

OPERATIONAL FLORA AND FAUNA MANAGEMENT PLAN

Moorebank Logistics Park – East Precinct

27 MARCH 2020

MOOREBANK INTERMODAL TERMINAL ALLIANCE

Moorebank Logistics Park – East Precinct

Operational Flora and Fauna Management Plan

Author	[REDACTED]	[REDACTED]
Checker	[REDACTED]	[REDACTED]
Approver	[REDACTED]	[REDACTED]
Report No	PREC-QPMS-EN-PLN-005	
Date	27/03/2020	
Revision Text	008	

Author Details

Author Details	Qualifications and Experience
[REDACTED]	Senior Ecologist, BSc (Hons) Ecology, 11 years' experience as Environmental Consultant

REVISIONS

Revision	Date	Description	Prepared by	Approved by
001	8/3/2019	Draft – for Client review	KC	HT
002	2/4/2019	Updated to address ER and Tactical Comments	MWR	HT
003	24/4/2019	Final Draft addressing ER Comments	MWR	HT
004	6/5/2019	Updated to address OEH comments for DP&E submission	MWR	HT
005	17/06/2019	Updated to address DP&E comment	HT	KP
006	2/9/2019	Updates to address DotEE comments	ZQ	AL
007	05/02/2020	Updated to include Area 2 as an operational area	ZQ	JC
008	27/03/2020	Updated to address MOD 2	RM	JC

ACRONYMS AND DEFINITIONS

Acronym / Term	Meaning
BC Act	<i>Biodiversity Conservation Act 2016</i>
CoC	Conditions of Consent
CoA	Commonwealth Conditions of Approval
DAWE	Department of Agriculture, Water and the Environment
DotEE	Commonwealth Department of the Environment and Energy (Now known as DAWE)
DP&E	Department of Planning and Environment
DPI	Department of Primary Industries
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
Facility, the	The MPE Concept (MP10_0193), MPE Stage 1 (SSD 6766) and MPE Stage 2 (SSD 7628) Project, including the operation of the IMEX terminal, warehousing and distribution facilities. A rail link is included as part MPE Stage 1 (SSD 6766) and connects the Facility to the SSFL.
FCMMs	Final Compilation of Mitigation Measures
GHFF	Grey-headed Flying-fox
IMEX	Import Export Terminal. Includes the following key components: <ul style="list-style-type: none"> • Truck processing, holding and loading areas with entrance and exit from Moorebank Avenue • Rail loading and adjacent container storage areas serviced by container handling equipment • Administration facility and associated car parking with light vehicle access from Moorebank Avenue
MLP	Moorebank Logistics Park
Moorebank Logistics Park	Refers to the whole Moorebank intermodal precinct, i.e. Moorebank Precinct East (MPE) and the Moorebank Precinct West (MPW)
MLP Approvals	<ul style="list-style-type: none"> • MPE Concept Approval received 29 September 2014 (MP10_0193). • MPE Stage 1 approved 12 December 2016 (SSD 6766) • MPE Stage 2 approved 31 January 2018 (SSD 7628) • MPW Concept and Stage 1 approved 3 June 2016 (SSD 5066) • MPW Stage 2 still under review by DP&E • MPE Concept EPBC approved March 2014 (No. 2011/6229)
MLP Owner	Qube Holdings (Qube)
Native vegetation	For the purposes of this management plan, native vegetation is defined as areas of plant community types mapped by Arcadis and WSP Parsons Brinckerhoff in the Moorebank Precinct, being a consolidation of all assessments for the Moorebank Precinct conducted since 2011.
OEH	Office of Environment and Heritage

Acronym / Term	Meaning
OEMP	Operational Environmental Management Plan
OFFMP	Operational Flora and Fauna Management Plan
Operational area / Operational footprint	Extent of operational activities for the operation of the MLP – East Precinct
OSD	Onsite Detention Basin
PCT	Plant Community Types
POPD	Program for Operational Phase Documentation
Primary Conditions	Conditions specific to the development of the management plan
RALP	Rail Access Land Package
Rail link	Part of MPE Stage 1 (SSD 6766), connecting the MPE site to the SSFL. The Rail link is to be utilised for the operation of the Facility.
SSFL	Southern Sydney Freight Line
RtS	Response to Submissions
Secondary Conditions	Conditions related to the environmental aspects associated with the plan
SIMTA	Sydney Intermodal Terminal Alliance
SIOMP	Stormwater Infrastructure and Operational Management Plan
SSD	State significant development
SSFL	Southern Sydney Freight Line
TEC	Threatened ecological community

CONTENTS

REVISIONS	I
ACRONYMS AND DEFINITIONS	II
1 INTRODUCTION	1
1.1 Background.....	1
1.2 Purpose and Application.....	2
1.3 Proposed staged/progressive application of the OEMP.....	2
1.3.1 Relationship of Stages.....	5
1.3.2 Triggers.....	5
1.4 Structure of the OFFMP	5
1.5 Objectives and Targets.....	5
1.6 Consultation.....	6
2 STATUTORY REQUIREMENTS.....	7
2.1 Legal and Other Obligations	7
2.2 Development Consent	7
2.2.1 EPBC Act Approval.....	8
2.2.2 EP&A Act Approval.....	11
2.3 Roles and Responsibilities	17
3 IMPLEMENTATION	18
3.1 Existing Environment.....	18
3.1.1 MLP East Precinct	18
3.1.2 Anzac Creek crossing.....	19
3.1.3 Georges River crossing	19
3.1.4 Adjacent areas.....	20
3.2 Aspects, Impacts and Risks	25
3.2.1 Operational activities	25
3.2.2 Potential Operational Impacts	25
3.3 Management Measures	26
4 MONITORING AND REVIEW	34
4.1 Monitoring Requirements	34
4.1.1 Monitoring Criteria	36
4.2 Environmental Auditing.....	40
4.3 Reporting	40
4.4 Review and Improvement.....	41
4.5 Incidents	41
4.6 Complaints.....	41
4.7 Non-Compliance, Non-Conformances and Corrective Actions	41

APPENDICES

APPENDIX A EVIDENCE OF CONSULTATION

LIST OF TABLES

Table 1-1 Progression of the MLP Precinct operation.....	2
Table 1-2: Objectives and Targets	6
Table 1-3: Consultation Summary	6
Table 2-1: EPBC Act CoA.....	8
Table 2-2: CoC of SSD 7628 (MPE Stage 2)	12
Table 2-3: FCMMs (MPE Stage 1)	15
Table 2-4: FCMMs (MPE Stage 2)	16
Table 2-5: Roles and Responsibilities	17
Table 3-1: PCTs and equivalent TECs present within the bootland.....	20
Table 3-2: Threatened flora and fauna species present (or assumed present) within the bootland	20
Table 3-3: PCTs and equivalent TECs present within the Georges River riparian corridor	21
Table 3-4: Threatened species present within the Georges River riparian corridor.....	21
Table 3-5: Potential flora and fauna impacts associated with operational activities	25
Table 3-6: Management Measures.....	27
Table 4-1: Monitoring Requirements	35
Table 4-2: Triggers for remedial measures	36
Table 4-3: Environmental Auditing Requirements.....	40
Table 4-4: Environmental Reporting Requirements	40

LIST OF FIGURES

Figure 1-1: Site Location.....	3
Figure 1-2: Proposed staged/progressive staging of the MLP East Precinct.....	4
Figure 3-1: Flora and fauna values adjacent to the MLP East Precinct – Permanent Infrastructure.....	23
Figure 3-2: Flora and fauna values adjacent to the MLP East Precinct – Temporary works	24
Figure 4-1: Aquatic habitat and water quality monitoring Locations.....	39

1 INTRODUCTION

The Sydney Intermodal Terminal Alliance (SIMTA) received approval for the construction and operation of Stages 1 and 2 of the Moorebank Precinct East (MPE) Project (SSD 6766, SSD 7628 and SSD 7628 MOD 2 respectively), which together comprise the two stages of development under the MPE Concept Approval (MP10_0193). This Operational Flora and Fauna Management Plan (OFFMP) has been developed to manage potential flora and fauna impacts during the operation of the MPE, hereafter referred to as the “Moorebank Logistics Park (MLP) East Precinct.”

This OFFMP addresses the relevant requirements of the Project Approvals, including the Environmental Impact Statement (EIS), Response to Submissions (RtS) and Minister’s Conditions of Consent (CoC), and all applicable guidelines and standards specific to the management of flora and fauna during operations of the MLP East Precinct.

1.1 Background

The MLP is an integral component of the Freight, Ports and Transport strategies of both the NSW and Commonwealth governments to help manage the challenges of an expected tripling of freight volumes at Port Botany by 2031.

The MLP aims to streamline the freight logistics supply chain from port to store, deliver savings to businesses and consumers, and help service the rapidly growing demand for imported goods in south-west Sydney. It is located approximately 27 kilometres (km) south-west of the Sydney Central Business District and approximately 26 km west of Port Botany within the Liverpool Local Government Area. The MLP is divided into an East Precinct and a West Precinct, located east and west of Moorebank Avenue respectively, (Figure 1-1). The MLP East Precinct is operational and is managed under an Operation Environmental Management Plan (OEMP), while the MLP West Precinct is still currently under construction.

The main features of the MLP East Precinct include:

- An Import Export (IMEX) Terminal. The IMEX Terminal comprises:
 - Truck processing, holding and loading areas with an entrance and exit from Moorebank Avenue
 - Rail loading and container storage areas serviced by container handling equipment
 - An Administration facility and associated car parking with light vehicle access from Moorebank Avenue
- A Rail Link connecting the IMEX terminal and the Southern Sydney Freight Line (SSFL) traversing Moorebank Avenue, Anzac Creek, Georges River and Glenfield Waste Facility
- Associated ancillary infrastructure including signage, lighting, landscaping, water management
- Warehouse and distribution facilities including warehousing up to 21 m in height, typically ranging in size from 20,000 m² to 62,000 m²
 - Office and administration facilities
 - Amenities
 - Car parking
 - Truck loading/unloading docks
 - Internal parking for pick-up and delivery vehicles (PUD)
 - Specialised sortation and conveyor equipment
 - Hardstand areas that provide trailer parking spaces, external PUD parking spaces, vehicle manoeuvring areas and access to the main internal site road
 - Signage for business identification purposes, including backlit illuminated signage on each warehouse
 - Internal fitout, comprising racking and storage

- A freight village including a mix of retail, commercial and light industrial spaces typically up to 15 m in height and varying in size and design
- An internal road network to enable efficient movement of vehicles, dispatch of freight from the warehouses and transport of containers between the IMEX Terminal and warehouse and distribution facilities

This OFFMP applies to the MLP East Precinct and the Operational Rail Link shown in Figure 1-1

1.2 Purpose and Application

This OFFMP is a sub-plan to the Operational Environmental Management Plan (OEMP) and has been developed to address the requirements of the MPE Stage 2 CoC B110 (SSD 7628) which requires the preparation of an OFFMP prior to operation.

This OFFMP has been prepared in accordance with the MPE Stage 2 CoC (SSD 7628) and the planning instruments and guidelines listed in Section 2.1 and Section 2.2.

The OFFMP identifies the operational environmental management measures that will be applied to activities undertaken across the MLP East Precinct to manage identified flora and fauna risks. The specific CoC and Final Compilation of Mitigation Measures (FCMMs) relevant to the development of this plan are identified in Section 2.2.

The most recent, approved version of this plan will be implemented to manage flora and fauna risks associated with Facility operations and/ or activities.

1.3 Proposed staged/progressive application of the OEMP

The OEMP and sub-plans are applicable to the entire MLP East Precinct and Operational Rail Link. However, as operational areas will come online incrementally as warehouses are constructed and tenanted, the OEMP and sub-plans will be progressively applied to those operational areas. The proposed staged/progressive application of the OEMP and sub-plans is described in the Program for Operational Phase Documentation (POPD), which was approved by the Secretary for review on 21 May 2019.

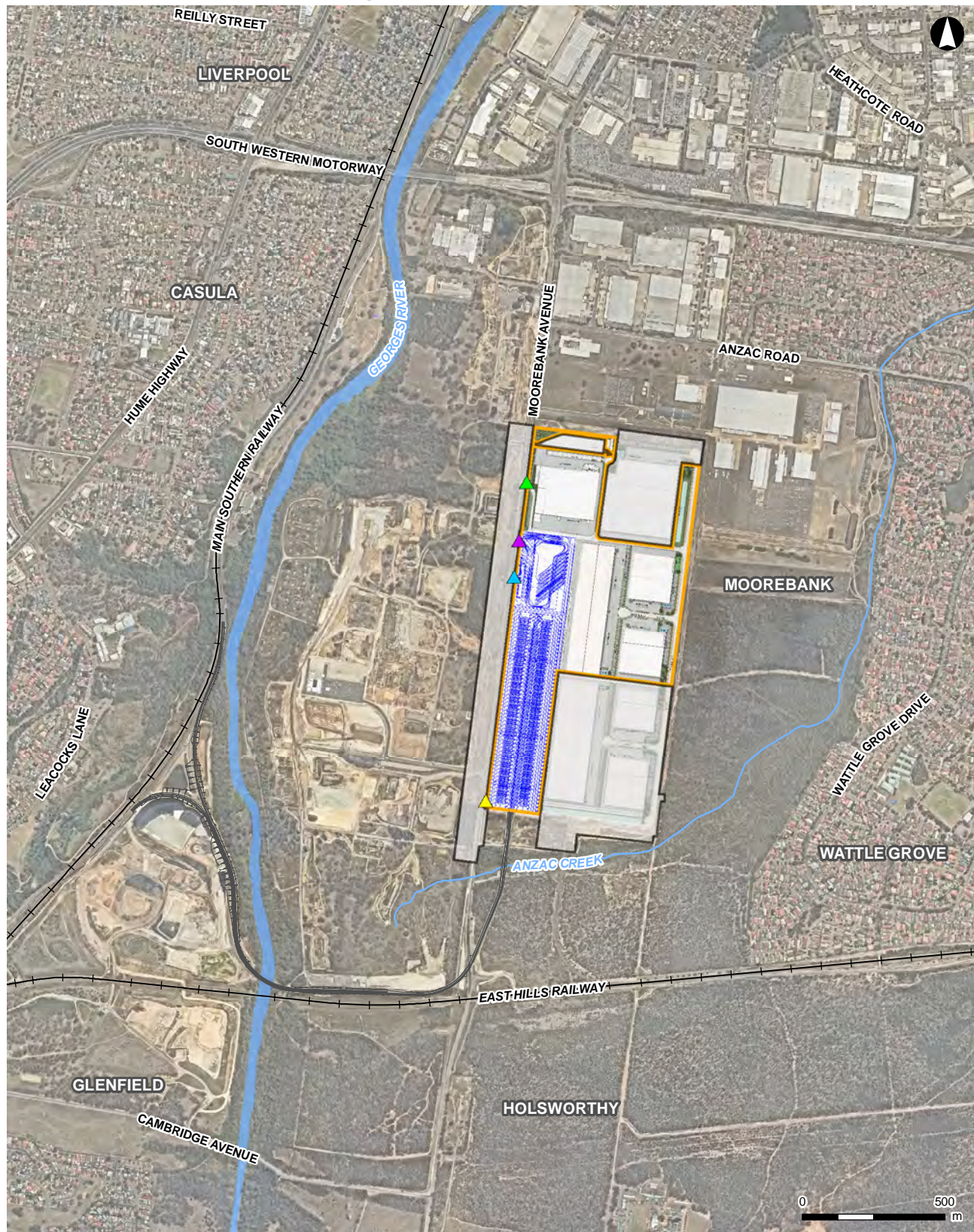
The proposed staged/progressive application of the OEMP, as described in the POPD, is shown on Figure 1-2, with dates of operation detailed in Table 1-1. The first area to be operational, includes the IMEX, Rail Link and Warehouse 1 (Area 1). The second area to be operational (Area 2), includes Warehouse 3, 4 and 5. All other areas are not yet operational.

Table 1-1 Progression of the MLP Precinct operation

Area	Approximate Dates	Component
Area 1	Q3 2019	IMEX, Rail Link and Warehouse 1
Area 2	Q4 2019	Warehouse 3, 4 and 5
Area 3	Q2 2020	Warehouse 6, 7 and 8
Area 4	Q4 2020	Freight village
Area 5	Q4 2021	Warehouse 2
Area 6	Q2 2020	Moorebank upgrade

In accordance with CoC C6 (SSD 7628) each warehouse tenant will also prepare a Warehouse OEMP (WOEMP) prior to occupation of the warehouse based on the requirements of the OEMP and sub-plans. The Secretary will be notified one month prior to commencement of operation of each new warehouse in accordance with CoC A18 (SSD 7628). The WOEMP will be submitted to the Secretary for approval prior to commencement of operation of the warehouse.

Operational Flora and Fauna Management Plan



LEGEND

- | | |
|-------------------------------------|-----------------------|
| MLP East Precinct construction area | Existing railway |
| MLP East Precinct operational area | Watercourse |
| Warehouse access | Operational rail link |
| IMEX truck access | |
| IMEX office access | |
| Emergency access | |

ARCADIS AUSTRALIA PACIFIC PTY LTD
 ABN 76 104 485 289
 Level 16, 500 George St | Sydney NSW 2000
 P: +61 (0) 2 8907 9000 | F: +61 (0) 2 8907 9001
 Coordinate System: GDA 1994 MGA Zone 56
 Date issued: March 12, 2020
 Aerial imagery supplied by Neamap (Sep, 2019)

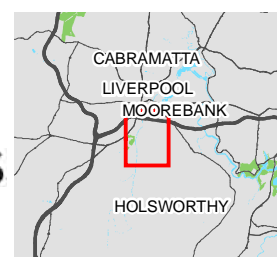
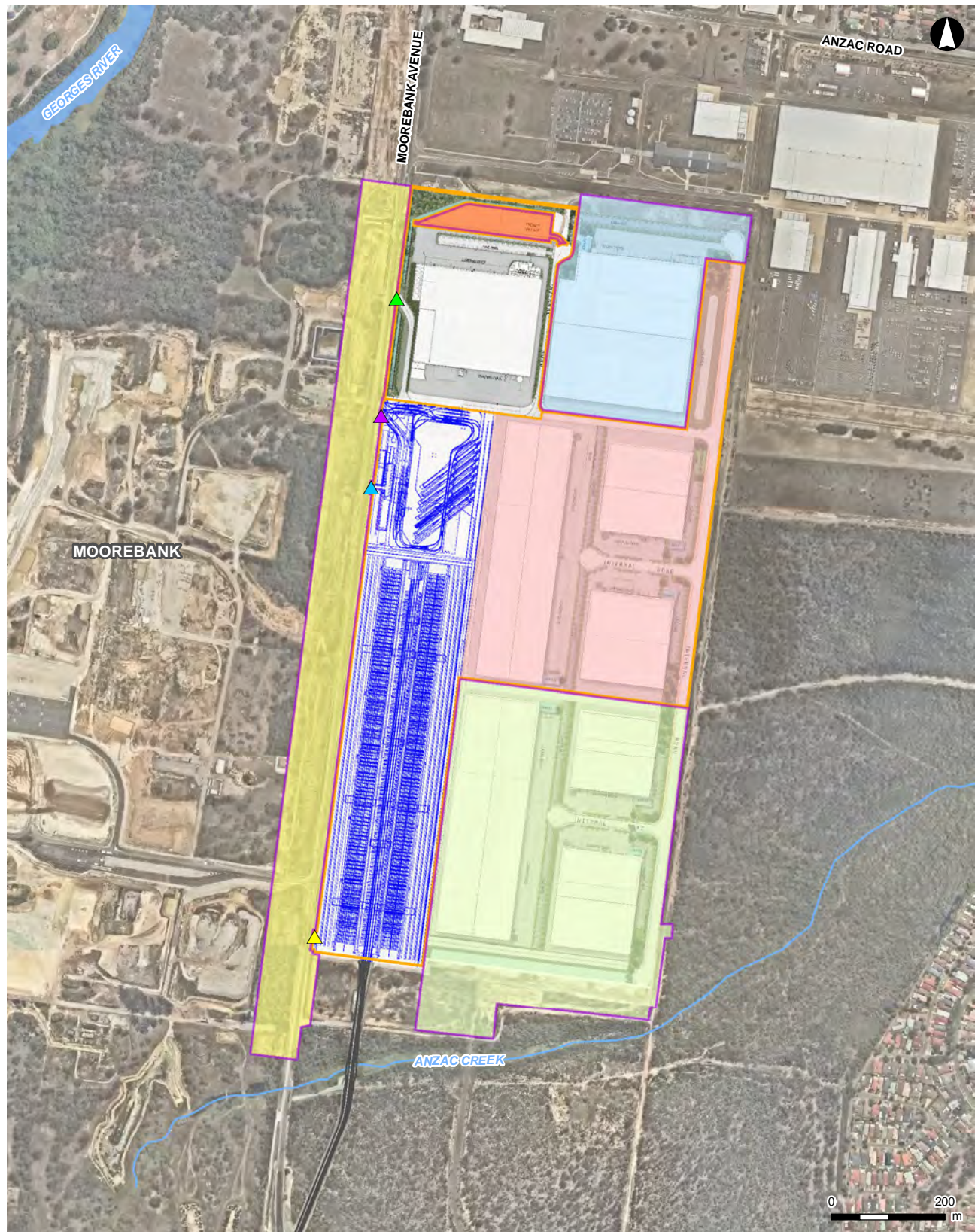


Figure 1-1: MLP East Precinct Site Location

Operational Flora and Fauna Management Plan



LEGEND

- | | | |
|-------------------------------------|----------------------|-------------------------|
| MLP East Precinct construction area | IMEX truck access | Area 2 |
| MLP East Precinct operational area | IMEX office access | Area 3 |
| Watercourse | Emergency access | Area 4: Freight Village |
| Operational rail link | Operational staging: | Area 5 |
| Warehouse access | Area 1 | Area 6 |

ARCADIS AUSTRALIA PACIFIC PTY LTD
 ABN 76 104 485 289
 Level 16, 500 George St | Sydney NSW 2000
 P: +61 (0) 2 8907 9000 | F: +61 (0) 2 8907 9001
 Coordinate System: GDA 1994 MGA Zone 56
 Date issued: March 17, 2020
 Aerial imagery supplied by Nearmap (Jan, 2020)

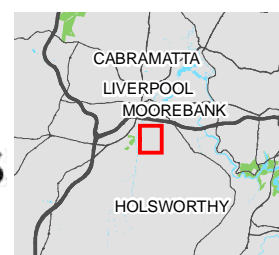


Figure 1-2: Proposed staged/progressive staging of the MLP East Precinct

1.3.1 Relationship of Stages

The OEMP and sub-plans are applicable to the entire MLP East Precinct and Operational Rain Link. However, as areas become operational incrementally, construction areas will be rescinded and will continue to be managed in accordance with CEMP and sub-plans; conversely, operational areas will be managed in accordance with the OEMP and sub-plans. Operation of the site will only commence once the OEMP and sub-plans have been approved by the Secretary and by the Federal Minister for the Environment (or delegate).

The Environmental Representative (ER), under CoC C24(d) (SSD 7628), is required to review the CEMP and OEMP to ensure they are “*consistent with requirements of the consent.*” The ER will continue to review and endorse any proposed changes to the CEMP and subplans until such time construction is complete and the MLP East Precinct site is fully operational. The ER will also review and endorse the updated figures for all operational documentation to ensure parity between construction and operational documentation. The operational figures will then be submitted to DP&E for information as described in Section 1.3.2.

Until the entire MLP East Precinct is operational, all construction zones will be fenced off to provide clear distinction between construction zones and the operational facility.

1.3.2 Triggers

As required by CoC A18 (SSD 7628) the Secretary will be notified one month prior to commencement of operation of each new area shown in Table 1-1 and Figure 1-2. The notification will include updated figures detailing the new areas of operation which will fall under the remit of the OEMP as well as the reduced construction areas. As described in Section 1.3.1, the updated areas will have been endorsed by the ER prior to submission to the Secretary.

Following notification, the OEMP and each sub-plan will be updated with the new operational site layout, while the CEMP and applicable sub-plans will be revised to show the reduced area of construction.

1.4 Structure of the OFFMP

Combining strategies, plans and programs is permitted by CoC A16 and CoC A17, subject to the approval of the Secretary. Qube has elected to include the requirements of SSD 6766 and SSD 7628, and the EPBC Act approval for EPBC 2011/6229, which relate to the management of flora and fauna into one plan.

Approval to combine the requirements of FCMMs from SSD 6766 and CoC and FCMMs from SSD 7628 was sought from the Secretary on the 25 March 2019. The OFFMP addresses the relevant CoC (Table 2-2) and FCMMs from both consents (Table 2-3 and Table 2-4).

1.5 Objectives and Targets

Table 1-2 below outlines the objectives and targets set out for the MLP East Precinct for the management of flora and fauna during operation. These objectives and targets were developed by the Principal's Representative based on collective industry experience and best practice and requirements of the EIA and have been endorsed by the Project's Environmental Representative.

Table 1-2: Objectives and Targets

Objective	Target	Timeframe	Accountability
Protect threatened flora species from incidental harm	No damage or removal of any threatened flora species that appear on, or occur adjacent to, the Facility	Ongoing	Site SHEQ Manager /Advisor
Protect vegetated areas adjacent to the Facility by preventing the spread of weeds and pathogens	Weeds controlled in accordance with the requirements of the <i>Biosecurity Act 2015</i>	Ongoing	Site SHEQ Manager/ Advisor
	No occurrence of pathogens on site (e.g. phytophthora, chytrid)	Ongoing	
Minimise harm to fauna	No death or injury to native fauna	Ongoing	Site SHEQ Manager/ Advisor
	Control feral fauna species		
	No impacts to threatened fauna species		
Protect aquatic environments	No spills or pollution incidents in Anzac Creek and Georges River	Ongoing	Site SHEQ Manager/ Advisor
	Maintain or improve water quality, aquatic fauna assemblages and aquatic habitats at Anzac Creek and Georges River	Two years after construction	

1.6 Consultation

This OFFMP has been prepared in consultation with relevant stakeholders. The table below will be updated as consultation with the applicable agencies progresses.

Table 1-3: Consultation Summary

Agency	Date	Person contacted	Comment	Status
OEH	02/05/19	Richard Bonner	Updates to Figure 3-1 to include fauna values and Figure 4-1 with monitoring locations. Additional minor editorial updates.	Closed

2 STATUTORY REQUIREMENTS

2.1 Legal and Other Obligations

Details about the legislation, planning instruments and guidelines considered during development of this plan are listed below. Further detail concerning the legislation, planning instruments and guidelines identified below are provided in the Legislation Register within Appendix B of the OEMP.

- *Environmental Planning and Assessment Act 1979 (EP&A) Act*
- *Environmental Planning and Assessment Regulation 2000*
- *Environment Protection and Biodiversity Act 1999 (EPBC Act)*
- *Biodiversity Conservation Act 2016 (BC Act)*
- *Biosecurity Act 2015*
- *Biosecurity Regulation 2017*
- *Fisheries Management Act 1994*

2.2 Development Consent

The operation of the MLP East Precinct was approved under both the *Environmental Planning and Assessment Act 1979 (EP&A) Act* and the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. Both these approvals have flora and fauna management conditions relevant to the operation of the MLP East Precinct, which are discussed below.

The operational flora and fauna requirements for the Facility, including consultation, impact mitigation and management, is documented in the following suite of documents:

- *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* Approval (No. 2011/6229), March 2014
- MPE Concept Approval (MP 10_0193), approved 29 September 2014
- State Significant Development (SSD) Consent SSD 6766, approved 13 March 2018 (superseding initial approval 12 December 2016)
- Moorebank Precinct East – Stage 1 – Environmental Impact Statement (Arcadis Australia Pacific Pty Limited, May 2015)
- Moorebank Precinct East – Stage 1 – Response to Submissions (Arcadis Australia Pacific Pty Limited, September 2015), including Final Compilation of Mitigation Measures (FCMMs).
- State Significant Development (SSD) Consent SSD 7628, 31 January 2018
- State Significant Development (SSD) Consent SSD 7628 Modification 2, 31 January 2020
- Moorebank Precinct East – Stage 2 – Environmental Impact Statement (Arcadis Australia Pacific Pty Limited, December 2016)
- Moorebank Precinct East – Stage 2 – Response to Submissions (Arcadis Australia Pacific Pty Limited, July 2017), including FCMMs.

In addition to the above documentation, this OFFMP has also considered the following documents:

- SIMTA Moorebank Project East Stage 1: Biodiversity Assessment Report (Arcadis 2017)
- Moorebank Precinct East Stage 2: Biodiversity Assessment Report (Arcadis 2017)
- Moorebank Precinct East - Stage 1 Project: Threatened Flora Offset Management Plan
- Urban Design and Landscape Plan: Moorebank Precinct East Stage 1
- Urban Design and Landscape Plan: Moorebank Precinct East Stage 2
- Construction Flora and Fauna Management Plan Moorebank Precinct East Stage 1 - RALP No. 1

2.2.1 EPBC Act Approval

The EPBC Act approval for the MPE Concept was granted by the Federal Minister for the Environment in March 2014 (No. 2011/6229). Approval was required due to impacts on listed threatened species and communities (Sections 18 and 18A of the EPBC Act) and Commonwealth land (Sections 26 and 27A of the EPBC Act).

The construction and operation of the Facility has been designed to meet the EPBC Act approval conditions. The Conditions of Approval (CoA) relevant to biodiversity and this OFFMP are detailed in Table 2-1. Many of the CoA relate to pre-construction and construction activities but have been included to demonstrate compliance with the CoA. The table also specifically identifies when each of the CoA have been, or are to be, satisfied.

Table 2-1: EPBC Act CoA

CoA	Requirement	Timing	Where addressed in this plan
5	For the better protection of EPBC listed flora & the environment on Commonwealth land, the person taking the action must engage a suitably qualified expert to prepare a Flora and Fauna Management Plan (FFMP) for the approval of the Minister. The FFMP must include (but need not be limited to):	Not applicable, clearing conducted during pre-construction and construction phase	There will be no further clearing of native vegetation during the operation stage (See Section 3.2.2)
	a) details on the timing of native vegetation clearance works;		
	b) detailed maps of the rail link easement and construction zone showing: <ul style="list-style-type: none"> i. permanent infrastructure and temporary works; ii. no-go areas; and iii. physical barriers used for the protection of native vegetation on Commonwealth land, and of EPBC Act listed Nodding Geebung and Small-flower Grevillea. 	Satisfied during pre-construction and construction	Section 3.1.4, Figure 3-1 and Figure 3-2
	c) measures to minimise the extent of native vegetation clearing upon Commonwealth land and the clearing of Nodding Geebung and Small-flower Grevillea;	Not applicable, clearing conducted during pre-construction and construction	There will be no further clearing of native vegetation during the operation stage (Section 3.2.2)
	d) provisions to ensure no more than 17 individuals of Nodding Geebung and 634 stems of Small-flower Grevillea are cleared;	Not applicable, clearing conducted during pre-construction and construction	There will be no further clearing of native vegetation during the operation stage (Section 3.2.2) and records of cleared individuals of Nodding Geebung and stems of Small-flower Grevillea are maintained (Section 3.3, FF-18(b)) to ensure these limits are not exceeded
	e) the results of targeted surveys for <i>Hibbertia</i> sp. Bankstown and Bynoe's Wattle (including the	Ongoing for operations	Results of targeted surveys for <i>Hibbertia</i> sp. Bankstown and Bynoe's Wattle (including the number of individuals

CoA	Requirement	Timing	Where addressed in this plan
	number of individuals recorded) and what measures will be implemented to avoid, mitigate and manage impacts to these species, if individuals are found on site;		recorded) are provided in Section 3.1 and measures to be implemented to avoid, mitigate and manage impacts to these species, if individuals are found on site are located in Section 3.3 (FF-18(c) and FF-18(d))
	f) measures which allow terrestrial fauna to disperse naturally ahead of clearing activities, and minimise the risk of injury to individuals;		There will be no further clearing of native vegetation during the operation stage (Section 3.2.2)
	g) actions to maintain or enhance the long-term viability of native vegetation adjoining the rail easement in particular, adjoining populations of Nodding Geebung and Small flower Grevillea;		Section 3.3, Table 3-6, FF-17 to FF-19
	h) measures to safeguard flora and fauna from the threat of weeds, fire, pathogens and unauthorised access, including (but not limited to) the commitments outlined in section 7.4.1 of the EIS (and summarised at Annexure A)		Appendix B sets out the requirements of Annexure A. Annexure A requirements addressed in Section 3.3, Table 3-6, FF-01 to FF-19 NSW BA341 Biobanking Agreement
	i) ongoing monitoring to inform the adaptive management of native vegetation adjoining the rail easement.	s	NSW BA341 Biobanking Agreement Moorebank Precinct: Biodiversity Management Implementation Plan Section 4.1.1, Table 4-2 Section 4.3, Table 4-4
Annexure A – Summary of Mitigation Measures			
Flora and Fauna	The Part 3A Guidelines for Threatened Species Assessment (DEC & DPI 2005) require the fauna description and justification of measures to mitigate adverse effects arising from development proposals. Primary consideration should be given to measures to avoid or minimise impacts; where avoidance and mitigation are not possible, offset strategies may be considered as a last resort. The steps in the avoid, mitigate and offset approach are as follows: Mitigate	Satisfied during pre-construction and construction	There will be no further clearing of native vegetation during the operation stage as outlined in Section 3.2.2)

CoA	Requirement	Timing	Where addressed in this plan
Flora and Fauna	<ul style="list-style-type: none"> Management of weeds in and adjacent to cleared areas will occur in accordance with a Weed Management Plan. This plan will include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols if required. 	Ongoing for operations	Section 3.3, Table 3-6 FF-02 to FF-07 Section 4.1 Appendix B
	<ul style="list-style-type: none"> Management of noxious weeds are to be undertaken in accordance with the <i>Noxious Weeds Act 1993</i>. 	Ongoing for operations	Section 3.3, Table 3-6 FF-02 to FF-07 Appendix B Note, <i>Noxious Weeds Act 1993</i> repealed and replaced by <i>Biosecurity Act 2015</i>
	<ul style="list-style-type: none"> Equipment used for treating weed infestation will be cleaned prior to moving to a new area within the project site to minimise the likelihood of transferring any plant material and soil. 	Ongoing for operations	Section 3.3, Table 3-6 FF-03 Appendix B
	<ul style="list-style-type: none"> Site inductions are to include a briefing regarding the local fauna of the site and identification of protocols to be undertaken if fauna is encountered. 	Ongoing for operations	Section 3.3, Table 3-6 FF-01(a) Appendix B
	<ul style="list-style-type: none"> Landscaped zones to capture gross pollutants and oil and grits from pavement. These areas can be regularly maintained to remove rubbish and can be renewed on a regular basis. 	Ongoing for operations	Section 4.1 and Appendix A of the MPE Stage 1 Urban Design Landscaping Plan (UDLP) [SSS1-QPMS-EN-PLN-00002] Section 4.1 and Appendix A3 of the MPE Stage 2 UDLP [SSS2-QPMS-EN-APP-00034]
	<ul style="list-style-type: none"> Bio-retention installed in base of channels and swales proposed to capture and store stormwater. This will consist of biofiltration layers, planting and subsoil collection and drainage. 	Ongoing for operations	Section 4.4, Section 4.5, Section 6.2 and Appendix A of the MPE Stage 1 UDLP [SSS1-QPMS-EN-PLN-00002] Section 4.1 and Appendix A3 of the MPE Stage 2 UDLP (SSS2-QPMS-EN-APP-00034)
	<ul style="list-style-type: none"> Vehicles and plant should not block fire trials. 	Ongoing for operations	Section 3.3, Table 3-6 FF-01(g) Appendix B

CoA	Requirement	Timing	Where addressed in this plan
	<ul style="list-style-type: none"> Speed limits will be developed so as to minimise the potential for fauna to be struck by a vehicle within the SIMTA site. All vehicles and plant in operation on the SIMTA site are to adhere to site rules relating to speed limits. 	Ongoing for operations	Section 3.3, Table 3-6 FF-14 Appendix B
	<ul style="list-style-type: none"> If an animal is injured, contact one of the following local wildlife rescue agencies (e.g. WIRES) and/or veterinary surgery immediately. 	Ongoing for operations	Section 3.3, Table 3-6 FF-12 Appendix B
	<ul style="list-style-type: none"> Until the animal can be cared for by a suitably qualified animal handler, if possible, minimise stress to the animal and reduce the risk of further injury by: <ul style="list-style-type: none"> Handling fauna with care and as little as possible. Covering larger animals with a towel or blanket and placing in a large cardboard box. Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark 	Ongoing for operations	Section 3.3, Table 3-6 FF-12 to FF-14 Appendix B
	<ul style="list-style-type: none"> Weed infestations that are identified during the operation of the SIMTA proposal are to be managed in accordance with the removal methods outlined in the Weed Management Plan. 	Ongoing for operations	Section 3.3, Table 3-6 FF-02 to FF-07 Appendix B

2.2.2 EP&A Act Approval

The MLP East Precinct was approved under Part 4, Division 4.7 (previously Division 4.1 prior to 1 March 2018) of the EP&A Act. Approval for MPE Stage 1 was originally received on 12 December 2016 (SSD 6766) and subject to appeal, with revised CoC issued from the Land and Environment Court on 13 March 2018; approval for MPE Stage 2 was received on 31 January 2018 (SSD 7628).

No specific requirement for an OFFMP was provided for MPE Stage 1 (SSD 6766). Subsequently, the MPE Stage 2 (SSD 7628) B110 included a requirement to prepare an OFFMP for the MLP East Precinct.

These specific requirements under B110 (SSD 7628), and how they are addressed are provided within Table 2-2.

Table 2-2: CoC of SSD 7628 (MPE Stage 2)

CoC	Requirement	Timing	Section or Document where requirements are addressed
Primary Condition			
B110	Prior to operation, the Applicant must prepare an Operational Flora and Fauna Management Plan (OFFMP) in consultation with OEH. The OFFMP must form part of the OEMP required by condition C3 and must include measures to ensure biodiversity values not intended to be impacted are protected, including but not limited to:	Operation	This OFFMP
	(i) weed control;	Operation	Section 3.3, Table 3-6 FF-02 to FF-07
	(ii) feral animal control;	Operation	Section 3.3, Table 3-6 FF-15
	(iii) pathogen management procedures;	Operation	Section 3.3, Table 3-6 FF-08 to FF-11
	(iv) monitoring; and	Operation	Section 4.1, Table 4-1 and Table 4-2
	(v) rehabilitation actions	Operation	Section 3.3, Table 3-6 FF-20 Section 4.1, Table 4-1 Section 4.3, Table 4-4
C7	The Applicant must ensure that the environmental management plans required under this consent are prepared in accordance with any relevant guidelines, and include:		
	a) detailed baseline data;	Operation	Section 3.1
	b) a description of:		
	i. the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Operation	Section 2.1; Table 2-1, Table 2-2, Table 2-3, Table 2-4
	ii. any relevant limits or performance measures/criteria; and	Operation	Section 4.1; Table 4-1, Table 4-2
	iii. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Operation	Section 4.1; Table 4-1, Table 4-2
	c) a description of the management measures to be implemented to comply with the relevant statutory requirements, limits or performance measures/criteria;	Operation	Section 3.3; Table 3-6

CoC	Requirement	Timing	Section or Document where requirements are addressed
C7	d) a program to monitor and report on the:		
	i. impacts and environmental performance of the development; and	Operation	Section 4.1
	ii. effectiveness of any management measures (see (c) above);	Operation	Section 4.4
	e) contingency plan to manage any unpredicted impacts and their consequences;	Operation	Section 4.5 and 4.7
	f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Operation	Section 4.4
	g) a protocol for managing and reporting any:		
	i. incidents and non-compliances;	Operation	Section 4.5 and 4.7
	ii. complaints;	Operation	Section 4.6
	iii. non-compliances with statutory requirements; and	Operation	Section 4.7
	h) a protocol for periodic review of the plan.	Operation	Section 4.4
Secondary Conditions			
A14	With the approval of the Secretary, the Applicant may submit any strategy, plan or program required by this consent on a staged basis.	Prior to the commencement of operations	Section 1.3 Refer to the POPD [PREC-ARC-EN-PRG-0001]
A15	If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program.	Prior to the commencement of operations	Section 1.3 Refer to the POPD [PREC-ARC-EN-PRG-0001]
A16	With the approval of the Secretary, any strategy, plan or program required by this consent may be combined	Prior to the commencement of operations	Section 1.4 Refer to the POPD [PREC-ARC-EN-PRG-0001]
A17	In seeking the Secretary's approval, a clear relationship must be demonstrated between the strategies, plans or programs that are proposed to be combined.	Prior to the commencement of operations	Section 1.4 Refer to the POPD [PREC-ARC-EN-PRG-0001]

CoC	Requirement	Timing	Section or Document where requirements are addressed
B106	Prior to early works, a baseline monitoring program must be prepared in consultation with OEH and DPI to define pre-development conditions for water quality, invertebrates and fish assemblages. The results of this monitoring program are to be used to:	Satisfied during pre-construction and construction	Moorebank Precinct East - Stage 2 Project B106 – Baseline Aquatic Ecological Monitoring Report
	(a) develop a Biodiversity Monitoring Strategy to identify any changes between upstream and downstream sites as a result of the construction and operation of the development; and	Ongoing for operations	Biodiversity Monitoring Strategy (SSD 7628) Section 4.1, Table 4-1 and Table 4-2
	(b) set the stormwater water quality and quantity performance criteria referred to in condition B40.	Satisfied during pre-construction and construction Ongoing for operation	Stormwater quality criteria during construction in accordance with the Construction Soil and Water Management Plan: Moorebank Precinct East Stage 2 Water quality monitoring undertaken in accordance with the Moorebank Precinct East - Stage 2 Project Baseline Aquatic Ecological Monitoring Programme (SSD 7628) Moorebank Logistics Park Precinct East – Stage 2 Balance of Site Stormwater Management Plan (Costin Roe Consulting, 2018) Operational stormwater quality and quantity performance criteria and monitoring is addressed in SIOMP [PREC-QPMS-EN-PLN-0006] Section 4.1, Table 4-2
B111	Bushfire asset protection zones are to be contained wholly within the site boundary and management of the inner protection zone and must not impact on the Boot Land.	Operation	Section 3.3, Table 3-6 FF-17 Section 3.3 d Table 3-6 FF-20 and FF-21 Also refer to Section 4.11.2 of Operational Emergency Response Plan (ERP): Moorebank Logistics Park – East Precinct [PREC-QPMS-EN-PLN-0002] which addresses the management of the Facility Asset Protection Zones (APZs) (Defendable Spaces).
B127	The Applicant must:	Construction	
	(a) take all reasonable steps to manage pests and vermin on the site; (b) manage declared noxious weeds on the site in accordance with the requirements of the Noxious Weeds Act 1993; and	Ongoing for operation	Section 3.3, Table 3-6 FF-15 Section 3.3, Table 3-6 FF-02 to 07

CoC	Requirement	Timing	Section or Document where requirements are addressed
	<p>(c) inspect the site on a regular basis, no less than every 3 months, to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.</p> <p>Note: For the purposes of this condition, noxious weeds are those species subject to an order declared under the <i>Noxious Weed Act 1993</i>.</p>		<p>Table 4-1</p> <p>Note, <i>Noxious Weeds Act 1993</i> repealed and replaced by <i>Biosecurity Act 2015</i></p>

The Final Compilation of Mitigation Measures (FCMMs) are presented within the MPE Stage 1 RtS (Arcadis, September 2015), the MPE Stage 2 RtS (Arcadis, July 2017) and Appendix B of the MPE Stage 2 Development Consent (SSD 7628) (31 January 2018). A list of flora and fauna mitigation measures as relevant to the operation of the Facility and how they have been addressed within this plan are provided in Table 2-3 and Table 2-4.

Table 2-3: FCMMs (MPE Stage 1)

FCMM	Requirement	Section or Document where requirements are addressed
8B	Riparian vegetation within the Rail link and adjoining areas of impact at Anzac Creek and the banks of the Georges River would be protected, rehabilitated and managed in accordance with the measures detailed in the Riparian Vegetation Management Plan. Temporarily disturbed riparian areas in the Georges River will be revegetated with locally occurring native species as soon as practicable upon completion of bridge works.	<p>Section 3.3, Table 3-6 FF-20</p> <p>Also refer to Appendix H Riparian Vegetation Management Plan of SIMTA Moorebank Project East Stage 1: Biodiversity Assessment Report</p>
8C	A nest box management strategy will be prepared prior to clearing of hollow bearing trees. The strategy will inform the installation of nest boxes in retained native vegetation in the riparian corridor of the Georges River and the woodland in the Southern Boot Land and the on-going monitoring and maintenance of nest boxes through the construction and operational phases.	<p>Section 4.1, Table 4-1 and Table 4-2</p> <p>Also refer to Appendix F Nest Box Management Strategy of Construction Flora and Fauna Management Plan Moorebank Precinct East Stage 1 – RALP No. 1</p>
8F	Water quality and macroinvertebrate monitoring would be undertaken up and downstream of works within the Georges River and Anzac Creek, pre, during and post construction, to determine impacts on aquatic communities as a result of the Proposal. The monitoring plan would be developed and implemented by an appropriately qualified aquatic ecologist.	<p>Section 4.1, Table 4-1 and Table 4-2</p> <p>Figure 4-1</p> <p>Also refer to Water Quality and Macroinvertebrate Monitoring Plan for Moorebank Precinct East Stage 1 RALP No. 1</p>

FCMM	Requirement	Section or Document where requirements are addressed
8H	The corridor established for construction of the Rail Link will be stabilised in a manner which would enable the fuel load to be maintained in a low state. Where appropriate it would be stabilised following construction with local topsoil with growth of groundcover encouraged. The corridor would be managed by removing weeds and reducing the fuel load.	Section 3.3, Table 3-6 FF-17, FF-21 and FF-22. Also refer to Section 4.11.2 of Operational Emergency Response Plan (ERP): Moorebank Logistics Park – East Precinct [PREC-QPMS-EN-PLN-0002] which addresses the management of the Facility Asset Protection Zones (APZs) (Defendable Spaces).

Table 2-4: FCMMs (MPE Stage 2)

FCMM	Requirement	Document Reference
0C	The Operational Environmental Management Plan (OEMP), or equivalent, for the Amended Proposal would be based on the following preliminary management plans: ... <ul style="list-style-type: none"> Flora and Fauna Management Plan ...	This OFFMP
4F	Should any animal be injured, the relevant local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery would be contacted as soon as practical. Until the animal can be cared for by a suitably qualified animal handler, if possible, minimise stress to the animal and reduce the risk of further injury by: <ul style="list-style-type: none"> Handling fauna with care and as little as possible. Covering larger animals with a towel or blanket and placing in a large cardboard box. Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark location. 	Section 3.3, Table 3-6 FF-12
4G	A Flora and Fauna Management Plan would be prepared as part of the OEMP for the Amended Proposal. This FFMP would focus on minimising impacts on biodiversity values on the adjacent Boot land. The FFMP would include measures relating to the monitoring, management and where necessary, eradication of weeds, disposal of green waste, and vehicle/ plant weed wash down protocols if required. Measures included in the FFMP relating to weed management would be prepared in accordance with the requirements of the <i>Noxious Weeds Act 1993</i> .	This OFFMP Section 3.3, Table 3-6 FF-02 to FF-07 Note, <i>Noxious Weeds Act 1993</i> repealed and replaced by <i>Biosecurity Act 2015</i>
4H	Potential indirect impacts to threatened flora species located within the Boot land (known as the Wattle Grove Offset Area) will be managed in accordance with the Biobanking Agreement.	Moorebank Precinct Biodiversity Management Implementation Plan

FCMM	Requirement	Document Reference
8B	<p>The following mitigation measures would be implemented, where reasonable and feasible, for the landscaping of the Amended Proposal:</p> <ul style="list-style-type: none"> • Use of native shrubs and ground covers to form a screening barrier when mature. • A landscaping corridor of screening vegetation to provide informal street character along Moorebank Avenue. • Use of local species as understory planting to support and enhance local habitat values • Use of seeds collected within the local area for planting to reinforce the genetic integrity of the region, where possible. 	<p>Section 4.1 and Appendix A of the MPE Stage 1 Urban Design Landscaping Plan (UDLP)</p> <p>Section 4.1 and Appendix A3 of the MPE Stage 2 UDLP</p>
8C	<p>Light for the Amended Proposal would be designed to minimise any direct light spill and would comply with the requirements of <i>Australian Standard AS4282-1997¹- Control of the Obtrusive Effects of Outdoor Lighting</i>.</p>	<p>Section 3.1.1</p> <p>Also refer to Section 6.7, 7.6 and Appendix D of the MPE Stage 1 UDLP and MPE Stage 2 Lighting Sub Plan [SSS2-QPMS-EN-APP-00036]</p>

2.3 Roles and Responsibilities

Key roles and responsibilities applicable to this OFFMP are presented in Table 2-5.

Table 2-5: Roles and Responsibilities

Roles	Responsibilities
Site Safety, Health, Environment and Quality (SHEQ) Manager/Advisor	<ul style="list-style-type: none"> • Engage and manage contractors for flora and fauna monitoring/management activities, weeding and landscaping • Point of contact for any flora and fauna related incidents and ensuring incidents are reported • Liaise with OEH/DPI as necessary • Review monitoring reports
Bush regenerator/ Landscape contractor	<ul style="list-style-type: none"> • Weed management • Landscaping and site rehabilitation • Reporting for any unexpected finds • Vegetation maintenance for bushfire risk
Ecologist	<ul style="list-style-type: none"> • Pre-clearance surveys • Supervise activities in ecologically sensitive areas • Fauna handling
Aquatic ecologist	<ul style="list-style-type: none"> • Aquatic monitoring

¹ Now Australian Standard AS4282:2019

3 IMPLEMENTATION

This section addresses the key flora and fauna risks associated with operation of the Facility and the environmental controls established to manage key risks.

3.1 Existing Environment

Flora and fauna values relevant to the Facility are mapped in Figure 3-1 and Figure 3-2 and have been summarised from the project documentation (See Section 2.2). *Hibbertia sp. Bankstown* (syn. *Hibbertia puberula subsp. glabrescens*) is currently known to occur in only one population at Bankstown Airport. The airport site is very heavily modified from the natural state, lacks canopy species and is currently a low grass/shrub association with many pasture grasses and other introduced herbaceous weeds. Soil at the site is a sandy (Tertiary) alluvium with a high silt content. The species was not detected and was considered unlikely to occur within the operational areas of the MLP East Precinct. (Moorebank Precinct East Stage 2 Biodiversity Assessment Report, Arcadis 2017).

Byrnoe's Wattle (*Acacia bynoeana*) occurs in heath or dry sclerophyll forest on sandy soils. The species seems to prefer open, sometimes slightly disturbed sites such as trail margins, edges of roadside spoil mounds and in recently burnt patches. This species was not detected within the operational areas of the MLP East Precinct (Moorebank Precinct East Stage 2 Biodiversity Assessment Report, Arcadis 2017).

3.1.1 MLP East Precinct

The operational areas of the Facility mostly comprise built infrastructure including the rail line, hardstand pavement (e.g. roads, car parks, loading and storage areas), warehousing, stormwater detention and water quality treatment structures and devices as described in Section 2 and shown in Figure 1-1. The entire MLP East Precinct, including the Rail Link, will be fenced.

The majority of the vegetation on site was cleared during construction in accordance with the relevant Construction Flora and Fauna Management Plan (RALP No. 1 and IMEX) and EPBC requirements. Planting/landscaping will be undertaken and managed in accordance with the *Urban Design and Landscape Plan: Moorebank Precinct East Stage 1* and *Urban Design and Landscape Plan: Moorebank Precinct East Stage 2*.

Landscaping focuses on the Moorebank Avenue frontage incorporating a vegetated bio-retention channel, car park areas, boundaries of internal roads and the onsite detention basins (OSD). Large native trees (mostly *Eucalyptus* sp.) and various understorey plantings endemic to the local area have been selected to minimise visual impacts from the surrounding urban landscape, create habitat opportunities and link surrounding vegetation communities. The proposed tree planting has been designed with the intent of creating a uniform canopy cover throughout the area.

OSDs and the bio-retention swales are to contain grass seed mixes and understorey plantings. The use of local and endemic species will provide habitat capable of supporting native fauna as well as providing adequate understorey to help support habitat values and integration with the surrounding vegetation areas. Proposed plant species have been selected for their site-suitability with many species selected from Liverpool City Council's recommended plant list.

Planted trees, shrubs and understorey vegetation offer potential nesting, sheltering and roosting habitat to birds. Flowering eucalypts also provide foraging habitat for Grey-headed Flying Fox (*Pteropus poliocephalus*). Open grassy areas provide foraging habitat for ground-feeding birds and small exotic terrestrial mammals such as the Brown Hare (*Lepus capensis*). OSD that contain temporary water following rain events offer habitat to colonising amphibians such as Common Eastern Froglet (*Crinia signifera*) and a water source for terrestrial fauna.

Lighting throughout the Facility has been designed to comply with the requirements of *Australian Standard AS4282 – Control of the Obtrusive Effects of Outdoor Lighting* and has been designed to reduce light spill to surrounding areas and to be contained within the site boundary. A light spill assessment, undertaken as part of the development of the Urban Design and Landscape Plan, demonstrated no adverse effects in the form

of light spill is expected within the bootland². In addition, there is no provision for lighting provisions for the Rail Link³, therefore minimising potential light spill impacts on fauna.

3.1.2 Anzac Creek crossing

Anzac Creek is a watercourse with intermittent flow supporting semi-permanent to permanent water in pools and as such, is classified as Class 3 (Minimal Fish Habitat) in accordance with Fairfull and Witheridge (2003). It is a 3rd order stream. The Anzac Creek AUSRIVAS sampling site falls into “Band B”, indicating that the macroinvertebrate community was ‘significantly impaired’.

A bushfire passed through Anzac Creek in May 2018. Prior to the fire, vegetation in the vicinity of the Rail Link crossing was observed to support dense stands of *Typha orientalis* (Broad-leaf Cumbungi) and *Bolboschoenus fluviatilis* (Club-rush) with the highly invasive species *Alternanthera philoxeroides* (Alligator Weed) abundant in the lower stratum. In 2011 and 2012, a dense infestation of *Salvinia molesta* (Salvinia) was observed on the creek surface upstream of the Rail Link immediately to the west of the disused rail spur. This was not observed during vegetation surveys in 2014. During spring 2018 surveys of Anzac Creek, there appeared to have been considerable regeneration of instream and riparian vegetation. Amongst early re-colonisers of the stream channel was *A. philoxeroides*, *Cyperus* sp. and *Typha* sp.

The Rail Link crosses Anzac Creek with an eight-cell box culvert about 20 metre long (cells are 2.1 m x 1.8 m) supported on a reinforced concrete base slab. Concrete apron slabs and rip rap scour protection are provided. Rip rap has been extended to create a shallow “pool” both upstream and downstream of the apron slab. The two outer cells of the culvert are elevated some 700 mm above base of the wet cells to facilitate dry fauna passage.

3.1.3 Georges River crossing

The Georges River comprises a major permanently flowing river and as such, is classified as Class 1 (Major Fish Habitat) in accordance with Fairfull and Witheridge (2003). It is also mapped as ‘Key Fish Habitat’ on DPI’s Key Fish Habitat map for the Sydney Metropolitan area. Aquatic habitats of the Georges River within the Rail Link project included soft substrate pool habitat, large woody debris and extensive macrophyte cover. Overhanging vegetation, fallen logs, mats of sticks and submerged and floating aquatic plants were present along the bank. This extensive macrophyte cover of submerged and floating aquatic plants has reduced the heterogeneity of aquatic habitat and most likely affects the composition of the macroinvertebrate community present. The Georges River AUSRIVAS sampling site falls into Band C in accordance with the AUSRIVAS model, indicating that it is ‘severely impaired’.

The Rail Link crosses the Georges River with a six span bridge that is approximately 178 metres long. The land within 100 metres of the eastern and western banks of the Georges River support forest vegetation. The steep slope adjacent to the riverbank is severely degraded riparian vegetation, reduced to mature trees of *Eucalyptus saligna* x *botryoides* (Blue Gum/Bangalay hybrid) and *Eucalyptus longifolia* (Wollybutt) on the eastern bank only. The eastern bank understorey is dominated by *Ligustrum sinense* (Small-leaved Privet) and smothered by exotic weeds. Vegetation is less disturbed upslope. The western bank of understorey consists of a mixture of native shrub, herb and grass species and some dense stands of *Olea europaea* subsp. *cuspidata* and *Lantana camara*, with *Tradescantia fluminensis* dominating the ground layer in some areas.

The vegetation adjoining the Georges River in the management site was classified as Plant Community Type ME018: Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin and is equivalent to River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions, an Endangered Ecological Community (EEC) listed under the BC Act. This vegetation was cleared over a width of 20 metres for construction of the Rail Link. The 20 metre wide Rail Link is subject to rehabilitation through soil stabilisation and encouragement of groundcover growth.

² Urban Design and Landscape Plan – Moorebank Precinct East Stage 2 (Lighting sub plan)

³ Urban Design and Landscape Plan – Moorebank Precinct East Stage 1

3.1.4 Adjacent areas

Flora and fauna values in adjacent areas have been mapped in Figure 3-1 and Figure 3-2 and described below. This includes the bootland, the Georges River Riparian Corridor and the MPW Stage 2 site. It should be noted that though the adjacent MPW site contains threatened species and ecological communities, it will be mostly cleared of native vegetation during construction of the MLP West Precinct and therefore these values have not been included. Some further conservation areas may remain depending on the outcome of the MPW Stage 2 Approval.

Bootland

The bootland lies adjacent to the eastern and southern boundaries of the operational facility and along a 380 m length of the Rail Link (Figure 1-1). Five different Plant Community Types (PCTs), each associated with a threatened ecological community (TEC), are present in the bootland (refer to Table 3-1, Figure 3-1 and Figure 3-2). The riparian woodland vegetation of Anzac Creek was identified as having a high potential for groundwater interaction. Other woodland vegetation was identified as having a moderate potential for groundwater interaction.

Six threatened flora species have been identified in the bootland and seven threatened fauna species have been either identified in the bootland or assumed to be present (refer to Table 3-2). Hollow-bearing trees were recorded in low densities and nest boxes have been installed to enhance arboreal fauna habitat.

An offset site – Wattle Grove offset area – has been established under the biobanking scheme in the bootland that will protect and enhance its ecological values. It will be managed in accordance with the *Moorebank Precinct Biodiversity Management Implementation Plan*.

Table 3-1: PCTs and equivalent TECs present within the bootland.

Plant Community Type	TEC Name	BC Act Status	EPBC Act Status
<i>Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion</i>	<i>Cooks River/Castlereagh Ironbark Forest in the Sydney Basin bioregion</i>	Endangered	Critically Endangered
<i>Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion</i>	<i>Shale/Gravel Transition Forest in the Sydney Basin bioregion</i>	Endangered	Critically Endangered
<i>Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion</i>	<i>Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions</i>	Endangered	Not listed
<i>Hard-leaved Scribbly Gum - Parramatta Red Gum Heathy woodland of The Cumberland Plain, Sydney Basin Bioregion</i>	<i>Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion</i>	Vulnerable	Endangered
<i>Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion</i>	<i>Castlereagh Swamp Woodland</i>	Endangered	Not listed

Table 3-2: Threatened flora and fauna species present (or assumed present) within the bootland

Scientific Name	Common Name	BC Act Status	EPBC Act Status
Threatened Flora			
<i>Acacia bynoeana</i>	Bynoe's Wattle	Endangered	Vulnerable
<i>Acacia pubescens</i>	Downy wattle	Vulnerable	Vulnerable

Scientific Name	Common Name	BC Act Status	EPBC Act Status
<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flowered Grevillea	Vulnerable	Vulnerable
<i>Hibbertia puberula</i> subsp. <i>puberula</i>	Guinea Flower	Endangered	Not listed
<i>Hibbertia fumana</i>	Hibbertia fumana	Critically Endangered	Not listed
<i>Persoonia nutans</i>	Nodding Geebung	Endangered	Endangered
Threatened Terrestrial Fauna			
<i>Cercartetus nanus</i>	Eastern Pygmy Possum	Vulnerable	Not listed
<i>Meridolum corneovirens</i>	Cumberland Plain Land Snail	Endangered	Not listed
<i>Myotis macropus</i>	Southern Myotis	Vulnerable	Not listed
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	Vulnerable	Not listed
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	Vulnerable	Not listed
<i>Phascolarctos cinereus</i>	Koala	Vulnerable	Vulnerable population
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	Vulnerable

Georges River Riparian Corridor

Riparian vegetation associated with Georges River is highly disturbed on both the western and eastern banks.

One PCT is present in the riparian corridor that is associated with a TEC (Table 3-3) and has a high potential for groundwater interaction. An abundance of trees supporting small to medium-sized branch hollows are located on the western and eastern banks of the Georges River, offering potential nesting and roosting habitat to hollow-dependent fauna. Nest boxes have been installed along the riparian corridor.

A diversity of microbat species has been recorded in Georges River riparian vegetation, including the threatened species listed in Table 3-4.

No threatened flora species have been identified in the Georges River riparian corridor.

Two offset sites, Casula offset area and Moorebank offset area, has been established under the biobanking scheme in the Georges River riparian corridor to protect and enhance its ecological values. They will be managed in accordance with the *Moorebank Precinct Biodiversity Management Implementation Plan*.

Table 3-3: PCTs and equivalent TECs present within the Georges River riparian corridor.

Vegetation Type	TEC Name	BC Act Status	EPBC Act Status
Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions	Endangered	Not listed

Table 3-4: Threatened species present within the Georges River riparian corridor

Scientific Name	Common Name	BC Act Status	EPBC Act Status
<i>Myotis macropus</i>	Southern Myotis	Vulnerable	Not listed
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	Vulnerable	Not listed

Scientific Name	Common Name	BC Act Status	EPBC Act Status
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	Vulnerable	Not listed
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	Vulnerable

Operational Flora and Fauna Management Plan

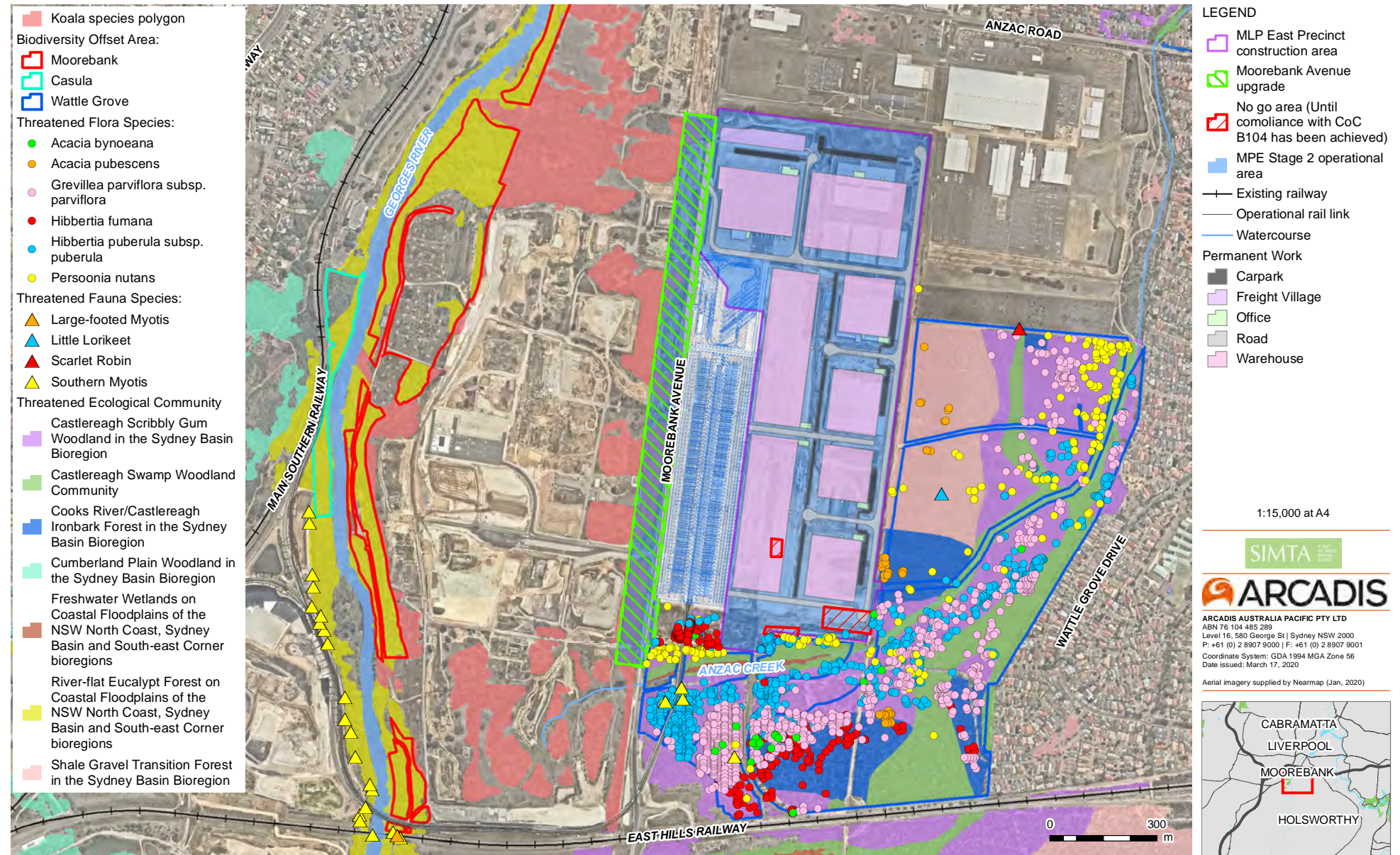


Figure 3-1: Flora and fauna values adjacent to the MLP East Precinct - Permanent Infrastructure

Operational Flora and Fauna Management Plan

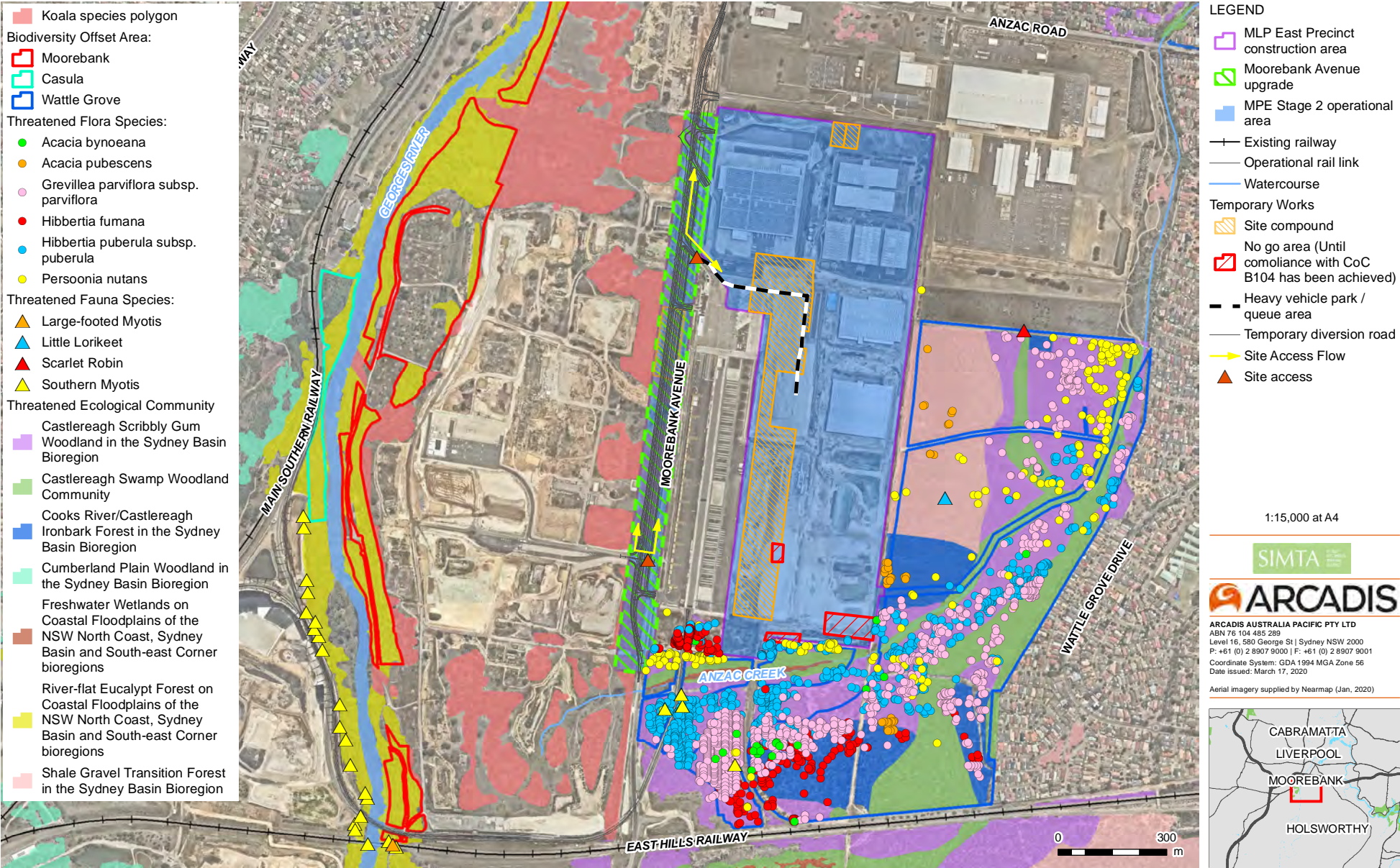


Figure 3-2: Flora and fauna values adjacent to the MLP East Precinct - Temporary Works

3.2 Aspects, Impacts and Risks

3.2.1 Operational activities

The following operational activities have the potential to impact flora and fauna:

- Maintenance of stormwater management infrastructure including landscaping in bioswales
- Landscaping activities, planting and weeding
- Maintenance activities in the rail corridor
- Any works involving soil disturbance
- Bushfire reduction activities
- Noise-generating activities
- Plant and vehicle operation
- Truck movements
- Train movements
- Emergency response activities

3.2.2 Potential Operational Impacts

The potential flora and fauna impacts associated with specific operational activities are listed in Table 3-5. No native vegetation clearing works will be undertaken during the operational phase of the facility. All required vegetation clearing has been undertaken during pre-construction and construction phase of MPE Stage 1 and MPE Stage 2.

Table 3-5: Potential flora and fauna impacts associated with operational activities

Activity	Potential impacts
Maintenance of stormwater management infrastructure	<ul style="list-style-type: none"> • Weed spread • Risk of pathogen spread (e.g. chytrid)
Landscaping activities, planting and weeding	<ul style="list-style-type: none"> • Disturbance to fauna • Weed spread
Maintenance activities in the rail corridor	<ul style="list-style-type: none"> • Clearing of native vegetation • Impacts to TECs, threatened flora species • Weed spread
Works involving soil disturbance	<ul style="list-style-type: none"> • Weed spread • Pathogen spread (e.g. phytophthora)
Bushfire reduction activities: pruning, mowing, slashing	<ul style="list-style-type: none"> • Clearing of native vegetation • Impacts to TECs, threatened flora species • Weed spread
Noise and dust-generating activities	<ul style="list-style-type: none"> • Impacts to the roosting, breeding and foraging activities of locally occurring fauna, as a result of increased exposure to noise, dust, vehicles and people.
Plant and vehicle operation	<ul style="list-style-type: none"> • Fauna injury or mortality as a result of collisions with vehicles or plant in the Facility or road network as a result of increased truck movements. • Impact to foraging, predation and mating behaviours of some flora and fauna species due to electric light spill.

Activity	Potential impacts
Train movements	<ul style="list-style-type: none"> Fauna injury or mortality as a result of train collision
Emergency response	<ul style="list-style-type: none"> Removal of or damage to vegetation to facilitate emergency access Fauna injury or mortality as a result of vehicle strike

3.3 Management Measures

This section describes the overall approach to managing and mitigating risks to flora and fauna during the operation of the Facility.

Management measures are summarised in Table 3-6. These measures are based on best practice and compliance requirements detailed in Section 2.2, as well as Qube's (Facility Delivery Company) requirements and standards, which include, but are not limited to the following:

- SHEMS-QH-02-PR-0013 Legislative and Regulatory Obligations Procedure
- SHEMS-QH-09-PR-0058 Consultation and Communication Procedure
- SHEMS-QH-PR-0022 Corrective and Preventive Action Procedure
- SHEMS-QH-13-PR-0126 Incident Reporting
- SHEMS-QH-05-PR-0025 Records Management Procedure
- SHEMS-QH-06-PR-0046 Environmental Aspects and Impacts Identification Procedure
- SHEMS-QH-01-PO-0000 Safety Health and Environment Policy.

Table 3-6: Management Measures

ID	Management Measure	Timing	Responsibility	Reference/Source
GENERAL				
FF-01(a)	<p>Site inductions will include a briefing on the following:</p> <ul style="list-style-type: none"> The local threatened flora and native fauna of the site, their significance and protocols to be undertaken if they are encountered. Location of no-go zones The use and location of spill kits Bushfire awareness. 	Ongoing	SHEQ Manager/Advisor	EPBC Act CoA 5(h) EPBC 2011/6229 (Annexure A)
FF-01(b)	Soil and mulch stockpiles will be located away from key stormwater flow paths to limit potential transport of these substances into nearby watercourses (such as Anzac Creek) via runoff	Ongoing	SHEQ Manager/Advisor	EPBC 2011/6229 (Annexure A)
FF-01(c)	Dust suppression activities on areas of exposed soil will be undertaken to minimise degradation of retained vegetation on land adjoining the Facility	Ongoing	SHEQ Manager/Advisor	EPBC 2011/6229 (Annexure A)
FF-01(d)	Stabilisation of disturbed areas, including mulching and revegetation will be undertaken as soon as practicable after disturbance and in accordance with the Riparian Vegetation Management Plan.	Ongoing	SHEQ Manager/Advisor	EPBC Act (Annexure A) Riparian Vegetation Management Plan
FF-01(e)	Management of a contaminant spill or leak will be undertaken in accordance with the Environmental Pollution Incident response outlined in Section 4.10 of the Operational Emergency Response Plan, which is an Appendix of the Operational Environmental Management Plan. Spill kits will be located throughout the Facility.	As required	SHEQ Manager/Advisor	EPBC 2011/6229 (Annexure A)
FF-01(f)	<p>On declared 'Total Fire Ban' days, hot works will not be undertaken and there will be no:</p> <ul style="list-style-type: none"> Grass or vegetation reduction works (including mowing/slashing) Arborist works (chainsaw) Vehicle operations in long grass. 	Ongoing	SHEQ Manager/Advisor	EPBC 2011/6229 (Annexure A)

ID	Management Measure	Timing	Responsibility	Reference/Source
FF-01(g)	Vehicles, plant and equipment will not block fire trails	Ongoing	SHEQ Manager/Advisor	EPBC 2011/6229 (Annexure A)
FF-01(h)	Access to the rail corridor will be controlled to ensure no unauthorised access to the rail corridor.	Ongoing	SHEQ Manager/Advisor	EPBC Act CoA 5(h)
WEED CONTROL				
FF-02	Control of priority weeds will be undertaken in accordance with the <i>Biosecurity Act 2015</i> .	Ongoing	SHEQ Manager/Advisor Landscape contractor	<i>Biosecurity Act 2015</i> EPBC Act CoA 5(h) (Annexure A) SSD 7628 B110 (i)
FF-03	Equipment used for treating weed infestation will be cleaned prior to moving to a new area within the Facility to minimise the likelihood of transferring any plant material and soil.	Ongoing	SHEQ Manager/Advisor Landscape contractor	EPBC Act CoA 5(h) (Annexure A) SSD 7628 B110 (i)
FF-04	Regular, active management of weeds using manual removal or herbicide application in the rail corridor and vegetated areas in the Facility to prevent the spread into adjacent and nearby bushland.	Monthly – rail corridor Every two months – landscaped areas and stormwater infrastructure	SHEQ Manager/Advisor Landscape contractor	EPBC Act CoA 5(h) (Annexure A) SSD 6766 FCMM 8H SSD 7628 B110 (i)
FF-05	Vegetative material and topsoil that contains or is likely to contain priority weeds and propagules must be disposed of at an appropriate waste facility that accepts such material. The nearest facilities are located at: <ul style="list-style-type: none"> Chullora (15 Muir Rd, Chullora NSW 2190) Lucas Heights (New Illawarra Rd, Lucas Heights NSW 2234) 	As required	SHEQ Manager/Advisor Landscape contractor	EPBC Act CoA 5(h) (Annexure A) SSD 7628 FCMM 4G SSD 7628 B110 (i)
FF-06	Any soil excavated from the Anzac Creek corridor must be disposed of in accordance with the guidelines in the <i>Alligator Weed Control Manual</i> (DPI 2007), as it will likely contain fragments of Alligator Weed.	As required	SHEQ Manager/Advisor	SSD 7628 B110 (i)
FF-07	Soil stripped and stockpiled from areas containing known weed infestations will be stored on cleared land at least 40 m from native vegetation.	As required	Landscape contractor	SSD 7628 B110 (i)
PATHOGEN MANAGEMENT				

ID	Management Measure	Timing	Responsibility	Reference/Source
FF-08	Insecticide and fungicide treatment will be undertaken in all occurrences of insect attack or disease in landscaped vegetation.	As required	SHEQ Manager/Advisor	SSD 7628 B110 (iii)
FF-09	Vehicles, equipment, materials and footwear used in landscaping activities and activities involving soil disturbance will be cleaned on entry (free of soil, mud and/or seeds) to minimise the introduction or spread of <i>Phytophthora cinnamomi</i> .	Ongoing		SSD 7628B110 (iii)
FF-10	Insecticide and fungicide treatment will be undertaken in all occurrences of insect attack or disease in landscaped vegetation.	As required	SHEQ Manager/Advisor	SSD 7628 B110 (iii)
FF-11	<p>In the event frogs are encountered on site and require relocation, a suitably qualified ecologist will be engaged to supervise relocation actions. If handling is deemed necessary by the ecologist, the risk of Chytrid pathogen transfer will be minimised by following the OEH <i>Hygiene Protocol for the Control of Disease in Frogs</i> (DECCW 2008) and will include:</p> <ul style="list-style-type: none"> • Hands to be cleaned / disinfected between each frog or a new pair of disposable gloves used for each sample. • A 'one bag – one frog / tadpole' approach to handling will be used where capture and relocation is necessary. Bags will not to be reused. 	As required	Suitably qualified and experienced ecologist	<i>Hygiene Protocol for the Control of Disease in Frogs</i> (DECCW 2008)
FAUNA				
FF-12	<p>If an animal is injured, contact one a local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery immediately. Until the animal can be cared for by a suitably qualified animal handler, minimise stress to the animal and reduce the risk of further injury by:</p> <ul style="list-style-type: none"> • Handling fauna with care and as little as possible. • Covering larger animals with a towel or blanket and placing in a large cardboard box. • Placing small animals in a cotton bag, tied at the top. • Keeping the animal in a quiet, warm, ventilated and dark 	As required	All site staff and visitors SHEQ Manager/Advisor	SSD 7628 FCMM 4F EPBC Act CoA 5(h) (Annexure A)
FF-13	If fauna is present, allow that fauna to move through the Facility and off site. If fauna does not relocate off site, is injured or a threat is evident contact an ecologist, fauna handler, WIRES or local veterinary surgery as	As required	All site staff and visitors SHEQ Manager/Advisor	<i>Biodiversity Conservation Act 2016</i>

ID	Management Measure	Timing	Responsibility	Reference/Source
	soon as practical to assist in relocation to adjacent retained habitat. SHEQ Manager/Advisor will be contacted immediately. Activities may need to cease if the animal is in danger or harmed until it has been relocated.			
FF-14	Speed limits will be developed and implemented so as to minimise the potential for fauna to be struck by a vehicle within the facility. All vehicles and plant in operation on the SIMTA site are to adhere to site rules relating to speed limits.	Ongoing	All site staff and visitors	EPBC Act CoA 5(h) (Annexure A)
FF-15(a)	To minimise the potential impacts from feral fauna species and/or vermin the following measures will be implemented: <ul style="list-style-type: none"> All general waste bins will be kept covered minimising accumulations of waste and packing material removing all waste from site on regular basis 	Ongoing	All site staff and visitors	SSD 7628 B110 (ii)
FF-15(b)	If feral fauna species and/or vermin are identified in the Facility, the following steps must be implemented: <ul style="list-style-type: none"> Identify the species. The SHEQ Manager/Advisor will engage a specialist contractor to determine its extent of occurrence and remove the species. Continue monitoring feral fauna species and/or vermin in accordance with the contractor's recommendations. 	As required	SHEQ Manager/Advisor	SSD 7628 B110 (ii)
FF-15(c)	Any pits/trenches that are to remain open overnight, are to be securely covered. Alternatively, fauna ramps (logs or wooden planks) are to be installed to provide an escape for trapped fauna.	As required	SHEQ Manager/Advisor	EPBC 2011/6229 (Annexure A)
FF-16	If any Koalas are found on the Facility the SHEQ Manager/Advisor would be contacted immediately and operations in the immediate vicinity would cease, and the SHEQ Manager/Advisor will: <ul style="list-style-type: none"> Stop activities in the vicinity of the koala Establish a 30m exclusion zone around the koala Engage an experienced and appropriately qualified wildlife handler Relocate the koala in appropriate surrounding bushland in consultation with OEH. 	As required	SHEQ Manager/Advisor	Best practice

ID	Management Measure	Timing	Responsibility	Reference/Source
	-			
THREATENED FLORA				
FF-17	Any works in the rail link, including weeding, bushfire hazard reduction and maintenance activities will be undertaken by a bush regeneration contractor with experience in threatened flora species identification or supervised by a suitably qualified ecologist.	As required	SHEQ Manager/Advisor	EPBC Act CoA 5(h)
FF-18(a)	Pre-clearance surveys will be completed by a bush regeneration contractor with experience in threatened flora species identification or suitably qualified ecologist prior to the commencement of maintenance or emergency response activities in the Rail Link. Surveys will target, as a minimum, <i>Acacia bynoeana</i> , <i>Grevillea parviflora</i> subsp. <i>parviflora</i> , <i>Hibbertia fumana</i> , <i>Hibbertia puberula</i> subsp. <i>puberula</i> , and <i>Persoonia nutans</i> .	As required	SHEQ Manager/Advisor	EPBC Act CoA 5(h)
FF-18(b)	Records of cleared individuals of Nodding Geebung and stems of Small-flower Grevillea will be maintained throughout the lifecycle of the MPE East Precinct and Operational Rail Link to ensure that the limits outlined in C'th CoA 5(d) are not exceeded.	Ongoing	SHEQ Manager/Advisor	EPBC Act CoA 5(d)
FF-18(c)	Results of targeted surveys for <i>Hibbertia</i> sp. Bankstown and Bynoe's Wattle (including the number of individuals recorded) and their location, no-go zones and the Facility boundary will be identified on all operational drawings as well as sensitive area drawings (refer to Figure 3-1 and Figure 3-2. Note: targeted surveys did not detect any <i>Hibbertia</i> sp. Bankstown on site or in adjacent areas).	Ongoing	SHEQ Manager/Advisor	EPBC Act CoA 5(e)
FF-18(d)	High visibility plastic screening, fencing or tape with "No-Go signage" will be installed to delineate the limits of clearing works and operations area, so as to not further encroach on EEC and the locations of threatened flora species including but not limited to <i>Hibbertia</i> sp. Bankstown and Bynoe's Wattle	As required	SHEQ Manager/Advisor	EPBC Act CoA 5(e) EPBC 2011/6229 (Annexure A)
FF-19	Upon detection of a threatened species the following steps must be followed:	As required	SHEQ Manager/Advisor	EPBC Act CoA 5(h)

ID	Management Measure	Timing	Responsibility	Reference/Source
	<ul style="list-style-type: none"> Stop all work that could result in harm to the threatened species, in the vicinity of the find. Immediately notify the SHEQ Manager/Advisor or delegate. An ecologist must confirm the presence of the threatened species. The SHEQ Manager/Advisor or delegate will then contact the relevant agencies as required. An assessment is to be undertaken to identify the plant or animal to species level and the likely impact to the threatened species and appropriate management options, such as protection or re-location measures, developed in consultation with the relevant agencies. Obtain any relevant licences, permits or approvals required if the threatened species is likely to be impacted. Consultation with OEH must be completed. Recommence works once any approvals have been obtained and management and mitigation measures have been implemented. Update plans and procedures as required. 			
REHABILITATION				
FF-20	Revegetation of riparian areas during construction will continue during the operational phase. Management of land disturbed as a result of construction will be undertaken in accordance with the Riparian Vegetation Management Plan	Initial planting and ongoing replacement planting to be determined through ongoing monitoring.	Landscape contractor SHEQ Manager/Advisor	SSD 6766 FCMM 8B
BUSHFIRE Management measures detailed in the OERP				
FF-21	<p>Within the Inner Protection Area (IPA) all trees and shrubs will be maintained in such a manner that the vegetation is not continuous and fuel loadings will be maintained to a maximum dry litter weight of less than 3 tonnes/hectares during the prescribed 'Bushfire Danger Period' (1 October – 31 March, or as declared by).</p> <p>The IPA is located adjacent to the asset and extends out from the buildings to the boundary of the site.</p>	As required	SHEQ Manager/Advisor	SSD 6766 FCMM 8H

ID	Management Measure	Timing	Responsibility	Reference/Source
FF-22	Bushfire asset protection zones will be contained wholly within the site boundary and management of the inner protection zone will not impact on the Boot Land.	As required	SHEQ Manager/Advisor	SSD 7628 B111
FF-23	The full width of the rail link will be maintained in a low fuel state to help manage bushfire risk.	As required	SHEQ Manager/Advisor	SSD 6766 FCMM 8H

4 MONITORING AND REVIEW

4.1 Monitoring Requirements

Flora, fauna, water quality and other monitoring of the MLP East Precinct, Offset Sites, Anzac Creek and the Georges River during Operations will be conducted as per the requirement of this OFFMP and the CoC.

Flora and fauna monitoring requirements relevant to the OFFMP are summarised in Table 4-1. Aquatic habitat and water quality monitoring locations are shown on Figure 4-1.

Table 4-1: Monitoring Requirements

Monitoring Focus	Area/Location	Responsibility	Frequency	Reference/Source
Surface water quality Sediment monitoring Aquatic Macroinvertebrates Fish assemblage	Anzac Creek locations (See Figure 4-1 ⁴)	Aquatic ecologist	Twice annually (autumn and spring) for 5 years following completion of construction	SSD 7628 B43 & B106 Moorebank Precinct East - Stage 2 Project Baseline Aquatic Ecological Monitoring Programme (SSD 7628)
Surface water quality Aquatic Macroinvertebrates and water quality monitoring	Surface water quality in Georges River downstream site (See Figure 4-1) Upstream and downstream of the Rail Link bridge (See Figure 4-1)	Aquatic ecologist	Twice annually (autumn and spring) for 5 years following completion of construction (frequency determined by B43)	SSD 6766 FCMM 8F
Weed cover	MLP East Precinct, including landscaped areas, stormwater infrastructure and Rail Link	SHEQ Manager/Advisor	Every two months in line with the landscape and vegetation maintenance schedule	<i>Biosecurity Act 2015</i> EPBC Act CoA 5(h) (Annexure A) SSD 7628 B110 (i)
Riparian vegetation restoration	Georges River and Anzac Creek rail crossings	Ecologist/bush regeneration contractor	Quarterly for first 12 months then annually	Riparian Vegetation Management Plan SSD 7628 B110 (i)
Threatened flora occurrence	Whole MLP East Precinct	Ecologist	Annual in spring	EPBC Act CoA 5(h) Moorebank Precinct East - Stage 1 Project Threatened Flora Offset Management Plan
Viability (condition and stressors) of native vegetation adjoining the rail easement, including vegetation adjoining	Native vegetation adjoining the rail easement		In accordance with the NSW BA341 Biobanking Agreement	EPBC Act CoA 5(i) NSW BA341 Biobanking Agreement

⁴ No upstream monitoring location on Anzac Creek as upstream location are located within the Moorebank Precinct West construction site

Monitoring Focus	Area/Location	Responsibility	Frequency	Reference/Source
populations of Nodding Geebung and Small-flower Grevillea				
Feral fauna occurrence	Whole MLP East Precinct	SHEQ Manager/Advisor to engage contractor	If reported and treated, undertake monitoring every 3 months till species is no longer identified	SSD 7628 B110 (ii)
Inspect koala fencing	Boundary of the Facility	SHEQ Manager/Advisor	Annual	Koala Management Plan (in preparation)
Nest boxes	Wattle Grove, Casula and Moorebank offset sites	Ecologist	Annual (spring)	Appendix F Nest Box Management Strategy of Construction Flora and Fauna Management Plan Moorebank Precinct East Stage 1 – RALP No. 1
Fauna connectivity across the Wattle Creek Offset Area	Anzac Creek Culvert	Ecologist	Annual in spring. One remote camera focussed at either dry cell for a minimum period of one month.	SSD 6766 C20

4.1.1 Monitoring Criteria

Monitoring criteria applicable to the OFFMP are provided in Table 4-2.

Table 4-2: Triggers for remedial measures

Monitoring Focus	Trigger	Action	Responsibility
Water quality	Substantial changes in water quality results Water quality outside the ANZECC 2000 Guidelines trigger values compared to baseline values Significant differences between water quality up and downstream of the rail link	Identify source or cause for reduced water quality and undertake corrective measures	SHEQ Manager/Advisor Aquatic ecologist

Monitoring Focus	Trigger	Action	Responsibility
Aquatic habitat	Increased scour of bed and banks of waterways	Identify point source/s of increased flow velocities or changes in stream hydraulics and discuss with project engineers to determine best methods for flow reduction or rectification of stream hydraulics	SHEQ Manager/Advisor
Macroinvertebrates and fish assemblages	Reduction in species diversity and changes to assemblages/community structure indicating a reduction of sensitive taxa	Identify components causing decline. Assess feasibility of suitable corrective actions. If corrective measures can be implemented, these aspects are to be the focus of future monitoring. If corrective measures cannot be implemented, regulatory authority to be notified of change	SHEQ Manager/Advisor Aquatic ecologist
Native vegetation adjoining the rail easement	A reduction in the viability of native vegetation including vegetation adjoining populations of Nodding Geebung and Small-flower Grevillea	Identify the source of impact on viability of native vegetation adjoining the rail easement. Identify whether an impact to the Nodding Geebung and Small-flower Grevillea has occurred. If corrective measures can be implemented, these aspects are to be the focus of future monitoring. If corrective measures cannot be implemented, regulatory authority to be notified of change	SHEQ Manager/Advisor
Weeds	Weed infestations on the Facility Identification of weed spread into adjacent areas attributed to the facility Biosecurity direction issued from DPI	Implement weed controls in accordance with the Biosecurity Duties associated with the weed species	SHEQ Manager/Advisor
Weeds	Priority weed cover in the Rail Link corridor is greater than 5 per cent.	Increase weed control and monitoring frequency	Landscape contractor (the Facility)
Feral fauna	If any feral fauna species is identified at the Facility	Undertake active management to eliminate the species from the Facility	Contractor

Monitoring Focus	Trigger	Action	Responsibility
Nest boxes	Pest species	Remove pests	Contractor
	Damaged boxes	Replace damaged boxes or components	
	Excessive nesting material	Remove excessive nesting material	
	Inadequate drainage	Other remedial actions as required	
	Inadequately functioning		
Koala fencing	Inspect for damage, holes, points of entry	Undertake repairs as needed	SHEQ Manager/Advisor to engage contractor
Fauna connectivity	Dry cells blocked by deposited coarse woody debris or other alluvial material	Remove debris	SHEQ Manager/Advisor to engage contractor
	Structure not being used by approaching fauna	Investigate the potential for retrospectively fitting fauna furniture within the dry cells to promote use.	

Operational Flora and Fauna Management Plan



Figure 4-1: Monitoring locations

4.2 Environmental Auditing

Compliance auditing against this OFFMP will be in accordance with the CoC and ISCA requirements as outlined within the overarching OEMP [PREC-QPMS-EN-APP-00001]. This auditing will be incorporated as part of the internal audit process and undertaken in accordance with the Qube Management Systems Audit Procedure (SHEMS-QH-10-PR-0065).

Auditing requirements that are applicable to this OFFMP are summarised in Table 4-3.

Table 4-3: Environmental Auditing Requirements

Requirement	Area/Location	Responsibility	Frequency
G16 (SSD 6766) C18 (SSD 7628) Independent environmental audit	All areas in MLP East Precinct	Independent auditor	Within 12 months of operation commencing Every 3 years thereafter unless directed by Secretary

4.3 Reporting

Reporting requirements for monitoring, auditing and as required in the CoC will be undertaken in accordance with the overarching OEMP [PREC-QPMS-EN-APP-00001].

The reporting requirements that are applicable to this OFFMP are summarised in Table 4-4.

Table 4-4: Environmental Reporting Requirements

Requirement	Area/Location	Responsibility	Frequency	Regulatory Authority
Riparian vegetation restoration	Georges River and Anzac Creek rail crossings	Ecologist/bush regeneration contractor	Quarterly for first 12 months then annually	DP&E DPI
Nest box monitoring report	Wattle Grove, Casula and Moorebank offset sites	Ecologist	Annual	DP&E
Aquatic ecology monitoring	Anzac Creek and Georges River	Aquatic Ecologist	Brief summary report following each biannual survey and final report following completion of surveys	DP&E
Weed control records including pesticide applications	Any areas requiring weed control	SHEQ Manager/Advisor	Ongoing	DP&E
Threatened flora monitoring	Whole MLP Precinct	Ecologist	Annual (in Spring)	DotEE DP&E
Koala monitoring (fencing and connectivity across the Wattle Creek Offset Area)	Boundary fences of the Facility Anzac Creek Culvert	Ecologist	Annual (in spring)	DP&E

4.4 Review and Improvement

Review and improvement of this plan will be undertaken in accordance with the CoC and Section 6.2 of the OEMP [PREC-QPMS-EN-APP-00001]. Continuous improvement will be achieved by the ongoing evaluation of environmental management performance and effectiveness of this plan against environmental policies, objectives and targets.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure, as outlined in Section 1.4.1 of the OEMP.

4.5 Incidents

All flora and fauna related incidents are to be reported and managed in accordance with Qube's Incident Reporting and Management Procedure (SHEMS-QM-13-PR-0126). Incidents are classified based on the incident's severity as shown in Section 4.6 of the OEMP [PREC-QPMS-EN-APP-00001].

All incidents will be managed and reported according to Section 4.6 of the OEMP.

4.6 Complaints

All complaints relating to flora and fauna issues during the operation of the Facility will be handled in accordance with Section 4.5.1 of the OEMP and the Community Communication Strategy (CCS).

4.7 Non-Compliance, Non-Conformances and Corrective Actions

Non-compliance, non-conformances and resulting corrective actions relating to this OFFMP are to be managed in accordance with Section 6.4 of the OEMP.

APPENDIX A EVIDENCE OF CONSULTATION

To: [REDACTED]
Subject: RE: Operational Flora & Fauna Management Plan - Moorebank Logistics Park - East Precinct - MPE Stage 2 B110 (SSD7628)

Hi [REDACTED],

OEH has reviewed the draft Operational Flora & Fauna Management Plan and provides the following comments.

Page	Screenshot of typo and/or other issues
v	<p>Figure 1-1: Site Location..... 8</p> <p>Figure 1-2 Proposed staged/progressive staging of the MLP East Precinct..... Error! Bookmark not defined.</p>
v	<p>Figure 4-1: Aquatic Habitat monitoring on Georges river not show. Water monitoring on ANZAC Creek not shown..... 42</p> <ul style="list-style-type: none"> Figure 4-1 heading should be 'Aquatic habitat and water quality monitoring locations'
6	<p><i>The MLP aims to streamline the freight logistics supply chain from port to store, deliver savings to businesses and consumers, and help service the rapidly growing demand for imported goods in south-west Sydney. It is located approximately 27 kilometres (km) south-west of the Sydney Central Business District and approximately 26 km west of Port Botany within the Liverpool Local Government Area. The MLP is divided into an East Precinct and a West Precinct, located east and west of Moorebank Avenue respectively. (</i></p> <p>Figure 1-1). The MLP East Precinct is operational and is managed under an Operation Environmental</p>
8	<p>LEGEND</p> <p>MLP East Precinct construction area — Operational rail link MLP East Precinct operational area — Existing railway Warehouse access — Watercourse IMEX truck access IMEX office access Emergency access</p> <p>Figure 1-1: MLP East Precinct layout</p> <p>Figure 1-1: Site Location</p> <ul style="list-style-type: none"> MLP East Precinct construction area shown in figure is incorrect
9	<p>The proposed staged/progressive application of the OEMP is shown on Error! Reference source not found., with estimated dates of operation detailed in Table 1-1. The first area to be operational, includes the IMEX, Rail Link and Warehouse 1 (Area 1).</p>
10	<p>LEGEND</p> <p>MLP East Precinct construction area — IMEX truck access — Area 2 MLP East Precinct operational area — IMEX office access — Area 3 Warehouse access — Emergency access — Area 4 Freight Village Operational rail link — Operational staging: — Area 5 Watercourse — Area 6</p> <p>Figure 1-2: Proposed staged/application of areas</p> <p>Figure 1-2 Proposed staged/progressive staging of the MLP</p> <ul style="list-style-type: none"> MLP East Precinct construction area shown in figure is incorrect
11	<p>As required by CoC A18 (SSD 7628) the Secretary will be notified one month prior to commencement of operation of each new area shown in Table 1-1 and Error! Reference source not found. The notification will include updated figures detailing the new areas of operation which will fall under the remit of the OEMP</p>
14	<p>The construction and operation of the MLP East Precinct has been designed to be consistent with the EPBC Act Approval conditions, where relevant. <u>The Conditions of Approval (CoA) relevant to biodiversity are detailed in Table 2-1.</u> Many of the CoA relate to pre-construction and construction activities but have been included to demonstrate compliance with the CoA. The table also specifically identifies when each of the</p> <ul style="list-style-type: none"> Insert 'and this OFFMP' following 'biodiversity'

26	<p>3.1 Existing Environment</p> <p>Flora and fauna values relevant to the MLP East Precinct are mapped in Figure 3-1 and have been summarised from the project documentation (See Section 2.2).</p> <ul style="list-style-type: none"> Figure 3.1 only shows flora values – see comment below. 														
26	<p>The operational areas of the MLP East Precinct mostly comprise built infrastructure including the rail line, hardstand pavement (e.g. roads, car parks, loading and storage areas), warehousing, stormwater detention and water quality treatment structures and devices as described in Section 2 and shown in Figure 1-1. The entire MLP East Precinct, including the Rail Link, will be fenced.</p>														
27	<p>Bootland</p> <p>The bootland lies adjacent to the eastern and southern boundaries of the operational facility and along a 380 m length of the Rail Link (Figure 1-1). Five different Plant Community Types (PCTs), each associated with a threatened ecological community (TEC), are present in the bootland (refer to Table 3-1). The riparian woodland vegetation of</p> <ul style="list-style-type: none"> Include reference to a revised Figure 3-1 showing the Bootland (and Georges River Riparian Corridor) area. 														
28	<p>An offset site - Wattle Grove offset area - would be established under the biobanking scheme in the bootland that would protect and enhance its ecological values. It would be managed in accordance with the Moorebank Precinct Biodiversity Management Implementation Plan.</p> <ul style="list-style-type: none"> Amend text here (and elsewhere in 3.1.4) from future to past tense (as the MIT BioBanking agreement has been finalised). 														
29	<p>A diversity of microbat species has been recorded in Georges River riparian vegetation, including the threatened species listed in Table 3-1.</p> <ul style="list-style-type: none"> Replace 'Table 3-1' with 'Table 3-4' 														
30	<p><i>Figure 3-1: Flora and fauna values adjacent to the MLP East Precinct</i></p> <ul style="list-style-type: none"> Recommend MLP East Precinct construction area be included. Only flora values are shown – amend figure to include fauna values (or amend heading and include an additional figure showing fauna values). 														
37	<p>Flora and fauna monitoring requirements relevant to the OFFMP are summarised in Table 4-1.</p> <ul style="list-style-type: none"> Replace 'Flora and fauna monitoring on' with 'Flora, fauna, water quality and other monitoring of'. Include sentence 'Aquatic habitat and water quality monitoring locations are shown in figure 4-1.' 														
38	<p>Table 4-1: Monitoring Requirements</p> <table border="1"> <thead> <tr> <th>Monitoring Focus</th><th>Area/Location</th></tr> </thead> <tbody> <tr> <td>Surface water quality</td><td>Anzac Creek locations (AQ sites)</td></tr> <tr> <td>Sediment monitoring</td><td></td></tr> <tr> <td>Aquatic Macroinvertebrate</td><td>(See Error! Reference source not found.)</td></tr> <tr> <td>Fish assemblage</td><td></td></tr> <tr> <td>Surface water quality</td><td>Georges River (WM sites)</td></tr> <tr> <td>Macroinvertebrate</td><td>See Error! Reference source not found. (100m above and 100m below site)</td></tr> </tbody> </table>	Monitoring Focus	Area/Location	Surface water quality	Anzac Creek locations (AQ sites)	Sediment monitoring		Aquatic Macroinvertebrate	(See Error! Reference source not found.)	Fish assemblage		Surface water quality	Georges River (WM sites)	Macroinvertebrate	See Error! Reference source not found. (100m above and 100m below site)
Monitoring Focus	Area/Location														
Surface water quality	Anzac Creek locations (AQ sites)														
Sediment monitoring															
Aquatic Macroinvertebrate	(See Error! Reference source not found.)														
Fish assemblage															
Surface water quality	Georges River (WM sites)														
Macroinvertebrate	See Error! Reference source not found. (100m above and 100m below site)														
42	<p><i>Figure 4-1: Aquatic Habitat monitoring on Georges river not show. Water monitoring on ANZAC Creek not shown</i></p> <ul style="list-style-type: none"> Heading (with 2nd sentence deleted) should be a note in the legend. Replace heading with 'Aquatic habitat and water quality monitoring locations.' The MPE site boundary is incorrect. AQ12 will also be a water quality monitoring location. 														
43	<p>The reporting requirements that are applicable to this OFFMP are summarised in Table 4-3.</p> <ul style="list-style-type: none"> Replace 'Table 4-3' with 'Table 4-4'. 														

Regards



Office of
Environment
& Heritage

Senior Conservation Planning
Officer
Greater Sydney Branch
Communities and Greater Sydney
Division

10 Valentine Avenue, Parramatta 2150
PO Box 644, Parramatta 2124
T: 02 9995 6917

From: [REDACTED]

Sent: Thursday, 11 April 2019 1:47 PM

To: [REDACTED]

Cc: [REDACTED]

Subject: Operational Flora & Fauna Management Plan - Moorebank Logistics Park - East Precinct - MPE Stage 2 B110 (SSD7628)

Hi [REDACTED],

I just tried to call and left a message with regards the above.

I'm following up to ask if you've had the chance to review the 'Operational Flora & Fauna Management Plan' previously sent to you for review and comment on the 4th April (please see below email)?

We were hoping to get your comments on this by Mon 29 April to enable us to submit to DPE for approval and wanted to check if we can still expect to receive your comments by this date and/ or otherwise if you'd like to discuss your comments over the phone or in person? Could you please also let me know if you are not the right person to be consulting with on this and who the best alternate contact would be?

Thanks and look forward to speaking soon.

[REDACTED]

Regards,

[REDACTED]

ENVIRONMENTAL MANAGER



LEVEL 15 | 124 WALKER STREET | NORTH SYDNEY | NSW | 2060

T +61 2 8907 0700

M [REDACTED]

E [REDACTED]

W www.tacticalgroup.com.au



Before printing this document, please consider the environment.

From: [REDACTED]

Sent: Thursday, 4 April 2019 9:41 AM

To: [REDACTED]

[REDACTED]

Cc: [REDACTED]

[REDACTED]

Subject: Operational Flora & Fauna Management Plan - Moorebank Logistics Park - East Precinct - MPE Stage 2 B110 (SSD7628)

Dear [REDACTED]

You may be aware the Moorebank Logistics Park – East Precinct is now moving towards operational phase and as part of the pre-operations planning approvals and conditions, we are required to consult with you on the Operational Flora & Fauna Management Plan (OFFMP). This document is now complete and is provided via the below Dropbox link for your review and comment.

https://www.dropbox.com/s/o51zabqwu84j1go/PREC-QPMS-EN-PLN-005%20OFFMP_Final%20for%20Consultation%20%28clean%29.pdf?dl=0

If it would help the consultation process, we would be pleased to meet with you to present the key features of this document, in particular the operational flora and fauna risks and proposed mitigations. Please let me know if you'd like to go ahead with this approach and your preferred meeting dates /time and suggested attendees.

We are hoping to finalise the consultations on this OFFMP by the 29th April '19 to allow these documents to be submitted to DPE for their review and approval shortly thereafter. If there is anything that we can do in addition to the above to support meeting that timeframe, please don't hesitate to let us know so that we can action accordingly.

You may also be interested to know that the Operations Environmental Management Plan (OEMP) for the Moorebank Precinct East has now been finalised and can made available to you upon request. The related sub-plans are still at various stages of development but can also be made available to you, upon request, and once complete.

Regards,

[REDACTED]

ENVIRONMENTAL MANAGER



LEVEL 15 | 124 WALKER STREET | NORTH SYDNEY | NSW | 2060

T +61 2 8907 0700

M [REDACTED]

E [REDACTED]

W www.tacticalgroup.com.au



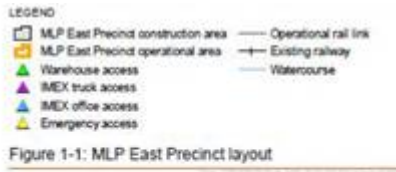

Before printing this document, please consider the environment.

This email is intended for the addressee(s) named and may contain confidential and/or privileged information. If you are not the intended recipient, please notify the sender and then delete it immediately. Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment and Heritage.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Operational Flora and Fauna Management Plan (Revision 002 dated 2 April 2019)

Status of comments from OEH

Initial Comment Date	Screenshot of typo and/or other issues	Arcadis Response	Initial Response Date	Reviewer Comment on Response	Date Comment Closed
03-May-2019	Figure 1-1: Site Location..... 8 Figure 1-2 Proposed staged/progressive staging of the MLP East Precinct..... Error! Bookmark not defined.	Addressed in Version 3. Also note that page numbers have been updated. Section 1 started on page 6, this has been corrected to page 1	06-May-2019	Noted	14-May-2019
03-May-2019	Figure 4-1: Aquatic Habitat monitoring on Georges river not show. Water monitoring on ANZAC Creek not shown..... 42 Figure 4-1 heading should be 'Aquatic habitat and water quality monitoring locations'	Table contents and figure title updated	06-May-2019	Noted	14-May-2019
03-May-2019	<i>The MLP aims to streamline the freight logistics supply chain from port to store, deliver savings to businesses and consumers, and help service the rapidly growing demand for imported goods in south-west Sydney. It is located approximately 27 kilometres (km) south-west of the Sydney Central Business District and approximately 26 km west of Port Botany within the Liverpool Local Government Area. The MLP is divided into an East Precinct and a West Precinct, located east and west of Moorebank Avenue respectively. (Figure 1-1). The MLP East Precinct is operational and is managed under an Operation Environmental</i>	Section 1.1 updated - references re-inserted	06-May-2019	Noted	14-May-2019
03-May-2019	 <i>Figure 1-1: Site Location</i> MLP East Precinct construction area shown in figure is incorrect	Addressed in Version 3 updated figure included	06-May-2019	Noted	14-May-2019
03-May-2019	The proposed staged/progressive application of the OEMP is shown on Error! Reference source not found. , with estimated dates of operation detailed in Table 1-1. The first area to be operational, includes the IMEX, Rail Link and Warehouse 1 (Area 1).	Section 1.3 - references re-inserted	06-May-2019	Noted	14-May-2019
03-May-2019	 <i>Figure 1-2 Proposed staged/progressive staging of the MLP</i> MLP East Precinct construction area shown in figure is incorrect	Addressed in Version 3 (Figure 1-2, page 9)	06-May-2019	Noted (although Figure 1-2 is on page 4 [as page numbering resets following page v])	14-May-2019

Initial Comment Date	Screenshot of typo and/or other issues	Arcadis Response	Initial Response Date	Reviewer Comment on Response	Date Comment Closed
03-May-2019	As required by CoC A18 (SSD 7628) the Secretary will be notified one month prior to commencement of operation of each new area shown in Table 1-1 and Error! Reference source not found. The notification will include updated figures detailing the new areas of operation which will fall under the remit of the OEMP	Section 1.3.2 - references re-inserted Table 1.3 updated to include information on consultation	06-May-2019	Noted	14-May-2019
03-May-2019	The construction and operation of the MLP East Precinct has been designed to be consistent with the EPBC Act Approval conditions, where relevant. The Conditions of Approval (CoA) relevant to biodiversity are detailed in Table 2-1. Many of the CoA relate to pre-construction and construction activities but have been included to demonstrate compliance with the CoA. The table also specifically identifies when each of the Insert 'and this OFFMP' following 'biodiversity'	Section 2.2.1 updated		Noted	14-May-2019
03-May-2019	3.1 Existing Environment Flora and fauna values relevant to the MLP East Precinct are mapped in Figure 3-1 and have been summarised from the project documentation (See Section 2.2). Figure 3.1 only shows flora values – see comment below.	Figure 3-1 updated with fauna values and MLP boundary	06-May-2019	Noted	14-May-2019
03-May-2019	<i>The operational areas of the MLP East Precinct mostly comprise built infrastructure including the rail line, hardstand pavement (e.g. roads, car parks, loading and storage areas), warehousing, stormwater detention and water quality treatment structures and devices as described in Section 2 and shown in Figure 1-1. The entire MLP East Precinct, including the Rail Link, will be fenced.</i>	Section 3.1.1 - references re-inserted	06-May-2019	Noted	14-May-2019
03-May-2019	Bootland <i>The bootland lies adjacent to the eastern and southern boundaries of the operational facility and along a 380 m length of the Rail Link (Figure 1-1). Five different Plant Community Types (PCTs), each associated with a threatened ecological community (TEC), are present in the bootland (refer to Table 3-1). The riparian woodland vegetation of</i> Include reference to a revised Figure 3-1 showing the Bootland (and Georges River Riparian Corridor) area.	Section 3.1.4 - references re-inserted and reference to Figure 3-1 included after 'refer to Table 3-1'	06-May-2019	Noted	14-May-2019
03-May-2019	<i>An offset site - Wattle Grove offset area - would be established under the biobanking scheme in the bootland that would protect and enhance its ecological values. It would be managed in accordance with the Moorebank Precinct Biodiversity Management Implementation Plan.</i> Amend text here (and elsewhere in 3.1.4) from future to past tense (as the MIT BioBanking agreement has been finalised).	Section 3.1.4 - 'would' replaced with 'has/will' in reference to the offset area (change from future to past tense)	06-May-2019	Noted	14-May-2019
03-May-2019	<i>A diversity of microbat species has been recorded in Georges River riparian vegetation, including the threatened species listed in Table 3-1.</i> Replace 'Table 3-1' with 'Table 3-4'	Reference to 'Table 3-1' corrected to 'Table 3-4' in regard to microbat species	06-May-2019	Noted	14-May-2019
03-May-2019	<i>Figure 3-1: Flora and fauna values adjacent to the MLP East Precinct</i> <ul style="list-style-type: none"> Recommend MLP East Precinct construction area be included. Only flora values are shown – amend figure to include fauna values (or amend heading and include an additional figure showing fauna values). 	Figure 3-1 updated with fauna values and MLP boundary	06-May-2019	Noted	14-May-2019

Initial Comment Date	Screenshot of typo and/or other issues	Arcadis Response	Initial Response Date	Reviewer Comment on Response	Date Comment Closed														
03-May-2019	<p>Flora and fauna monitoring requirements relevant to the OFFMP are summarised in Table 4-1.</p> <ul style="list-style-type: none">Replace 'Flora and fauna monitoring on' with 'Flora, fauna, water quality and other monitoring of'.Include sentence 'Aquatic habitat and water quality monitoring locations are shown in figure 4-1.'	Section 4.1 updated - ' <i>Flora and fauna monitoring on</i> ' replaced with ' <i>Flora, fauna, water quality and other monitoring of</i> ' Section 4.1 updated - inclusion of sentence referencing aquatic/water quality monitoring'	06-May-2019	Noted	14-May-2019														
03-May-2019	<p>Table 4-1: Monitoring Requirements</p> <table><tr><th>Monitoring Focus</th><th>Area/Location</th></tr><tr><td>Surface water quality</td><td>Anzac Creek locations (AQ sites)</td></tr><tr><td>Sediment monitoring</td><td></td></tr><tr><td>Aquatic Macroinvertebrate</td><td>(See Error! Reference source not found.)</td></tr><tr><td>Fish assemblage</td><td></td></tr><tr><td>Surface water quality</td><td>Georges River (WM sites)</td></tr><tr><td>Macroinvertebrate</td><td>See Error! Reference source not found. (100m above and 100m below site)</td></tr></table>	Monitoring Focus	Area/Location	Surface water quality	Anzac Creek locations (AQ sites)	Sediment monitoring		Aquatic Macroinvertebrate	(See Error! Reference source not found.)	Fish assemblage		Surface water quality	Georges River (WM sites)	Macroinvertebrate	See Error! Reference source not found. (100m above and 100m below site)	Table 4-1 - references re-inserted	06-May-2019	Noted	14-May-2019
Monitoring Focus	Area/Location																		
Surface water quality	Anzac Creek locations (AQ sites)																		
Sediment monitoring																			
Aquatic Macroinvertebrate	(See Error! Reference source not found.)																		
Fish assemblage																			
Surface water quality	Georges River (WM sites)																		
Macroinvertebrate	See Error! Reference source not found. (100m above and 100m below site)																		
03-May-2019	<p>Figure 4-1: Aquatic Habitat monitoring on Georges river not show. Water monitoring on ANZAC Creek not shown</p> <ul style="list-style-type: none">Heading (with 2nd sentence deleted) should be a note in the legend.Replace heading with 'Aquatic habitat and water quality monitoring locations.'The MPE site boundary is incorrect.AQ12 will also be a water quality monitoring location.	Figure 4-1 was updated in version 3 to address these issues (please note that 'AQ' labels were removed due to changes in numbering and new locations). All sites are now aquatic and water quality, expect for the site in Georges River. The legend has been updated to reflect this.	06-May-2019	Noted	14-May-2019														
03-May-2019	<p>The reporting requirements that are applicable to this OFFMP are summarised in Table 4-3.</p> <ul style="list-style-type: none">Replace 'Table 4-3' with 'Table 4-4'.	Section 4.3 - references re-inserted	06-May-2019	Noted	14-May-2019														

APPENDIX B EPBC 2011/6229 ANNEXURE A REQUIREMENTS

Proposed Mitigation for flora and fauna	Where addressed in this FFMP
<p>The Part 3A Guidelines for Threatened Species Assessment (DEC & DPI 2005) require the description and justification of measures to mitigate adverse effects arising from development proposals. Primary consideration should be given to measures to avoid or minimise impacts; where avoidance and mitigation are not possible, offset strategies may be considered as a last resort. The steps in the avoid, mitigate and offset approach are as follows:</p> <ul style="list-style-type: none"> • Avoid areas of high biodiversity value wherever possible; • Mitigate actions and safeguard values identified for retention by prescribing appropriate controls; and • Compensate for or offset the removal of biodiversity values. <p>Avoid</p> <ul style="list-style-type: none"> • The identified ecological values should be avoided as far as practicable • The construction footprint of the SIMTA proposal and construction access requirements should be reduced as far as possible to minimise impacts. • Avoid Endangered Ecological communities where possible. • Avoid known locations of threatened flora species where possible. • Avoid important fauna habitat features such as large hollow bearing trees where possible. <p>Mitigate (items relevant only to pre-construction or construction stage)</p> <ul style="list-style-type: none"> • Install appropriate drainage infrastructure (e.g. sediment basins, diversion drains), sediment and erosion controls prior to the commencement of construction. • Clearing of vegetation is not to be undertaken during overland flow events. • Clearly identifying sensitive areas and areas for construction and managing clearing such that clearing activities are constrained to these approved areas only. • Undertake a pre-start up check for sheltering native fauna of all infrastructure, plant and equipment and/or during relocation of stored construction materials. • Fauna microhabitat such as logs should be removed from areas to be cleared and relocated to suitable nearby bushland areas in the presence of an ecologist. • Design and construction of rail crossings over Anzac Creek and Georges River to be in accordance with Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge 2003). • Minimise clearing and disturbance to the riparian zone where possible. • Frequent maintenance of construction machinery and plant will be undertaken to minimise unnecessary noise. • High visibility plastic fencing is to be installed to clearly define the limits of the works area to not further encroach on fauna habitat. 	<p>These requirements pertain to the pre-construction and construction stage. There will be no further clearing of native vegetation during the operation stage as outlined in Section 3.2.2.</p>

<ul style="list-style-type: none"> • Undertake a two-stage approach to clearing: <ul style="list-style-type: none"> ○ Remove non-hollow bearing trees at least 48 hours before habitat trees are removed. ○ Hollow bearing trees are to be knocked with an excavator bucket or other machinery to encourage fauna to evacuate the tree immediately prior to felling. ○ Felled trees must be left for a short period of time on the ground to give any fauna trapped in the trees an opportunity to escape before further processing of the trees. ○ Felled hollow bearing trees must be inspected by an ecologist as soon as possible (not longer than 2 hours after felling). • Clearance of native vegetation should be minimised as far as is practicable. • Consider retention of some, or all, of the remnant scattered <i>E. sclerophylla</i> over patches of shrub and grass cover in the cleared grassland immediately south of the SIMTA site, in landscaping works. • The extent of, and limitations to, vegetation clearing would be clearly identified on construction plans. • Fencing is to be installed delineating threatened species habitat to be retained. Appropriate warning signage is to be installed along this fencing at regular intervals. Site inductions are to include a briefing on the presence of threatened species and its habitat, its significance and locations and extents of no-go zones. • Install appropriate drainage infrastructure (e.g. sediment basins, diversion drains), sediment and erosion controls prior to the commencement of construction. • Construction disturbance areas will be clearly demarcated to avoid accidental clearing or stockpiling in riparian vegetation. • Any additional construction areas, such as site offices, construction stockpile locations and machinery/equipment laydown areas are to be located, where possible, within existing cleared or disturbed areas. • Extent of clearing should be fenced with highly visible temporary fencing to minimise any extension of clearing beyond the area necessary. • A VMP should be prepared prior to construction, detailing restoration, regeneration and rehabilitation of areas of native vegetation in study area. The VMP should also detail appropriate management for the potential habitat of threatened plant species in the study area, including monitoring during and after construction works to ensure impacts are minimised. 	
<p>Mitigate (items relevant to operation stage)</p> <ul style="list-style-type: none"> a) Locate soil or mulch stockpiles away from watercourses and key stormwater flow paths to limit potential transport of these substances into the watercourses via runoff. b) Dust suppression activities to be undertaken where appropriate. c) Stabilisation of disturbed areas, including revegetation in accordance with the VMP, is to be undertaken as soon as practicable after disturbance. d) Emergency response protocols and procedures for implementation in the event of a contaminant spill or leak to be clearly articulated in the Construction Environmental Management Plan. 	<ul style="list-style-type: none"> a) FF-01(b) b) FF-01(c) c) FF-01(d) d) FF-01(e) e) FF-01(a) and FF-01(e) f) FF-02 to FF-07 g) FF-02 to FF-07 h) FF-03 i) FF-07

<ul style="list-style-type: none"> e) Spill kits to be located to allow for timely response to uncontained spills. Site inductions are to include a briefing on the use of spill kits. f) Management of weeds in and adjacent to cleared areas will occur in accordance with a Weed Management Plan. This plan will include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols if required. g) Management of noxious weeds are to be undertaken in accordance with the Noxious Weeds Act 1993. h) Equipment used for treating weed infestation will be cleaned prior to moving to a new area within the project site to minimise the likelihood of transferring any plant material and soil. i) Soil stripped and stockpiled from areas containing known weed infestations are to be stored separately and are not to be moved to areas free of weeds. j) Consider the installation of nest boxes in woodland vegetation in the rail corridor that may offer alternative nesting habitat to hollow dependent species recorded in the study area. k) Site inductions are to include a briefing regarding the local fauna of the site and identification of protocols to be undertaken if fauna are encountered. l) If any pits/trenches are to remain open overnight, they are to be securely covered, if possible. Alternatively, fauna ramps (logs or wooden planks) are to be installed to provide an escape for trapped fauna. m) As soon as possible rehabilitation will commence where possible. Management of land disturbed as a result of construction works will occur in accordance with a VMP. n) High visibility plastic fencing is to be installed to clearly define the limits of the works area as to not further encroach on EEC and locations of threatened flora species. o) Landscaped zones to capture gross pollutants and oil and grits from pavement. These areas can be regularly maintained to remove rubbish and can be renewed on a regular basis. p) Bio-retention installed in base of channels and swales proposed to capture and store stormwater. This will consist of bio-filtration layers, planting and subsoil collection and drainage. q) Hot work not to be undertaken on declared total fire ban days. r) Vehicles and plant should not block fire trails. s) Bushfire awareness included in staff induction and in toolbox talks pre-commencement. t) Directional lighting will be used where lighting is required in construction areas. u) Dust suppression activities to be undertaken where appropriate. v) Speed limits will be developed so as to minimise the potential for fauna to be struck by a vehicle within the SIMTA site. All vehicles and plant in operation on the SIMTA site are to adhere to site rules relating to speed limits. w) If an animal is injured, contact one of the following local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery immediately x) Until the animal can be cared for by a suitably qualified animal handler, if possible minimise stress to the animal and reduce the risk of further injury by: y) Handling fauna with care and as little as possible. z) Covering larger animals with a towel or blanket and placing in a large cardboard box. 	<ul style="list-style-type: none"> j) Section 3.1.4 k) FF-01 l) FF-15(c) m) FF-20 n) FF-18(d) o) Section 4.1 and Appendix A of the MPE Stage 1 UDLP and Section 4.2 and Appendix A3 of the MPE Stage 2 UDLP p) Section 4.4, Section 4.5, Section 6.2 and Appendix A of the MPE Stage 1 UDLP and Section 4.1 and Appendix A3 of the MPE Stage 2 UDLP q) FF-01(f) r) FF-01(g) s) FF-01(a) t) N/A as applies to construction u) FF-01(c) v) FF-14 w) FF-12 x) FF-12 to FF-13 y) FF-12 to FF-13 z) FF-12 to FF-13 aa) FF-12 to FF-13 bb) FF-12 to FF-13 cc) FF-02 to FF-07
---	--

- | | |
|--|--|
| <ul style="list-style-type: none">aa) Placing small animals in a cotton bag, tied at the top.bb) Keeping the animal in a quiet, warm, ventilated and darkcc) Weed infestations that are identified during the operation of the SIMTA proposal are to be managed in accordance with the removal methods outlined in the Weed Management Plan. | |
|--|--|