

BUSHFIRE RISK MANAGEMENT PLAN

Moorebank Precinct West Stage 2

07 NOVEMBER 2019

SYDNEY INTERMODAL TERMINAL ALLIANCE PROJECT

Moorebank Precinct West Stage 2

Bushfire Risk Management Plan

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Revision Text	C	

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REVISIONS

Revision	Date	Description	Prepared by	Approved by
A	15/10/2019	First draft based on Recommended Conditions of Consent	AC	AL
B	24/10/2019	Response to ER comments on Rev A	AC	AL
C	07/11/2019	Bushfire specialist professional review	LS	AL

ACRONYMS AND DEFINITIONS

Acronym/Term	Meaning
Asset protection zone	A fuel-reduced area surrounding a built asset or structure which provides a buffer zone between between a bush fire hazard and buildings, which is managed progressively to minimise fuel loads and reduce the potential radiant heat levels, flame contact, ember and smoke attack on life and property.
APZ	Asset Protection Zone
BOM	Bureau of Meteorology
BRMP	Bushfire Risk Management Plan – this plan
Bush Fire Assessment Report	The Bush Fire Assessment Report provided in Appendix W of the MPW Stage 2 EIS (Australian Bushfire Protection Planners, 2016)
CCS	Community Communication Strategy
CEMP	Construction Environmental Management Plan
CERP	Construction Emergency Response Plan
CoC	Conditions of Consent
Conservation Area	The biodiversity conservation area between the Georges River and the western boundary of the Project site. Fully contains the riparian corridor.
Contractor's CM	Contractor's Construction Manager
Contractor's EM	Contractor's Environmental Manager
Contractor's PM	Contractor's Project Manager
Defendable Space	An area adjoining an asset that is managed to reduce combustible elements and is free from constructed impediments. It is a safe working environment in which active firefighting can be undertaken to defend the structure, before and after the passage of a bush fire.
DPIE	Department of Planning, Industry & Environment (formerly Department of Planning & Environment)
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 2017</i>
EPBC EIS	Moorebank Intermodal Terminal Final Environmental Impact Statement prepared to satisfy the Commonwealth approval process
EPBC REMM	Revised Environmental Management Measures presented in the Moorebank Intermodal Terminal (IMT) Final EIS
EPL	Environment Protection Licence
Fuel load	The total amount of potential fuel for a fire in a given structure or area
GFA	Gross floor area

Acronym/Term	Meaning
IMEX	<p>Import Export Terminal. Includes the following key components:</p> <ul style="list-style-type: none"> Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue Rail loading and container storage areas – installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively Administration facility and associated car parking- light vehicle access from Moorebank Avenue.
IMT	Intermodal Terminal
IMT facility	<p>The IMT facility includes the construction of the following key components together comprising the Intermodal Terminal:</p> <ul style="list-style-type: none"> Truck processing and loading areas Rail loading and container storage areas Administration facility and associated car parking.
IPA	<p>Inner Protection Area, the IPA is the area closest to the asset (building) and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and be a defensible space. Vegetation within the IPA should be kept to a minimum level.</p>
km	kilometre
LGA	Local Government Area
LVMP	Landscape Vegetation Management Plan a sub-plan of the OEMP
m	metre
MIT	Moorebank Intermodal Terminal
Moorebank Logistics Park	Includes Moorebank Precinct East (MPE) and Moorebank Precinct West (MPW)
MPE	Moorebank Precinct East
MPW	Moorebank Precinct West
OEH	Office of Environment and Heritage
OEMP	Operational Environment Management Plan
PAC	Planning Assessment Commission
PBP 2006	Planning for Bush fire Protection (RFS, 2006)
PBP 2018	DRAFT Planning for Bush fire Protection (RFS 2018)
Personnel	Construction Contractor and sub-contractor's staff
POEO Act	Protection of the Environment Operations Act 1997

Acronym/Term	Meaning
Project, the	The 'amended construction area' and 'amended operational area' identified within the MPW Stage 2 RtS and approved under SSD 7709
FCMM	Final Compilation of Mitigation Measures
RDO	Rostered Day Off
REMM	Revised Environmental Management Measures
Riparian corridor	<p>Generally, a riparian corridor relates to the land directly adjacent to a watercourse. CoC B2 specifies that the riparian corridor addressed in this document is comprised of:</p> <ul style="list-style-type: none"> (i) a buffer zone to the most inland of: <ul style="list-style-type: none"> • 40 metres from the top of bank, as surveyed by a registered surveyor, or • The 1% AEP flood extent, excluding the localised depression at the existing major east-west drainage channel, and (ii) An additional 10 meters extension to the buffer zone established in (i) above, where native vegetation is located on or within 10 metres east of the buffer. <p>The riparian corridor is depicted in Figure 3-3 as the area within the conservation area directly east of the Georges River.</p>
RtS	Response to Submissions
Secretary, the	The Secretary of the Department of Planning Industry and Environment (formerly Department of Planning & Environment)
SIMTA	Sydney Intermodal Terminal Alliance
SSD	State significant development
SSFL	Southern Sydney Freight Line
TBC	To be confirmed
TEU	Twenty-foot equivalent units

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1 INTRODUCTION

The Sydney Intermodal Terminal Alliance (SIMTA) received approval for the construction and operation of Stage 2 of the Moorebank Precinct West (MPW) Project (SSD 7709), which comprises the second stage of development under the MPW Concept Approval (SSD 5066). This Bushfire Risk Management Plan (BRMP) has been developed to address bush fire planning requirements and manage bush fire risks during the construction phase of Stage 2 of the Moorebank Precinct West (MPW) Project (the Project).

Within this plan, a strategy has been established to demonstrate the Construction Contractor's approach to the management of bush fire risks. This BRMP addresses the relevant requirements of the Development Consent, including the Environmental Impact Statement (EIS), Response to Submissions (RtS) and Minister's Conditions of Consent (CoC), and the applicable guidelines and standards specific to the management of bush fires during the construction phase of the Project.

The location of the Project is shown in Figure 1-1.

1.1 Development Consent

The MPW Stage 2 Project has been assessed by the Department of Planning Industry and Environment (DPIE) under Part 4, Division 4.1 (now Division 4.7 as of March 2018) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) as State significant development (SSD). The Independent Planning Commission granted approval for the MPW Stage 2 Project on 19 November 2019 and is subject to the CoC (SSD 7709). The Project, including its potential impacts, consultation and proposed mitigation and management is documented in the following suite of documents:

- State significant development (SSD) Consent SSD 7709
- Moorebank Precinct West – Stage 2 – Environment Impact Statement (Arcadis Australia Pacific Pty Limited, October 2016)
- Moorebank Precinct West – Stage 2 – Response to Submissions (Arcadis Australia Pacific Pty Limited, July 2017)
- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval (No. 2011/6229) granted on 27 September 2016
- Moorebank Precinct West – Stage 2 – Environment Impact Statement, Appendix W (Australian Bushfire Protection Planners Pty Limited, July 2016).

1.2 Purpose

This BRMP has been developed to address the CoC, Final Compilation of Mitigation Measures (FCMMs) and is based on the Bush fire Protection Assessment (Appendix W of the MPW Stage 2 EIS).

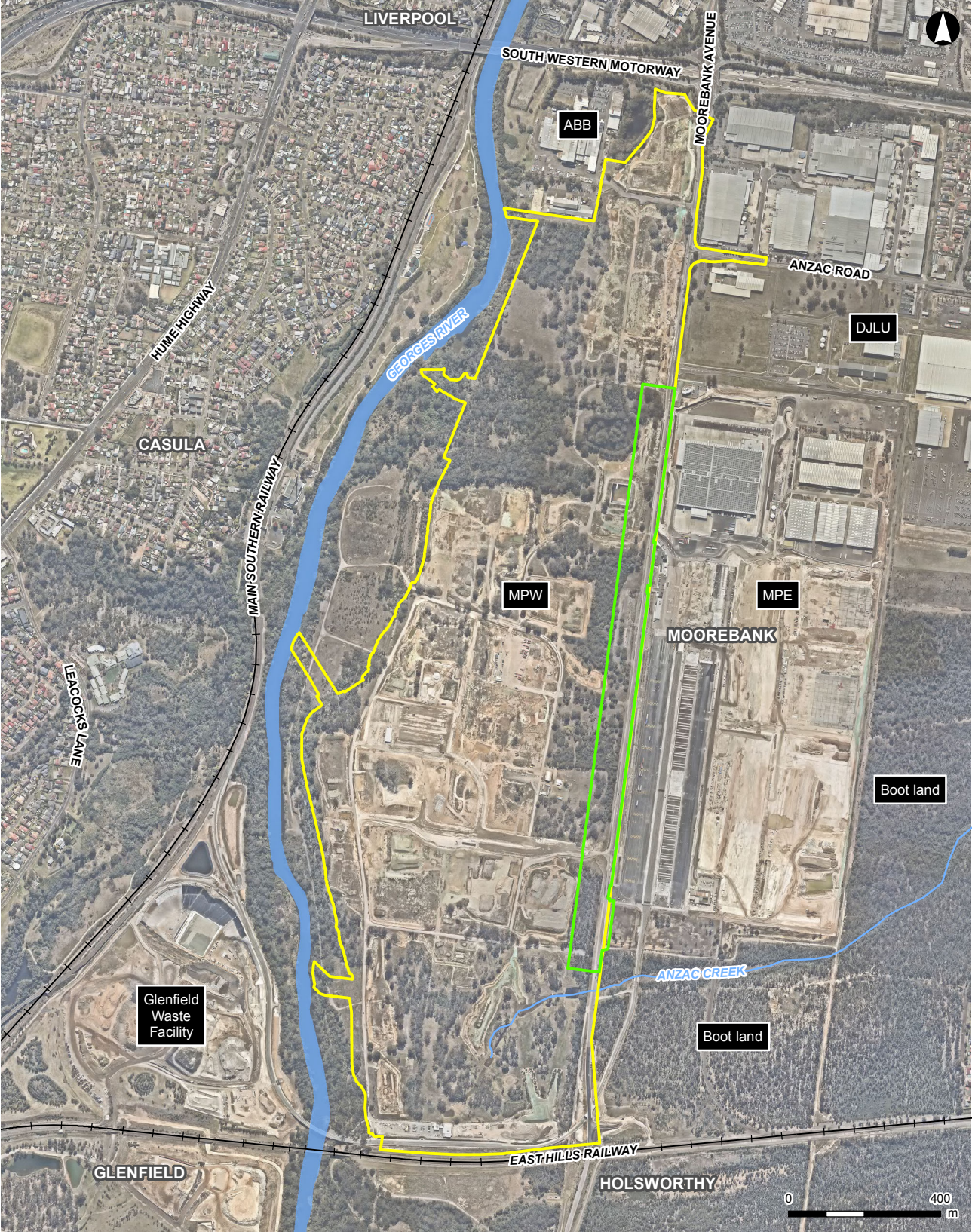
This BRMP has two aims, as follows:

1. Demonstrate that the Project is compliant with NSW Rural Fire Service's Planning for Bush fire Protection (2006) as detailed in CoC B189 to CoC B193 (addressed in Section 3.2)
2. Detail how bush fire risk will be managed during the construction phase of the Project.
 - Including methods to measure and reduce bush fire risk to the Project by the Construction Contractor during construction activities, including all sub-contractors and consultant partners.

The specific requirements for compilation of this BRMP, as identified in the CoC and FCMMs, are outlined in the Compliance Matrices in Section 2.1.1 and Appendix A.

The most recent, approved version of this BRMP will be implemented to manage the Project activities.

MPW Stage 2 Bushfire Risk Management Plan



LEGEND

- MPW Stage 2 construction area
- Moorebank Avenue site
- Existing railway
- Watercourse

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Aerial imagery supplied by nearmap (Sept, 2018)

1:15,000 at A4



Figure 1-1: Site Location

1.3 Objectives and Targets

Table 1-1 outlines the high-level objectives and targets set out for the Project for the management of bush fire risks during construction. These objectives and targets were developed by the Principal's Representative based on collective industry experience and best practice.

Table 1-1 Objectives and Targets

Objective	Target	Timeframe	Accountability
Provide an update to the Bush Fire Assessment Report (Appendix W MPW Stage 2 EIS) to ensure the Project design and operation is consistent with the requirements of Planning for Bush fire Protection (RFS, 2006) as per CoC B191	Provision and maintenance of APZs, access, water and services are consistent with planning requirements and CoC	Detailed design through to operation	Qube Contractor's PM Contractor's EM
Afford personnel onsite adequate protection from exposure to bush fire and minimise adverse impacts of bush fire	No death or injury to personnel during bush fire event	During construction	Contractor's PM
Minimise adverse environmental consequences of bush fire Mitigate on-site landscaping contributing to precinct bush fire via installation of appropriate flora species and management devices	No avoidable contribution to fire via landscaping fuel loads during bush fire event	During construction	Contractor's EM
Compliance with all conditions of relevant approval conditions	No avoidable breach of management measures in Section 3.5	During construction	Contractor's EM

1.4 Consultation

This BRMP has been- prepared in consultation with the NSW Rural Fire Services as outlined below in Table 1-2. Supplementary information to support the consultation undertaken is included in Appendix D.

Table 1-2 Consultation Summary

Agency	Date	Person Contacted	Comment	Status
NSW Rural Fire Services	29/10/2019	RFS Representative	Initiated Consultation with RFS and sent copy of the MPWS2 –BRMP.	Open
	6/11/2019	RFS Representative	Follow up call. RFS stated they have no copy of the email sent on the 29/10/19.	Open
	7/11/2019	RFS Representative	Follow up call. RFS to reissue email.	Open
	12/11/2019	RFS Representative	Email sent to follow up progress of review.	Open
	25/11/2019	RFS Representative	RFS indicated that comments will be issued.	Open
	28/11/2019	RFS Representative	Phone call to follow up progress of review.	Open
	29/11/2019	RFS Representative	Phone call to follow up progress of review.	Open
	3/12/2019	RFS Representative	Phone call to follow up progress of review.	Open
	4/12/2019	SIMTA Representative	RFS stated no comments resulted in plan updates. Consultation considered closed.	Closed

2 ENVIRONMENTAL MANAGEMENT

This section outlines the relevant legislation and project requirements that apply to bush fire risk management and identifies additional permits and approvals that may be required during construction works.

2.1 Legal and Other Obligations

Table 2-1 details the legislation, planning instruments and guidelines considered during development of this plan. Further detail concerning the legislation, planning instruments and guidelines identified below are provided in the Compliance and Obligations Register within Appendix A of the CEMP.

Table 2-1 Legislation, Planning Instruments and Guidelines

Legislation and Guidelines	Description	Relevance to this plan
<i>Environmental Planning and Assessment Act 1979</i>	This Act establishes a system of environmental planning and assessment of development proposals for the State.	The Development Consent conditions and obligations are incorporated into this plan.
<i>Rural Fires Act 1997</i>	This Act describes the specific requirements for development on land that has been declared as bush fire prone.	<p>Key sections of this Act that are relevant to this plan include, but are not limited to:</p> <ul style="list-style-type: none"> Part 4 Division 1 Section 63 - Duties of public authorities and owners and occupiers of land to prevent bush fires Part 4 Division 1 Section 64 - Occupiers to extinguish fires or notify firefighting authorities Part 4 Division 4 - Bush fire Danger Periods: Applicability to the performance of hot works in open areas Part 4 Division 6 - Total Fire Bans; Applicability to performance of hot works in open areas Part 4 Division 7 - Offences for starting fires.
NSW Rural Fire Service, Planning for Bush Fire Protection 2006 (PBP 2006)	Provides aims and objectives for development on bush fire prone land.	<p>Development applications on bush fire prone land must be accompanied by a Bush Fire Assessment Report demonstrating compliance with the aim and objectives of Planning for Bush Fire Protection 2006. In particular:</p> <ul style="list-style-type: none"> The provision of Asset Protection Zones/Defendable Spaces to buildings located in bush fire prone areas Section 4.1.3(1) - Public road access compliance, with the exception of through-access Section 4.1.3 - Water, electricity and gas compliance. <p>This plan provides updates on the Bush Fire Assessment Report that was included in Appendix W of the MPW Stage 2 EIS.</p>

Legislation and Guidelines	Description	Relevance to this plan
NSW Rural Fire Service, DRAFT Planning for Bush Fire Protection 2018	Updates PBP 2006. A guide for councils, planners, fire authorities and developers which provides development standards for design and buildings on bush fire prone land in NSW.	Alongside PBP 2006, PBP 2018 guides the development and implementation of this BRMP.
NSW Rural Fire Service, Standards for Asset Protection Zones	Provides a six-step guide to create and maintain an Asset Protection Zone (APZ) on the Project site.	Guides the establishment and maintenance of APZs under this BRMP.
Australian Standards AS3959-2009 – Construction in Bush fire Prone Areas	Covers the bush fire safety requirements of building in a bush fire prone area, as well as providing the methodology for calculating your bush fire attack level.	Identifies levels of bush fire attack and construction standards to buildings located in bush fire prone areas.
Australian Standards AS2419.1 – 2017 – Fire hydrant installations, Part 1: System design, installation and commissioning	Details the specifications for the provision of reticulated fire water systems and hydrants as required by PBP 2006.	Provides details on the external hydrant and ring main design to satisfy requirement of PBP 2006.
Australian Standards AS1596 – 2014 – The storage and handling of LP Gas	Details the specifications for LP Gas storage and fire safety as required by PBP 2006.	Provides details on suitable locations for LP Gas storage for fire safety purposes to satisfy requirement of PBP 2006.

2.1.1 Compliance Matrices

The Project is being delivered under Part 4, Division 4.7 of the EP&A Act. The CoC include requirements to be addressed in this plan and delivered during the Project. These requirements, and how they are addressed are provided within Table 2-2.

Table 2-2 Conditions of Consent (CoC) SSD 7709

CoC No.	Condition	Where Addressed	How Addressed
Primary Conditions			
B189	Bush fire asset protection zones must not be within the riparian corridor as defined in Condition B2.	Section 3.2.1 Figure 3-3	The APZ as nominated in Section 3.2.1 and depicted in Figure 3-3 is contained wholly within the Project site and does not impact the riparian corridor which is located within the Conservation Area.
B190	The entire site must be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of the Planning for Bush Fire Protection (RFS, 2006) and the NSW Rural Fire Service's document Standards for Asset Protection Zones.	Section 3.2.2 & Section 3.2.2.1 Operational Landscape Vegetation Management Plan (LVMP)	This section specifies performance standards of the IPA and stipulates the requirement for the LVMP to implement measures to meet these standards.
B191	An updated Bushfire Risk Management Plan must be prepared by a suitably	This Plan	This plan has been prepared by a suitably qualified person

CoC No.	Condition	Where Addressed	How Addressed
Primary Conditions			
	qualified person(s) demonstrating that the bush fire asset protection zones can be contained wholly within the development area and that management of the inner protection zone will not impact on the proposed Biodiversity Offset Area. The Bushfire Risk Management Plan must be submitted to the Planning Secretary prior to construction of permanent built surface works.	Section 3.4 Figure 3-3	(refer to author details at the start of this plan, page ii). Location, size and management of asset protection zones are detailed in Section 3.2. This BRMP will be submitted to the Secretary prior to construction of permanent built surface works, unless otherwise agreed by the Secretary.
B192	Public road access must comply with section 4.1.3(1) of Planning for Bush Fire Protection (RFS, 2006) except for the requirement for through-access.	Section 3.2.3 Section 3.3.2 Figure 3-2 Figure 3-3	This condition is primarily an operational requirement. Operational roads are discussed in Section 3.2.3. Road access during construction is also addressed in Section 3.3.2 (BM13-15)., Refer to Figure 3-2 for construction access and Figure 3-3 for indicative operational road design.
B193	The provision of water, electricity and gas must comply with section 4.1.3 of Planning for Bush Fire Protection (RFS, 2006).	Section 3.2.4 Section 3.3.2	Section 3.2.4 summarises the relevant requirements of PBP 2006 and how the final Project has or will meet these requirements. Section 3.3.2 (BM27-30) details temporary measures employed to satisfy this CoC during the construction phase.

The Final Compilation of Mitigation Measures (FCMMs) were presented in the MPW Response to Submissions (Arcadis, July 2017). A list of the FCMMs as relevant to the Project and how they have been complied within this plan are provided in Table 2-3.

Table 2-3 Final Compilation of Mitigation Measures (FCMMs) SSD 7099

FCMM	Requirement	Document Reference
0B	The Construction Environmental Management Plan (CEMP), or equivalent, for the Proposal would be based on the PCEMP (Appendix I of this EIS), and include the following preliminary management plans: ... Bushfire Management Strategy	This plan Construction management measures addressed in Section 3.3
13A	The following actions would be considered for implementation, where reasonable and feasible, for mitigation of bushfire risk during construction: A bushfire management strategy, or equivalent, would be prepared as part of the CEMP for the construction phase. The strategy would include:	This plan Construction management measures addressed in Section 3.3
	<ul style="list-style-type: none"> Emergency response plans and procedures 	A Construction Emergency Response Plan (CERP) has been prepared as a sub-plan of

FCMM	Requirement	Document Reference
		the CEMP. The bush fire emergency response procedure detailed in the CERP has been informed by the Bush Fire Assessment Report and this plan.
	<ul style="list-style-type: none"> All site offices and temporary buildings would have a minimum setback of 10 m to bushfire prone areas 	Section 3.3.2 (BM17) Figure 3-2
	<ul style="list-style-type: none"> All site offices would be accessible via access roads suitable for firefighting appliances similar to NSW Rural Fire Service category 1 tankers. 	Section 3.3.2 (BM13-15)

The Moorebank Intermodal Precinct West – Concept Proposal and Stage 1 Early Works (SSD 5066) was approved on 3 June 2016. The conditions of consent relate primarily to the management of Stage 1 Early Works or the assessment of later works and are therefore not included in this plan.

The Revised Environmental Management Measures (REMM) for SSD 5066 were presented in the Supplementary Response to Submissions Report (Parsons Brinckerhoff, August 2015). The REMMs relevant to this plan are identified in Table 4-2 at Appendix A.

The EPBC Act approval for the MPW Concept was granted by DotEE in September 2016 (No. 2011/6086). This approval was provided for the impact of the MPW Project on listed threatened species and communities (Sections 18 and 18A of the EPBC Act) and Commonwealth action (Section 28 of the EPBC Act). No specific conditions relating to bush fire management are detailed within the EPBC Conditions of Approval.

EPBC REMM are presented in the Moorebank Intermodal Terminal (MIT) Final EIS prepared to satisfy the Commonwealth approval process (EPBC Final EIS) dated Dec 2015. The EPBC REMMs are generally the same as the REMMs presented in the Supplementary Response to Submissions Report for the MPW Concept Proposal and Stage 1 Early Works (refer to Appendix A).

2.2 Roles and Responsibilities

Key roles and responsibilities associated with the construction management aspects of this plan are presented in Table 2-4.

Table 2-4 Roles and Responsibilities

Roles	Responsibilities
Contractor's Construction Manager (Contractor's CM)	<ul style="list-style-type: none"> Oversee the overall implementation of this BRMP Report on the performance of this BRMP
Contractor's Environmental Manager (Contractor's EM)	<ul style="list-style-type: none"> Undertake site inspections in accordance with Section 4.1 of this BRMP Monitor and report on the implementation of the environmental components of this BRMP, including compliance with relevant CoC Monitor sub-contractor compliance with the management measures of his BRMP Ensure emergency services/personnel have safe operational access and egress to bush fire prone land Direct works to be performed in a more environmentally responsible manner that reduces impacts and stop works if there is a risk of environmental harm or increased bush fire hazard.
Site Supervisor	<ul style="list-style-type: none"> Implement this BRMP Facilitate awareness of appropriate bush fire mitigation measures and deliver toolbox talks to site personnel

Roles	Responsibilities
	<ul style="list-style-type: none"> • Direct works to be performed in accordance with bush fire management measures • Maintain emergency service access to bush fire prone land • Confirm all components of the implemented BRMP meet requirements • Direct all inner protection area maintenance program works associated with bush fire protection.
All Personnel	<ul style="list-style-type: none"> • Comply with the requirements of this CAQMP

2.3 Training

Training will be undertaken in accordance with Section 2.7 of the CEMP. The contractor will provide all employees with suitable environmental induction / training (relevant to this BRMP) to ensure that they are aware of their responsibilities and are competent to carry out the work.

As a minimum the induction will include the following:

- the Project Environmental Policy and Environment Management System (EMS) requirements
- The requirements of this BRMP, including environment incident reporting and mitigation methods for reduction of bushfire ignition risk (as detailed in Section 3.3)
- environmental emergency contact details
- relevant emergency response procedures as detailed in the Project CERP.

Toolbox meetings will also be undertaken, as and when required. On days of Total Fire Ban (TOBAN), Toolbox meetings will be completed prior to work commencing outlining the Fire Danger for the day and reinforce the relevant emergency response procedures as detailed in the Project CERP.

3 IMPLEMENTATION

3.1 Existing Environment

3.1.1 Construction Aspects, Impacts and Risks

The Bush Fire Assessment Report (accompanying the MPW State 2 EIS) identified construction of the Project as a low threat for bush fire ignition, with the Project more likely to be at risk from bush fires originating in surrounding vegetation.

Figure 3-1 presents the Certified Liverpool Bushfire Prone Land Map. The dominant bush fire prone land is situated to the west and south of the Project and includes land designated as Category 1 Bushfire Prone Land and associated vegetation buffer. A bush fire prone area is an area of land that can support a bush fire or is likely to be subject to bush fire attack, as designated on a bush fire prone land map.

Vegetation Category 1 land¹ is considered to be the highest risk for bush fire. It is represented as red on the bush fire prone land map and has a 100m buffer. This vegetation category has the highest combustibility and likelihood of forming fully developed fires including heavy ember production. Vegetation Category 1 consists of areas of forest, woodlands, heaths (tall and short), forested wetlands and timber plantations.

The bush fire prone land mapped within the construction boundary will be cleared during construction and as a result the bush fire hazard within the site boundary will be significantly reduced from that represented in Figure 3-1 (see Figure 3-2). Construction compound sites will not be established within the western boundary APZ or within 10m from any bush fire prone vegetation. The vegetation within the Conservation Area will be permanently retained and regenerated and will present an ongoing bush fire prone land hazard to the Project site throughout construction.

Both external sources and construction activities have the potential to ignite a bush fire. A bush fire may result in significant social, economic and ecological impacts on the Project and surrounding environment.

External sources of ignition include:

- Deliberate burning of bushland (including arson), including the re-ignition of an incompletely extinguished hazard reduction burn of bushland
- Car dumping
- Discarded cigarette butts
- Illegal burning
- Lightning strike.

Construction activities (including the activities of site personnel) which may have the potential to cause ignition of bush fires include:

- Hot works
- Idling of vehicles and vehicle exhaust (excluding diesel engine vehicles) on vegetated areas
- Sparks or flame sources such as grinders and welders
- Stockpiles of vegetation such as mulch
- Site personnel discarding cigarette butts inappropriately.

The impacts of the above may include:

- Damage to site facilities, property and equipment
- Damage to neighbouring property
- Increased risk of safety to site personnel, local residents, local businesses and the environment
- Damage / destruction of threatened species.
- Reputational damage, litigation and legal exposure for loss.

¹ 2015 (NSW RFS) Guide for Bush Fire Prone Land Mapping

For fire originating on the site, which spreads beyond the site boundaries, legal exposure may exist for any damage or loss incurred on external assets.

Section 63 (2) of the Rural Fires Act imposes a duty on land managers to prevent the occurrence and spread of bushfire on or from their land such that:

It is the duty of the owner or occupier of land to take the notified steps (if any) and any other practicable steps to prevent the occurrence of bush fires on, and to minimise the danger of the spread of bush fires on or from, that land.

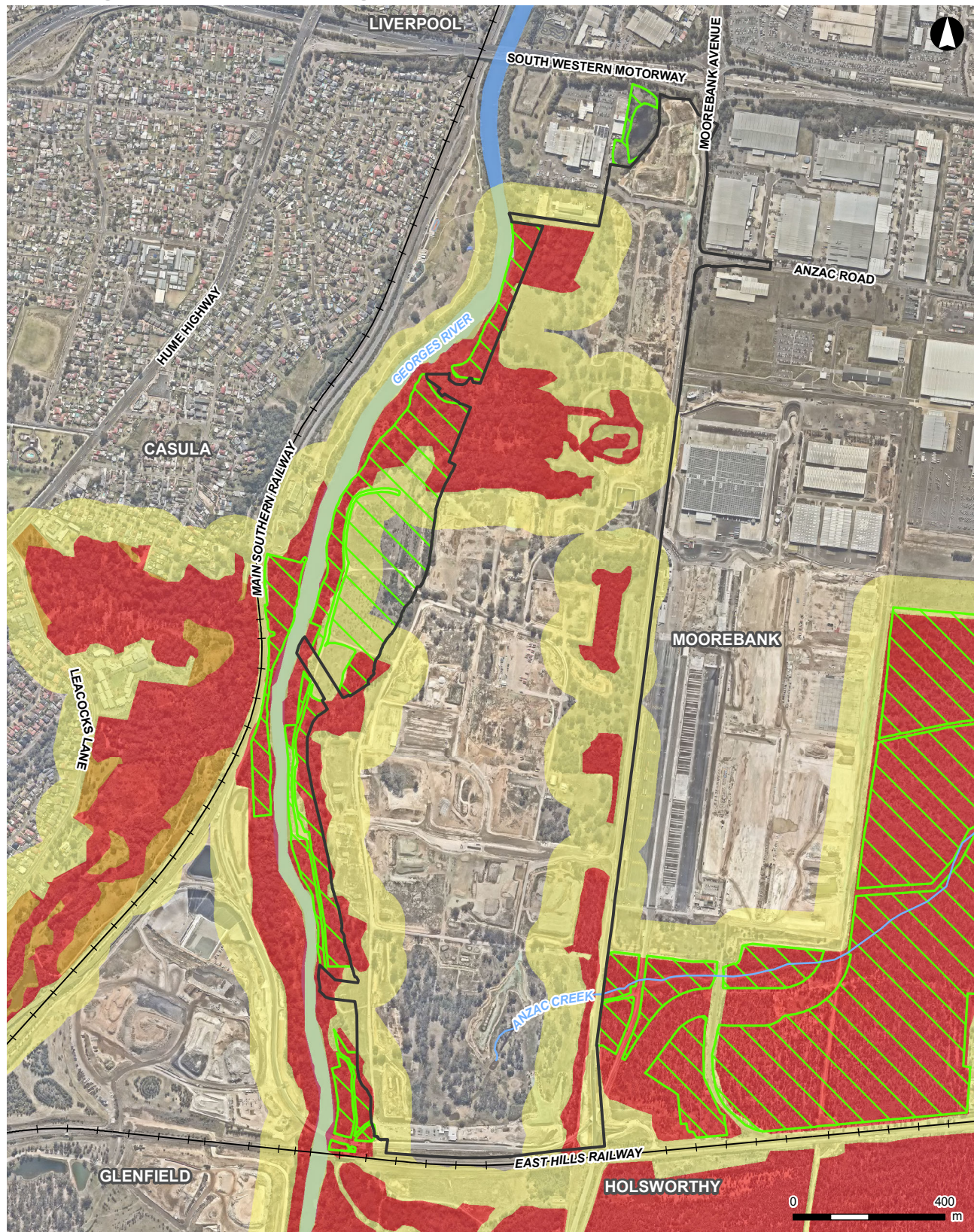
3.1.2 Operational Bush Fire Hazard

As discussed in the Bush Fire Assessment Report, the potential bush fire threat during the operational stage of the Project will come from the rehabilitated forest vegetation within the Conservation Area west of the Project, adjacent to Georges River (see Figure 3-3). The bush fire threat to the Project site from the vegetation in the Conservation Zone is deemed to be high due to the potential for this vegetation to be involved in a fire event which occurs under a northwest, west or southwest wind influence. The threat will be expressed in high levels of ember attack, radiant heat and possible flame contact – the latter depending on the separation width to buildings and other assets.

A potential threat also exists from the forest vegetation on the Commonwealth Land to the east of Moorebank Avenue and to the south of the East Hills Railway Line. The separation provided by Moorebank Avenue to the east and the East Hills Railway Line to the south reduces the threat from these directions to moderate. The threat from the east and south will be expressed in moderate levels of ember attack and radiant heat. The Bush Fire Assessment Report determined that flame contact from the south is unlikely to occur. This remains to be the case for the Project.

The design of the Project has been prepared in consideration of the recommendations of Planning for Bush fire Protection (2006) as is required by the CoC (see Section 3.2).

MPW Stage 2 Bushfire Risk Management Plan



LEGEND

- | | |
|----------------------------------|-----------------------------|
| MPW Stage 2 construction area | Bushfire Prone Areas |
| Existing railway | Vegetation Category 1 |
| Watercourse | Vegetation Category 2 |
| Conservation Area (Biobank site) | Vegetation Buffer |

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Coordinate System: GDA 1994 MGA Zone 56
 Aerial imagery supplied by nearmap (Sept, 2018)

1:15,000 at A4
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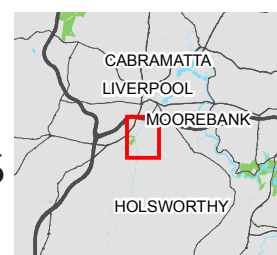
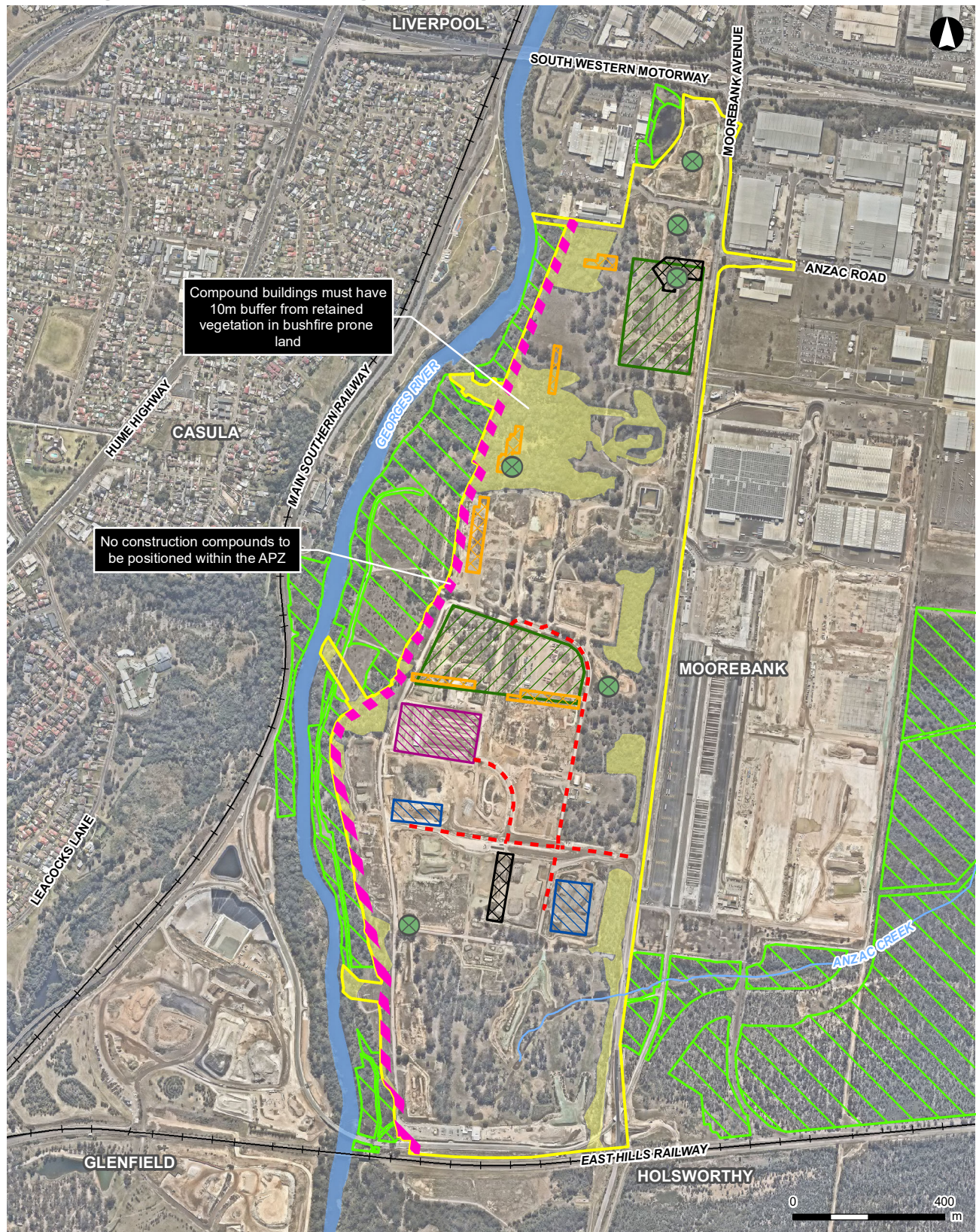


Figure 3-1: Certified Liverpool Bushfire Prone Land Map

MPW Stage 2 Bushfire Risk Management Plan



LEGEND

- | | |
|--|--|
| MPW Stage 2 construction area | APZ (26m wide) |
| Main compound | Bushfire Prone Land (vegetation to be cleared) |
| Stockpile site | Conservation Area (Biobank site) |
| Indicative warehouse compound location | Access road |
| Ancillary compound | |
| Potential Batch Plant/Crushing site | |
| Satellite compound | |

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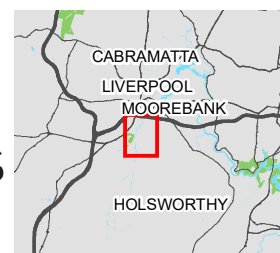
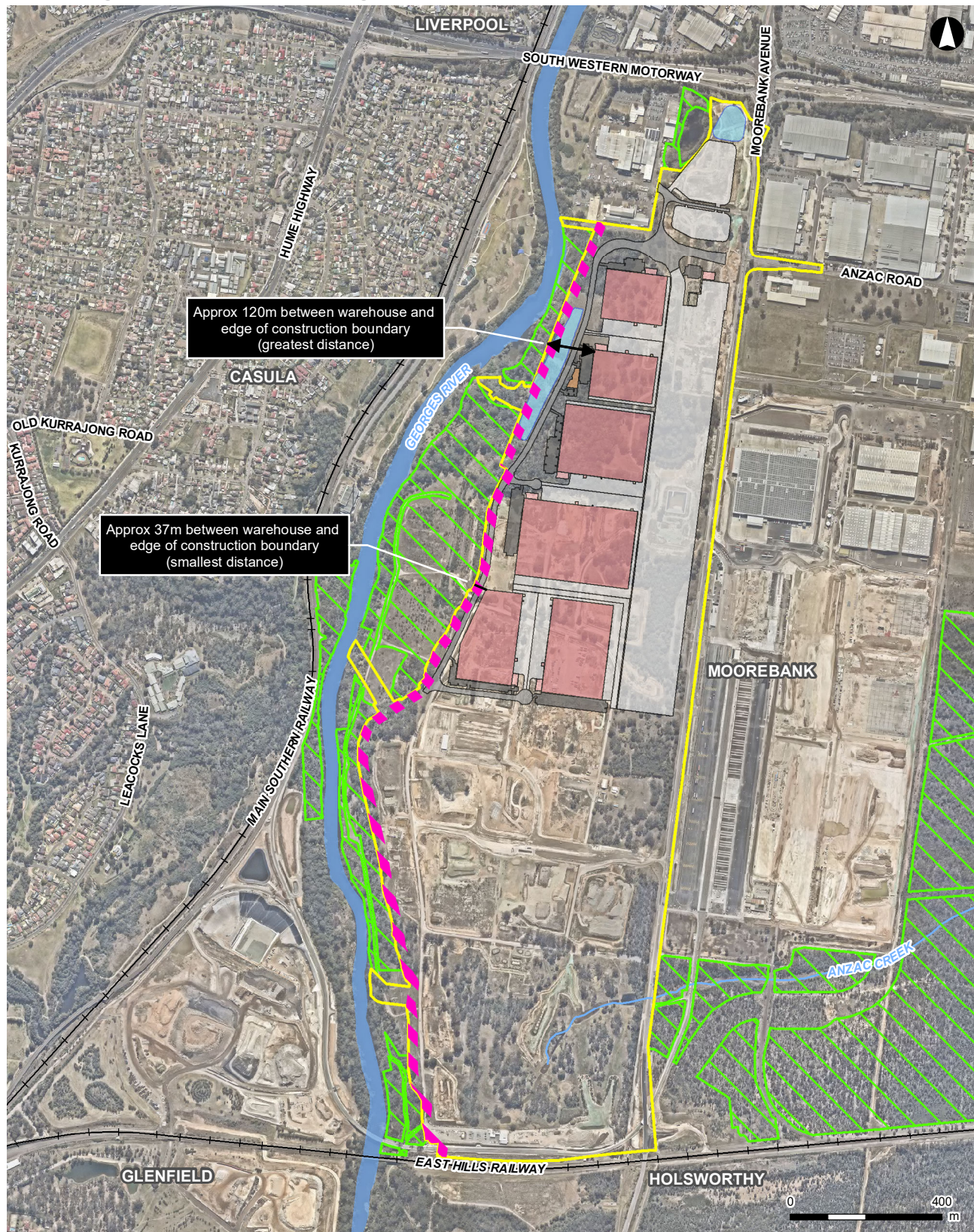


Figure 3-2: APZ and Bushfire Prone Land (construction)

MPW Stage 2 Bushfire Risk Management Plan



LEGEND

- | | |
|----------------------------------|---------------|
| MPW Stage 2 construction area | Carpark |
| APZ (26m wide) | Hardstand |
| Conservation Area (Biobank site) | Office |
| Masterplan overlay | Pavement |
| Freight Village | Internal road |
| OSD | Warehouse |

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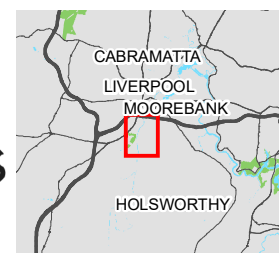


Figure 3-3: APZ within the Project site (operations)

3.2 Planning for Bush fire Protection

The primary objective of this BRMP is to demonstrate that the Project remains compliant with *Planning for Bush fire Protection* (2006) as was determined in the Bush Fire Assessment Report prepared for the EIS and reduces risk to a tolerable level. The following sub-sections detail the design measures employed to meet the performance criteria of PBP 2006 (see Figure 3-3 and Appendix B for the Masterplan layout for the Project).

3.2.1 Provision of APZs

The APZ requirements have not changed since the Bush Fire Assessment Report was prepared for the EIS. The land adjacent to the north, east and south areas of the Project site will all comprise managed curtilage, while the west contains Forest wetlands and Riverine forest within the Conservation Area. As such, an APZ is only required for the west side of the Project site.

The APZ for the west side of the site was determined in accordance with *Planning for Bush fire Protection* (2006) with a Fire Danger Index (FDI) of 100 and a vegetation type of Forest wetlands and Riverine forest Keith category being used for calculation. A minimum APZ of 26 m is required between the fixed assets (i.e. warehousing) and the bush fire prone vegetation within the Conservation Area (Table 3-1). As shown in Figure 3-3, the APZ will be situated wholly within the Project site and does not impact the riparian corridor (as specified in CoC B2 – refer to Acronyms and Definitions) within the Conservation Area.

Table 3-1 APZ / Minimum defendable space requirements (PBP 2006)

Aspect	Vegetation Type	Minimum Defendable Space/APZ	Defendable space provided in the final design
North	Managed curtilage	N/A	N/A
East	Managed curtilage	N/A	N/A
South	Managed curtilage	N/A	N/A
West	Forest wetlands and Riverine forest	26 m	Minimum 37 m Maximum 120 m

As detailed in Table 3-1 and shown in Figure 3-3, a maximum distance of 120 m and a minimum distance of 37 m comprises the defendable space between the warehouse and edge of the Project boundary. The separation between the warehouses and the bush fire prone vegetation exceeds the required defendable space of 26 m, as such, the risk of flame contact, high levels of radiant heat and ember attack on the warehouses and buildings within the Project site is significantly reduced.

3.2.2 Operational Management of the APZ

The entire Project site, in addition to the defendable space and APZ, will be managed as an Inner Protection Area in accordance with the Rural Fire Service publication *Standards for Asset Protection Zones*. To achieve this objective, the Project owner will manage the Project site in strict compliance with the prescriptions outlined in Section 3.2.2.1 of this BRMP, the operational Landscape Vegetation Management Plan (a sub-plan of the MLP Precinct OEMP) and in accordance with any notice issued by Liverpool Council or the Commissioner of the NSW Rural Fire Service, under the terms of Section 66 of the *Rural Fires Act 1997*.

3.2.2.1 IPA Performance Standards

Vegetation in Inner Protection Areas (i.e. the entire Project site) should be managed to prevent flame contact and reduce radiant heat to buildings, minimise the potential for wind driven embers to cause ignition and reduce the effect of smoke on residents and fire-fighters. The RFS has established a series of performance standards and acceptable solutions to achieve this objective as detailed below.

The performance standards for the IPA as informed by Appendix 5 of PBP 2006 and RFS NSW *Standards for Asset Protection Zones* include the following:

NOTE: The operational Landscape Vegetation Management Plan (sub-plan of the OEMP) will be responsible for the implementation of management measures to meet the above-listed performance standards. A Landscaping sub-contractor will be appointed to carry out the management measures of the LVMP and will hence be responsible for maintaining the IPA to the necessary performance standards detailed above. Where appropriate, some of these measures may be implemented during construction as detailed in Section 3.3.1.

Trees

- canopy cover should be less than 15% (at maturity)
- trees (at maturity) should not touch or overhang the building
- lower limbs should be removed up to a height of 2m above ground
- canopies should be separated by 2 to 5m
- preference should be given to smooth barked and evergreen trees.
- Trees and shrubs with the Project site will be maintained in such a manner that the vegetation is not continuous

Shrubs

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings
- shrubs should not be located under trees
- shrubs should not form more than 10% ground cover
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Grass

- should be kept mown (as a guide grass should be kept to no more than 100mm in height)
- leaves and vegetation debris should be removed.

General

- Maintain a clear area of low-cut lawn or pavement adjacent to the buildings
- Fuel loadings should be maintained to a maximum dry litter weight of less than 3 tonnes/hectares during the prescribed 'Bush fire Danger Period' (1 October – 31 March or as declared)
- Keep areas under fences, gates and trees, raked and clear of combustible fuels
- Keep stormwater drainage pits free of leaf litter and combustibles
- Maintain a policy of installing non-combustible fencing and retaining wall structures
- Landscape species selection will be drawn from those that are considered to be species which are "*fire retardant*" and do not promulgate the spread of fire and shrubs shall be placed so that they are clear of the facility by at least 5 m, and introduced trees and shrubs on site are not species that retain dead material. However, the removal of significant native species should be avoided
- Avoid the use of flammable mulch in garden beds that adjoin the buildings
- Any additional relevant hazard reduction measures as detailed in Step 4 of the *Standards for Asset Protection* (RFS NSW)
- Ongoing maintenance and landscaping measures as detailed in Step 6 of the *Standards for Asset Protection* (RFS NSW).

Weed Management

Where exotic species have naturalised or planted specimens have escaped garden beds into the bushland, they should be treated in accordance with the methods detailed in Appendix C.

3.2.3 Access Roads

The access requirements of PBP 2006 stipulate that public road access in bush fire prone areas should provide safe operational access to structures and water supply for emergency services, while occupants are seeking to evacuate from an area.

Table 3-2 details the measures recommended in PBP 2006 and adopted by the Project to meet the objective of providing suitable access for a Category 1 tanker (medium rigid vehicle).

The updated precinct masterplan shows the layout of the access roads in relation to the bush fire prone vegetation within the conservation area (Appendix B).

Table 3-2 Emergency road access solutions adopted by the Project

Acceptable Solutions (PBP 2006)	Solutions adopted by the Project
Provision of all-weather two-wheel drive perimeter road to gain access to the hazard source and serve as part of the APZ	All roads within the Project site will be sealed and suitable for all-weather access for two-wheel-drive vehicles. A perimeter road runs adjacent to the western boundary of the Project site APZ.
Roads should provide sufficient width to allow firefighting vehicle crews to work with firefighting equipment about the vehicle	All roads within the Project site are designed to accommodate vehicles larger than employed by firefighting crews (Category 1 tanker) and will therefore be sufficient to provide the necessary width, turning circle radii and height clearance for emergency services access.
Roads should be minimum two-way and at least 8m kerb-to-kerb	
Turning circles should have a minimum outer radius of 12m and minimum inner radius of 6m	
Minimum height clearance of 4m above the road at all times	The kerb to kerb width of the western perimeter road will be approximately 17 metres wide. Turning circles sufficient for B-doubles are provided at intervals along the perimeter road to allow safe egress.
Roads should be clearly signposted	A signage strategy will be developed prior to operation of the Project that ensures easy navigation throughout the site
Provide clear access to reticulated water supply outside of parking bays to ensure access for fire suppression purposes.	The perimeter road will not include parking and hydrants situated in proximity to the warehouses will be situated outside of parking bays.

3.2.4 Provision of Water, Electricity and Gas

Planning for Bush fire Protection (2006) details a range of performance standards relating to the provision of water for fire suppression and utilities including gas and electricity. Table 3-3 details the performance criteria and the measures adopted by the Project to meet those standards.

Table 3-3 Water, electricity and gas provision in accordance with PBP 2006

Performance Criteria (PBP 2006)	Acceptable Solutions (PBP 2006)	Solutions adopted by the Project
Water Supply		
<ul style="list-style-type: none"> Reticulated water supplies are easily accessible and located at regular intervals 	Reticulated water supply uses a ring main system for areas with perimeter roads	A reticulated ring main system will be installed along the western perimeter road for the Project
	Fire hydrant spacing, sizing and pressures comply with AS 2419.1 – 2005	The provision of fire engineered infrastructure will comply with AS 2419.1 – 2005

Performance Criteria (PBP 2006)	Acceptable Solutions (PBP 2006)	Solutions adopted by the Project
	Hydrants are not located within any road carriageway	Hydrants will not be located within the road carriageway
	All above ground water and gas service pipes external to the building are metal, including and up to any taps	Above-ground water and gas services where required within the APZ setback will be metal
	The provisions of parking on public roads are met	No parking will be established along the western perimeter road, this will allow unimpeded access to hydrants nearest to the bush fire prone vegetation
Electricity Services		
<ul style="list-style-type: none"> Location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings Regular inspection of lines is undertaken to ensure they are not fouled by branches 	Where practicable, electrical transmission lines are underground	All electrical transmission lines within the Project site will be installed underground
Gas services		
<ul style="list-style-type: none"> Location of gas services will not lead to ignition of surrounding bushland or the fabric of buildings 	Reticulated or bottled gas is installed and maintained in accordance with AS 1596 and the requirements of relevant authorities. Metal piping is to be used	The provision of gas infrastructure within the Project site will comply with AS 1596

3.3 Construction Management Measures

3.3.1 Maintenance Program

The following maintenance program will be implemented for bush fire protection at the Project site. Table 3-4 provides a guide to the timing of the works for the maintenance program. All maintenance program works outlined in Table 3-4 will be directed by the Site Supervisor.

APZs should be inspected and certified by a suitably qualified person prior to October in each year to ensure that maintenance works have been completed in accordance with section 3.2.2 of this Plan.

Table 3-4 Maintenance Program

Management Area		Management Prescription	Method	Timing
Landscaped areas*	Landscaped Gardens	Minimise the accumulation of combustible fuels and accumulated ground litter to < 3 tonnes/hectare	Manual removal of combustible fuels Pruning of shrubs	Intervals not to exceed monthly in spring and summer
	Lawns and verges to roads	Minimize fine fuels to < 3 tonnes/hectare	Mowing and slashing	Intervals not to exceed monthly in spring and summer
	Trees	Provide 2 m canopy separation between trees Maintain limbs 2 m clear of ground and shrubs	Pruning	Annual inspection with works undertaken in spring

Management Area		Management Prescription	Method	Timing
Buildings**	External surfaces / gutters	Check fire protection measures to buildings	Visual check and repair if necessary	Annual inspection
		Confirm placement and integrity of ember screening	Manual removal of debris	Removal of combustible materials in gutters not to exceed monthly in the spring and summer months
		Clean roof box gutters		

* To commence following the installation of permanent landscaping occurring within active construction areas. Landscaping in operational areas will be carried out in accordance with the LVMP as a sub-plan of the Precinct OEMP.

** Applies to temporary compound buildings. Management of operational buildings will be addressed in Warehouse/facility OEMPs.

3.3.2 Management Measures

This section describes the bush fire management measures to be implemented during construction of the Project.

This section describes the overall approach to managing and mitigating bush fire risks during construction of the Project. The management measures in Table 3-5 are based on the CoC, FCMMs and REMMs, as well as the requirements and standards of *Planning for Bush Fire Protection* (NSW Rural Fire Service 2006), SIMTA, the Construction Contractor and best practice.

Table 3-5 Management Measures

ID	Management Measure	Timing	Responsibility	Reference
Training				
BM1	Bush fire awareness and requirements of bush fire safety will be included in staff inductions and in toolbox talks pre-commencement.	Prior to construction	Contractor's EM	Best practice CERP
BM2	All staff will be required to undergo staff / site inductions and toolbox talks. On Total Fire Ban days, staff will be informed during toolbox talks of the Fire Danger for the day and reminded of the relevant emergency response procedures as detailed in the Project CERP.	During construction	Contractor's EM Site Supervisor	Planning for Bush fire Protection 2006 (PBP 2006)
Plant and Equipment				
BM3	Firefighting equipment will be made available at designated locations in site offices and within site vehicles. Firefighting equipment will be maintained in accordance with AS 1851:2012.	During construction	Contractor's EM Contractor's PM	PBP 2006
BM4	Fire hydrants will not be located within any road carriageway.	During construction	Contractor's PM	PBP 2006
BM5	Where reticulated water supply is available, fire hydrant spacing, sizing and pressures will comply with AS 2419.1-2005.	During construction	Contractor's PM	PBP 2006
BM6	Plant and equipment will be fitted with appropriate guards to minimise potential for sparks causing accidental ignition.	During construction	Contractor's CM	PBP 2006
BM7	Water trucks will be available on site at all times.	During construction	Contractor's CM	PBP 2006
BM8	Hazardous materials transport, containment and storage will comply with the relevant regulations of the <i>Dangerous Goods Safety Act 2004</i> . All hazardous materials will be stored in accordance with the relevant Australian Standards in designated areas.	During construction	Contractor's CM	PBP 2006 CERP

ID	Management Measure	Timing	Responsibility	Reference
BM9	Vehicles, plant and materials will not be stored so as to obstruct access paths for emergency services to temporary buildings, built assets and bush fire prone vegetation.	During construction	Site Supervisor	Standard practice
Construction Activities				
BM10	No vehicles will be permitted to idle while on vegetation to minimise risk of ignition.	During construction	Site Supervisor	PBP 2006
BM11	No hot works will be permitted during total fire bans. Exemptions can be obtained from RFS NSW for emergency purposes.	During total fire ban	Site Supervisor	FCMM 13A PBP 2006
BM12	All flammable material will be removed from the vicinity of hot works.	During hot works activities	Site Supervisor	PBP 2006
Access and Compounds				
BM13	All site offices will be accessible via access roads suitable for firefighting appliances similar to NSW RFS Category 1 Tankers. See Section 3.2.3.	During construction	Contractor's CM	FCMM 13A PBP 2006
BM14	Access roads will be well maintained and inspected to ensure that firefighting access is adequate. See Section 3.2.3.	During construction	Site Supervisor	PBP 2006
BM15	Public access roads will be two-wheel drive and all weather.	During construction	Contractor's CM	PBP 2006
BM16	The emergency assembly point and evacuation routes will be clearly signposted and communicated.	During construction	Contractor's CM	PBP 2006 CERP
BM17	All site offices and temporary buildings will be located at least 10 m outside bush fire prone vegetation (see Figure 3-2).	During construction	Contractor's CM	FCMM 13A PBP 2006
BM18	Emergency services / site personnel will have safe access and egress to bush fire prone land at all times.	During construction	Contractor's CM	FCMM 7A PBP 2006
BM19	Emergency services access to bush fire prone land will be adequately maintained at all times.	During construction	Site Supervisor	FCMM 7A PBP 2006

ID	Management Measure	Timing	Responsibility	Reference
Asset Protection Zones				
BM20	The asset protection zones (APZs) will be contained within the site boundary and will not extend into the riparian corridor and/or Conservation Area.	During construction	Contractor's EM	CoC B189 CoC B190
BM21	The APZs will be managed and maintained to prevent the spread of fire towards the building in accordance with the requirements of the <i>Standards for Asset Protection Zones</i> (RFS 2005). See Section 3.2.2.1.	During construction	Contractor's EM	CoC B190
BM22	Soil stability of the APZs will not be compromised.	During construction	Contractor's EM	PBP 2006
BM23	The APZs will be located on lands with a slope less than 18 degrees.	During construction	Contractor's EM	PBP 2006
Vegetation Management				
BM24	Vegetation buffer zone (as shown on Figure 3-2) will be clearly designated and shall not be used at any time for storage of materials during construction.	During construction	Contractor's EM	PBP 2006
BM25	Stockpiles of mulch will be maintained and turned regularly to minimise potential for spontaneous combustion.	During construction	Site Supervisor Contractor's EM	PBP 2006
Consultation				
BM26	Actively engage in, and maintain, on-going consultation with RailCorp and the Rural Fire Service to facilitate hazard reduction activities in proximity to the Project.	During construction	Contractor's PM	PBP 2006
Services				
BM27	Electricity lines will be regularly inspected to ensure they are not fouled by branches.	During construction	Site Supervisor	CoC B193 PBP 2006
BM28	Electricity transmission lines will be located underground in the first instance where practicable to limit the possibility of ignition of surrounding bushland or the fabric of buildings.	During construction	Contractor's CM	CoC B193 PBP 2006

ID	Management Measure	Timing	Responsibility	Reference
BM29	Trees and other vegetation in the vicinity of overhead electrical transmission lines will be managed and trimmed in accordance with the distance specifications in <i>Vegetation Safety Clearances</i> issued by Energy Australia (NS179 April 2002).	During construction	Contractor's CM Contractor's EM	CoC B193 PBP 2006
BM30	Overhead electrical transmission lines will be installed with short pole spacing (30 m).	During construction	Contractor's CM	CoC B193 PBP 2006

4 MONITORING AND REVIEW

4.1 Monitoring

Monitoring including site inspections will be undertaken in accordance with Section 4.1 and Section 4.2 of the CEMP. The Contractor's EM will conduct weekly inspections of the Project activities to monitor conformance and compliance with the requirements of the CoC and this plan. Weekly inspections will focus on the following key issues:

- Presence and maintenance of firefighting equipment
- Maintenance of plant and vehicles to minimise sparks and accidental ignition
- Maintenance of emergency assembly point and evacuation route signage as per CERP
- Maintenance of temporary building APZs clear of plant, materials and bush fire prone vegetation
- Compliance of all employees and contractors with the management measures detailed in Section 3.3.2.

Weekly inspections are also to occur prior to Rostered Day Off (RDO) weekends and other times where the Project site will be closed or inactive for an extended period.

4.2 Environmental Auditing and Reporting

Auditing and reporting of the Project will be undertaken in accordance with Section 4.3 of the CEMP.

4.3 Review and Improvement

Review and improvement of this plan will be undertaken in accordance with the CoC and Section 4 of the CEMP. Continuous improvement will be achieved by the ongoing evaluation of environmental management performance and effectiveness of this plan against environmental policies, objectives and targets.

Revisions of this plan will be undertaken in accordance with Section 1.1.5 of the CEMP.

4.4 Incidents

In the event of a safety / environmental incident or unpredicted impacts related to bush fire risk, it is the responsibility of all personnel to report to the Site Supervisor. In the event of an incident causing unpredicted impacts, this plan and its procedures should be reviewed and updated in accordance with Section 4.3 to implement revised measures which will mitigate ongoing and future impacts as soon as possible.

All environmental incidents will be managed and reported in accordance with Section 2.8 of the CEMP.

4.5 Non-Compliance and Non-Conformance

It is the responsibility of all site personnel to report non-compliances and non-conformances to the Site Supervisor and/or the Contractor's EM. Non-compliances and non-conformances will be managed in accordance with Section 4.4 of the CEMP.

4.6 Complaints

Complaints handling will be undertaken in accordance with Section 2.6.3 of the CEMP and Section 3.3.6 of the Community Communication Strategy (CCS).

APPENDIX A COMPLIANCE AND OBLIGATIONS REGISTER

The primary CoC for SSD 7099 are detailed in Table 2-2 in Section 2.1.1. Table 4-1 details secondary CoC that are also relevant to this plan.

Table 4-1 Secondary CoC (SSD 7099)

CoC No.	Condition	Where Addressed	How Addressed
Secondary Conditions			
A1	In addition to meeting the specific performance measures and criteria established under this consent all reasonable measures must be implemented to prevent, and if prevention is not reasonable, minimise, any harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Section 3.2 Section 3.3	Section 3.3 of this BRMP identifies the management measures to be implemented to prevent and minimise environmental harm during construction. Section 3.3 details how the design ensures bushfire mitigation activities are retained within the Project site and thus avoid impacts to adjacent land. Section 4 sets out the process for monitoring and review of the effectiveness of these measures. Opportunities to further minimise environmental harm will be identified through the ongoing evaluation of environmental management performance and effectiveness of this plan.
A2	The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Section 2.2 Section 2.3	Section 2.2 details the roles and responsibilities of persons involved in construction activities and Section 2.3 addresses the training requirements for employees and contractors operating within the Project site.
A3	The development may only be carried out: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Planning Secretary; (c) in accordance with the EIS, Response to Submissions (RtS) and Consolidated assessment clarification responses; and (d) in accordance with the management and mitigation measures in Appendix 2.	Section 2.1 Section 3.3.2 Appendix A	These sections address the legal obligations and associated management measures of the Project as are relevant to this Plan.
A27	References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of	Section 2.1	Guidelines, protocols and Australian Standards relevant to traffic and access are listed in Section 2.1.

CoC No.	Condition	Where Addressed	How Addressed
Secondary Conditions			
	ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.		
A28	Where conditions of this consent require consultation with an identified party, the Applicant must:		
	a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and		
	b) provide details of the consultation undertaken in the document submitted to the Planning Secretary including: i) the outcome of that consultation, matters resolved and unresolved (and the justification for matters remaining unresolved); and ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	Section 1.4	Section 1.4 details consultation undertaken in preparation of this plan.
A43	If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.	Section 1.2	This section addresses this condition.
B2(k)	the bushfire asset protection requirements are within the development area	Section 3.2.1	This section addresses the provision of the APZ and its requirement to remain within the Project site boundary.
C1	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:		
C1 (a)	detailed baseline data;	Section 3.1	This section details relevant information related to bushfire threat surrounding the Project site as was assessed for the Bush Fire Assessment Report.
C1 (b)	details of: i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Section 2.1	Section 2.1 provides a list of the relevant statutory requirements required for the Project.
	ii) any relevant limits or performance measures and criteria; and	Section 1.3	Section 1.3 identifies performance measures /criteria (objectives) and performance indicators (targets).
	iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the	Section 3.2.2.1 Section 3.3.2	These sections detail the management measures and performance standards

CoC No.	Condition	Where Addressed	How Addressed
Secondary Conditions			
	implementation of, the development or any management measures;		required to be implemented under this BRMP.
C1 (c)	a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 3.3.2	Section 3.3.2 identifies the construction mitigation and maintenance management measures for the Project.
C1 (d)	a program to monitor and report on the: i) impacts and environmental performance of the development;	Section 4	This section outlines the program for monitoring and review.
	ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 4.3	This section outlines the procedure for review and improvement of measures set out in this plan.
C1 (e)	a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 4.3 Section 4.4	These sections address the approach to managing unexpected impacts.
C1 (f)	a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 4.2	This section outlines the program for monitoring and review.
C1 (g)	a protocol for managing and reporting any: i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);	Section 4.4	This section outlines processes to be implemented when non-compliances or non-conformances are identified.
	ii) complaint;	Section 4.6	This section outlines complaints handling procedure.
	iii) failure to comply with statutory requirements;	Section 4.5	This section outlines processes to be implemented when non-compliances or non-conformances are identified.
C1 (h)	roles and responsibilities for implementing the plan; and	Section 2.2	This section details roles and responsibilities for implementing this plan.
C1 (i)	a protocol for periodic review of the plan.	Section 4.3	This section outlines the requirements for review of this plan.
	Note: <i>The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans</i>		Noted.

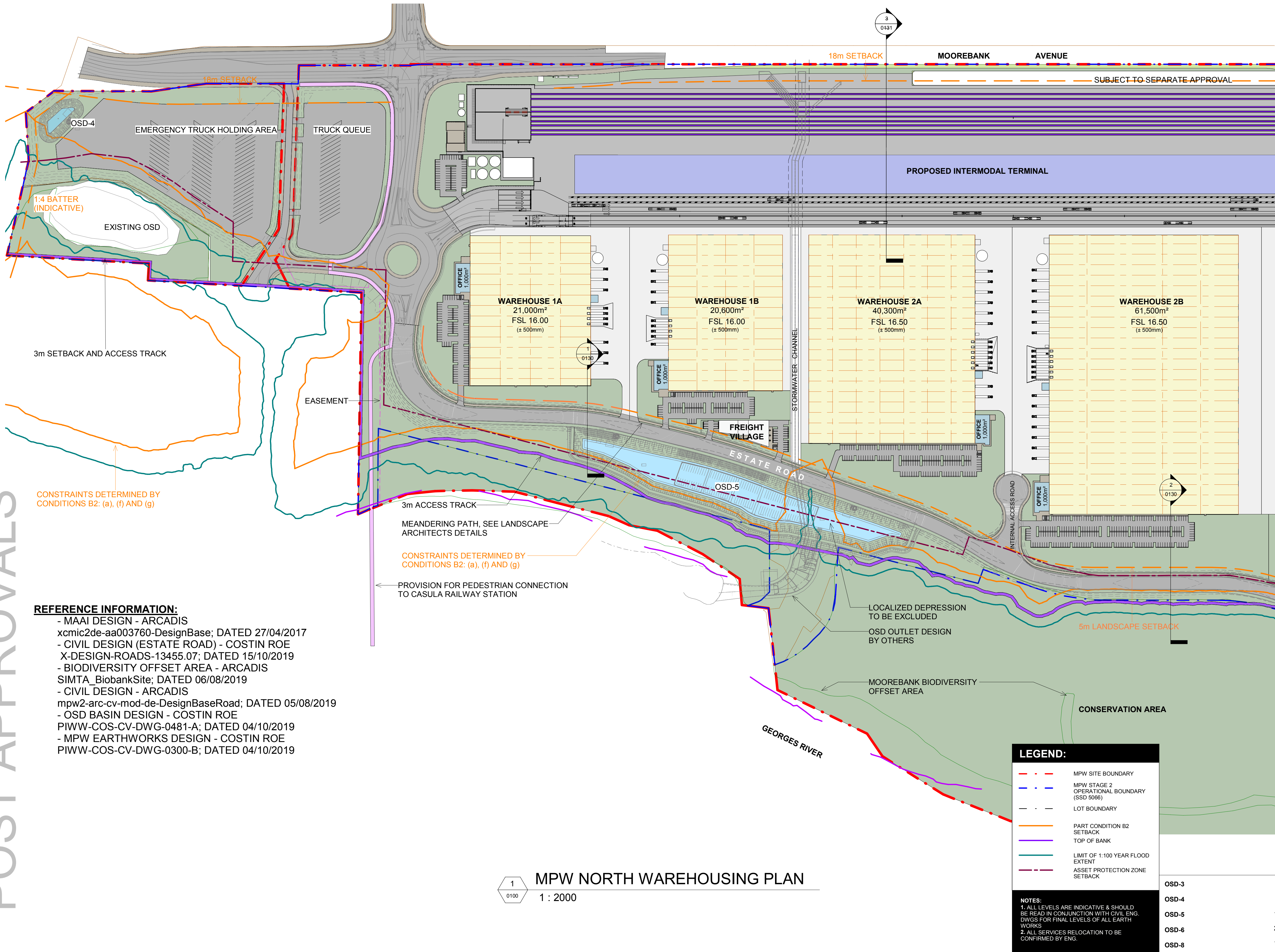
The REMMs for MPW Stage 1 (SSD 5066) were presented in the Supplementary Response to Submissions Report (Parsons Brinckerhoff, August 2015). The REMMs relevant to this BMP are identified in Table 4-2.

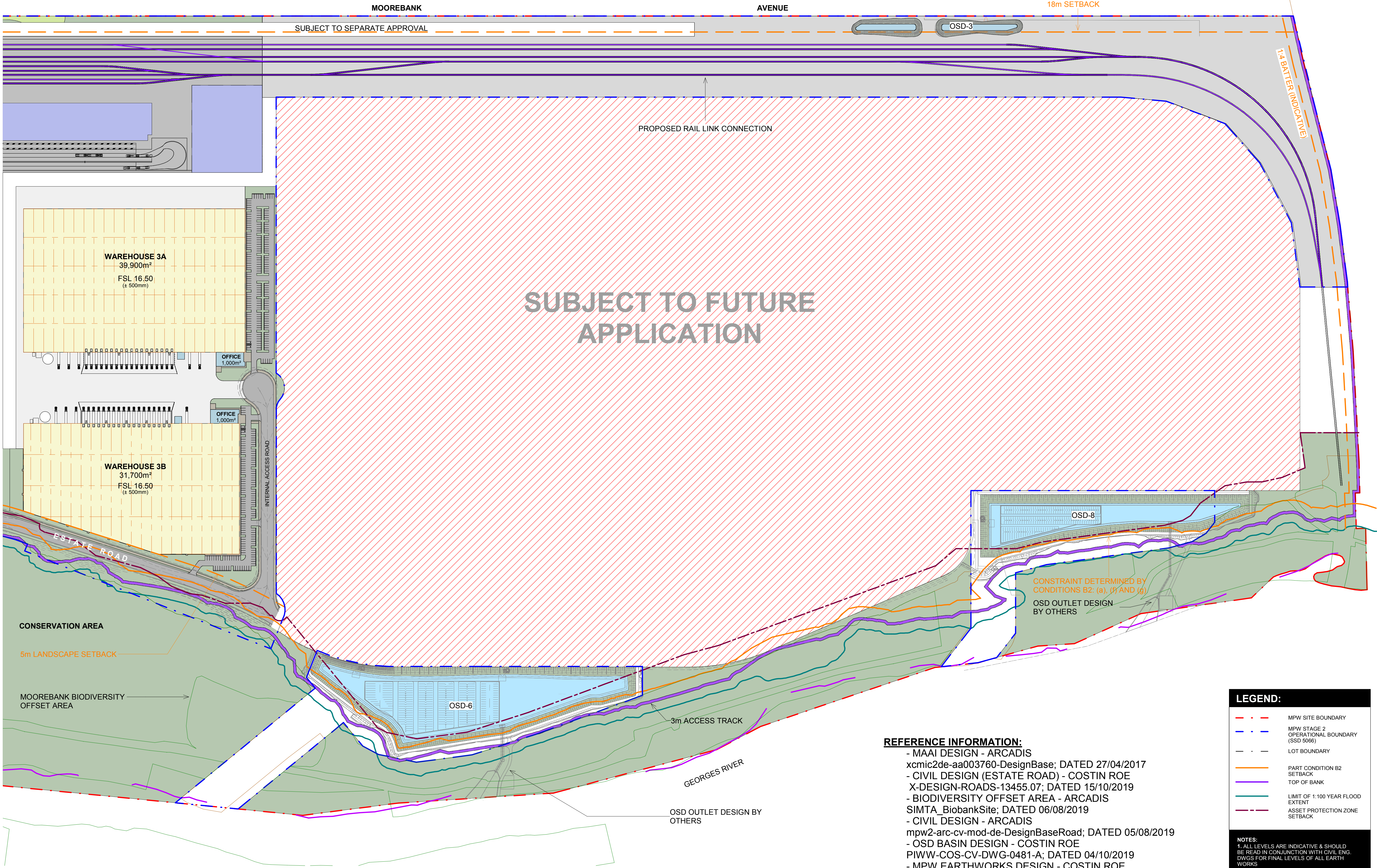
Table 4-2 Revised Environmental Management Measures (REMMs) SSD 5066

REMM	Requirement	Document Reference
6U	The management of the conservation area along the Georges River would include management of fire regimes to promote biodiversity conservation.	No asset protection measures will be implemented within the Conservation Area. Section 3.2.1.4 of the Moorebank Precinct Biodiversity Management Implementation Plan addresses management of fire for conservation in the Conservation Area.
7L	The aims and objectives of 'Planning for Bush Fire Protection' (RFS 2006) would be further considered, and the Rural Fire Service (RFS) consulted, during detailed design.	Section 3.2
7M	A bush fire management plan (or equivalent) would be prepared for the Project site to develop the bush fire management measures in detail, in consultation with the RFS. The bush fire management plan (or equivalent) would detail the interaction between the Project footprint and biodiversity offset areas. In the event that no vegetation clearing is undertaken, the bush fire risk assessment and bush fire management plan (or equivalent) would be updated and appropriate mitigation measures provided in the design of the IMT.	This Plan Section 3.2.1 addresses the provision of the APZ and its relation to the conservation area. Section 1.4 details consultation undertaken with RFS during the development of this Plan.
7N	Internal roads would be designed to enable safe access for emergency services and to allow crews to work with equipment aboard the vehicle, including providing: <ul style="list-style-type: none"> • two-wheel drive, sealed all weather roads; • internal perimeter road to be at least two lanes wide (8 m kerb to kerb); • a minimum vertical clearance of 4 m; • curves with a minimum inner radius of 6 m; and • roads with capacity to carry fully loaded fire-fighting vehicles (15 tonnes). 	Section 3.2.3
7O	Water supplies for fire-fighting would be easily accessible and located at regular intervals, including: <ul style="list-style-type: none"> • reticulated water supply using a ring main system for the perimeter road; • fire hydrant spacing, sizing and pressures complying with AS 2419.1–2005; • location of hydrants outside of any road carriageway; and • ensuring all aboveground water pipes external to buildings are metal, including any taps. 	Section 3.2.4
7P	Electricity services would be located to limit the possibility of ignition of surrounding bushland or the fabric of buildings, including: <ul style="list-style-type: none"> • where practicable, locating electrical transmission lines underground; • where overhead electrical transmission lines are proposed, lines would be installed with short pole spacing (30 m); and • no part of a tree would be closer to a power line than the distance set out in the specifications of Vegetation Safety Clearances issued by Energy Australia (NS179, April 2002). 	Section 3.2.4

REMM	Requirement	Document Reference
7Q	<p>Gas services would be located to avoid ignition of surrounding bushland or the fabric of buildings, including:</p> <ul style="list-style-type: none"> • ensuring all aboveground gas service pipes external to buildings are metal (including connections); and • ensuring reticulated or bottled gas is installed and maintained in accordance with AS 1596 and the requirements of relevant authorities. 	Section 3.2.4
7R	<p>A fuel management plan (or equivalent) would be developed for the conservation zone and offset areas taking into consideration the ecological values of this area, including the presence of threatened species.</p>	Section 3.2.1.4 of the Moorebank Precinct Biodiversity Management Implementation Plan addresses management of fire for conservation in the Conservation Area.
7S	<p>A landscape management plan (or equivalent) would be developed for any landscaped gardens within the Project site.</p>	Section 3.3.1
7T	<p>A fire safety and evacuation plan (or equivalent) would be developed that would:</p> <ul style="list-style-type: none"> • include training requirements for staff on fire prevention and safety; • provide a fire escape plan (designated meeting points and escape routes), and require regular fire drills; • outline provision of a functional fire alarm system; • outline equipment use restrictions during fire bans; and • outline measures for arson prevention, including provision of adequate lighting and security to deter trespassers. 	Evacuation Plan addressed in the Construction Emergency Response Plan (CERP)
7U	<p>A more detailed bushfire risk assessment would be undertaken following finalisation of design and layout, in consultation with the NSW Rural Fire Service.</p>	<p>This BRMP</p> <p>Consultation addressed in Section 1.4</p>

APPENDIX B PRECINCT MASTERPLAN





REFERENCE INFORMATION:

- MAAI DESIGN - ARCADIS
xcmic2de-aa003760-DesignBase; DATED 27/04/2017
- CIVIL DESIGN (ESTATE ROAD) - COSTIN ROE
X-DESIGN-ROADS-13455.07; DATED 15/10/2019
- BIODIVERSITY OFFSET AREA - ARCADIS
SIMTA_BiobankSite; DATED 06/08/2019
- CIVIL DESIGN - ARCADIS
mpw2-arc-cv-mod-de-DesignBaseRoad; DATED 05/08/2019
- OSD BASIN DESIGN - COSTIN ROE
PIWW-COS-CV-DWG-0481-A; DATED 04/10/2019
- MPW EARTHWORKS DESIGN - COSTIN ROE
PIWW-COS-CV-DWG-0300-B; DATED 04/10/2019

LEGEND:

- MPW SITE BOUNDARY
- MPW STAGE 2 OPERATIONAL BOUNDARY (SSD 5066)
- LOT BOUNDARY
- PART CONDITION B2 SETBACK
- TOP OF BANK
- LIMIT OF 1:100 YEAR FLOOD EXTENT
- ASSET PROTECTION ZONE SETBACK

NOTES:

1. ALL LEVELS ARE INDICATIVE & SHOULD BE READ IN CONJUNCTION WITH CIVIL ENG. DWGS FOR FINAL LEVELS OF ALL EARTH WORKS
2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

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Drawing Number: 115123
Issue: E

PIWW-RCG-AR-DWG-0101

APPENDIX C WEED MANAGEMENT

Where exotic species have naturalised or planted specimens have escaped garden beds into the bushland, they should be treated in accordance with the following methods:

Weed Type	Treatment
Tall annual herbaceous weeds	<p>Tall herbaceous weeds are to be kept at low levels and treated prior to seeding where possible. Treatment of herbaceous weeds prior to seeding will ensure the gradual reduction of the sites weed seed bank over the management period. Techniques considered appropriate in controlling herbaceous weeds onsite include (as required and appropriate):</p> <ul style="list-style-type: none">• Spot spraying• Slashing• Hand removal
Woody weeds	<p>Primary and secondary woody weeds are to be treated by cut/scrape and painting with Neat Roundup Biactive®, accordingly.</p> <p>All woody weed biomass should be neatly piled and retained onsite as habitat. Large expanses of woody weeds should be evaluated for their habitat values prior to primary removal. Juveniles woody weeds are to be treated by hand removal or careful spot spraying with a Metsulfuron-methyl based herbicide where appropriate.</p>
Exotic grasses and monocots	<p>Exotic grasses are to be treated throughout the site, with areas of high resilience receiving first priority. A combination of hand removal, careful spot spraying and broad scale blanket spraying will be utilised.</p>
Exotic vines	<p>Exotic vines are to be maintained at low levels and skirted from all mid-storey and canopy species throughout the site, particularly the conservation zone. Techniques considered appropriate in controlling exotic vines weeds on site include (as required and appropriate):</p> <ul style="list-style-type: none">• Hand weeding• Scrape and painting• Spot spraying

APPENDIX D EVIDENCE OF CONSULTATION



NSW RURAL FIRE SERVICE



The Environmental Manager
Tactical Group
Level 15, 124 Walker Street
NORTH SYDNEY, NSW, 2060
Email: tdavey@tacticalgroup.com.au

Your reference: SSD 7709
Our reference: DA20191108000890-Original-1

4 December 2019

Attention: Tracy Davey

Dear Tracy,

Review of Bushfire Risk Management Plan for Moorebank Logistics Park at 400 Moorebank Avenue, Moorebank

I refer to your correspondence dated 29 October 2019 seeking the New South Wales Rural Fire Service's (NSW RFS) comments on the Bushfire Risk Management Plan (BRMP) dated 24 October 2019 prepared by BlackAsh Bushfire Consulting for the proposed construction phase of Stage 2 of the Moorebank Precinct West (MPW) Project.

The NSW RFS has reviewed the Bushfire Risk Management Plan (BRMP) and raises no objections.

If you have any queries regarding this advice, please contact Rohini Belapurkar, Development Assessment and Planning Officer, on 1300 NSW RFS.

Yours sincerely,

Nika Fomin
Manager
Planning and Environment Services (East)

Postal address

NSW Rural Fire Service
Planning and Environment Services
Locked Bag 17
GRANVILLE NSW 2141

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