Botanist) / Senior Ecological Consultant, PB (2004-08)
- Ecological Consultant (Botanist), Environmental Resources Management (ERM) Australia (2004)
- Bush Regenerator / Projects Manager, Total Earth Care (2000-03)

### Selected Recent Ecological Services

- M12 Central Project, Project Ecologist for Seymour Whyte (2022)
- Part 5 REFs for Fire Trail Upgrades and Asset Protection Zones works for NPWS and Soil Conservation Service (numerous). Botanist. Lesryk Environmental (2021-2022)
- Woy Woy Waste Management Facility BDAR (BOAM Application No. 26027) (2022)
- Sydney Metro WSA, Project Ecologist for Sydney Metro Western Sydney Airport project (2021-2022)
- Western Harbour Tunnel Package 2. Tender phase ecological services. CPB, John Holland UGL JV (2022)
- Sydney Metro WSA, Surface Civil and Ancillary Works tender. Tender phase ecological services. CPB (successful bid team) (2021)
- Tomingly Wind Farms, preliminary biodiversity assessment (BAM assessment) (ERM) (2021-2022)
- M2 Motorway Widening Biodiversity Offset Strategy Threatened species monitoring (*Epacris purpurascens* var. *purpurascens*), Botanist (CPB, 2021).









23 March 2023

Mr [REDACTED]  
Director Sustainability, Environment and Planning  
Metro West  
Sydney Metro  
Transport for NSW  
PO Box K659  
HAYMARKET NSW 1240

REF: 201208 (G) FFMP\_Rev 0

Dear [REDACTED]

**RE: Sydney Metro West Stage 2 – Eastern Tunnelling Package: Flora and Fauna Management Sub-Plan (Rev 0)**

I refer to Sydney Metro's (SM) submission of the following document required by Condition C1 and C5 of the Sydney Metro West – The Bays to Sydney CBD Approval (SSI 19238057) which was approved by the Department of Planning and Environment (DPE) on 24 August 2022:

- Sydney Metro West, Eastern Tunnelling Package Flora and Fauna Management Sub-Plan Rev 0 dated 22 March 2023 (SMWSTETP-JCG-SWD-SW000-EM-PLN-002016).

It is noted that:

- The Flora and Fauna Management Plan (FFMP Rev 0) has been prepared by John Holland CPB Ghella JV (JCG) to address the requirements of Condition C1, C5(b) and C11 of the Infrastructure Approval.
- Previous versions of the document have been reviewed and updated following comments from the ER.
- Sydney Metro has reviewed and commented on previous versions of the document.
- In accordance with CoA C5(b), consultation has been undertaken with DPE Environment and Heritage Group, DPI Fisheries, and Relevant Council(s).

Following the above reviews, the document is considered to contain information required by the Conditions of Approval (SSI 19238057) in relation to the Flora and Fauna Management sub-Plan.

As the approved Environmental Representative for the Sydney Metro West and as required by Conditions A32(d) and C8, on the basis of the above, the Flora and Fauna Management Sub-Plan (Revision 0) is endorsed.

Yours sincerely

*Greg Byrnes*

Greg Byrnes

Environmental Representative – Sydney Metro West – Eastern Tunnelling Package

CC: [REDACTED]